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Manifest-Version: 1.0
Created-By: 11.0.11 (Azul Systems, Inc.)
Build-Jdk-Spec: 11
Bnd-LastModified: 1635537586812
Bundle-ContactAddress: https://github.com/google/gson
Bundle-Description: Gson JSON library
Bundle-DocURL: https://github.com/google/gson/gson
Bundle-License: "Apache-2.0";link="https://www.apache.org/licenses/LICEN
SE-2.0.txt"
Bundle-ManifestVersion: 2
Bundle-Name: Gson
Bundle-RequiredExecutionEnvironment: JavaSE-1.6, JavaSE-1.7, JavaSE-1.8
Bundle-SCM: url="https://github.com/google/gson/gson/",connection="scm:g
it:https://github.com/google/gson.git/gson",developer-connection="scm:g
it:git@github.com:google/gson.git/gson",tag="gson-parent-2.8.9"
Bundle-SymbolicName: com.google.gson
Bundle-Vendor: Google Gson Project
Bundle-Version: 2.8.9
Export-Package: com.google.gson;uses:="com.google.gson.reflect,com.googl
e.gson.stream";version="2.8.9",com.google.gson.annotations;version="2.8
.9",com.google.gson.reflect;version="2.8.9",com.google.gson.stream;vers
ion="2.8.9"

Import-Package: sun.misc;resolution:=optional,com.google.gson.annotation
s
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.6))"
Tool: Bnd-6.0.0.202110041835

Found in path(s):
* /opt/cola/permits/1288695153_1648172573.06/0/gson-2-8-9-jar/META-INF/MANIFEST.MF

1.2 guava-listenablefuture-only 9999.0-empty-to-avoid-conflict-with-guava

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1.6 protobuf-java 2.5.0

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Manifest-Version: 1.0
Bnd-LastModified: 1362700108682
Build-Jdk: 1.7.0-google-v5
Built-By: xiaofeng
Bundle-Description: Protocol Buffers are a way of encoding structured da
ta in an efficient yet extensible format.
Bundle-DocURL: http://code.google.com/p/protobuf
Bundle-License: http://www.opensource.org/licenses/bsd-license.php
Bundle-ManifestVersion: 2
Bundle-Name: Protocol Buffer Java API
Bundle-SymbolicName: com.google.protobuf
Bundle-Vendor: Google
Bundle-Version: 2.5.0
Created-By: Apache Maven Bundle Plugin
Export-Package: com.google.protobuf;version="2.5.0"
Tool: Bnd-1.50.0

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* /opt/cola/permits/1474112832_1668526993.4060051/0/protobuf-java-2-5-0-11-jar/META-INF/MANIFEST.MF

1.7 animal-sniffer-annotation 1.19

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* /opt/cola/permits/1127519953_1611825926.02/0/animal-sniffer-annotations-1-19-sources-jar/META-INF/maven/org.codehaus.mojo/animal-sniffer-annotations/pom.xml
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1.8 java-servlet-api 3.0.1

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* /opt/cola/permits/1274702955_1645235204.98/0/error-prone-annotations-2-2-0-jar/META-INF/maven/com.google.errorprone/error_prone_annotations/pom.xml

1.11 asm-util 9.0

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* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/CheckSignatureAdapter.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/CheckFieldAdapter.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/Printer.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/CheckRecordComponentAdapter.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceModuleVisitor.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceSignatureVisitor.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/ASMifier.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/Textifier.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceClassVisitor.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceAnnotationVisitor.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-

jar/org/objectweb/asm/util/CheckMethodAdapter.java
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* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/CheckAnnotationAdapter.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceRecordComponentVisitor.java
* /opt/cola/permits/1274698925_1645234308.81/0/asm-util-9-0-sources-jar/org/objectweb/asm/util/TraceMethodVisitor.java

1.12 commons-io 2.7

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1.13 opentracing-api 0.31.0

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* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/propagation/TextMapInjectAdapter.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/propagation/TextMapExtractAdapter.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/References.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/Scope.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/tag/IntOrStringTag.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/tag/StringTag.java
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* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/propagation/Format.java
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* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/Span.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/tag/Tags.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/tag/BooleanTag.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/log/Fields.java

* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/propagation/TextMap.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/ScopeManager.java
* /opt/cola/permits/1131856260_1613029791.21/0/opentracing-api-0-31-0-sources-3-jar/io/opentracing/SpanContext.java

1.14 protobuf-java 3.12.0

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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/StructuralMessageInfo.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/TextFormatEscaper.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/ExperimentalApi.java
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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/MessageInfoFactory.java
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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/MutabilityOracle.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/MapFieldSchemaLite.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-

jar/com/google/protobuf/BufferAllocator.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/Android.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/UnsafeByteOperations.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/Utf8.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/Internal.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/RpcUtil.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/ServiceException.java
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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/Protobuf.java
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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/SchemaFactory.java
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* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/BlockingService.java
* /opt/cola/permits/1474112833_1668527010.424092/0/protobuf-java-3-12-0-sources-2-jar/com/google/protobuf/ProtobufLists.java
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1.16 kotlin 1.4.10

1.16.1 Available under license :

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{"version":3,"file":"kotlin.js","sources":["wrapper.js","arrayUtils.js","callableReferenceUtils.js","conversions.js","core.js","long.js","markerFunctions.js","misc.js","polyfills.js","rtti.js","runtime/arrayUtils.kt","runtime/Enum.kt","primitiveCompanionObjects.kt","generated/_Arrays.kt","generated/_Ranges.kt","kotlin/UByte.kt","kotlin/UInt.kt","kotlin/UShort.kt","Ranges.kt","collections/Collections.kt","collections/Maps.kt","collections/Sets.kt","text/StringNumberConversions.kt","kotlin/UnsignedUtils.kt","collections/Iterables.kt","collections/Sequences.kt","util/Preconditions.kt","generated/_ArraysJs.kt","comparisons/Comparisons.kt","util/Standard.kt","generated/_ComparisonsJs.kt","kotlin/ULong.kt","generated/_Collections.kt","kotlin/collections.kt","collections/Iterators.kt","generated/_Comparisons.kt","generated/_Maps.kt","generated/_Sequences.kt","generated/_Sets.kt","generated/_Strings.kt","text/Strings.kt","kotlin/text/string.kt","kotlin/UByteArray.kt","kotlin/UIntArray.kt","kotlin/ULongArray.kt","kotlin/UShortArray.kt","generated/_UArrays.kt","generated/_UCollections.kt","generated/_UComparisons.kt","generated/_URanges.kt","generated/_USequences.kt","kotlin/ExceptionsH.kt","kotlin/JsAnnotationsH.kt","Collections.kt","Iterators.kt","ProgressionIterators.kt","Progressions.kt","Range.kt","Unit.kt","annotation/Annotations.kt","internal/InternalAnnotations.kt","internal/progressionUtil.kt","kotlin/builtins.kt","kotlin/jsTypeOf.kt","kotlin/kotlin.kt","kotlin/coroutines/CoroutineImpl.kt","util/Result.kt","coroutines/Continuation.kt","kotlin/coroutines/intrinsics/IntrinsicsJs.kt","kotlin/currentBeMisc.kt","kotlin/exceptions.kt","kotlin/jsOperators.kt","kotlin/math_js-v1.kt","kotlin/numbers_js-v1.kt","kotlin/reflection_js-v1.kt","kotlin/text/numberConversions_js-v1.kt","generated/_CollectionsJs.kt","generated/_StringsJs.kt","generated/_UArraysJs.kt","jquery/ui.kt","kotlin/Comparator.kt","kotlin/annotations.kt","kotlin/annotationsJVM.kt","kotlin/collections/AbstractMutableCollection.kt","kotlin/collections/AbstractMutableList.kt","kotlin/collections/AbstractMutableMap.kt","kotlin/collections/AbstractMutableSet.kt","kotlin/collections/ArrayList.kt","kotlin/collections/ArraySorting.kt","kotlin/collections/ArraysJs.kt","kotlin/collections/EqualityComparator.kt","kotlin/collections/HashMap.kt","kotlin/collections/HashSet.kt","kotlin/collections/InternalHashCodeMap.kt","kotlin/collections/InternalMap.kt","kotlin/collections/InternalStringMap.kt","kotlin/collections/LinkedHashMap.kt","kotlin/collections/LinkedHashSet.kt","kotlin/concurrent.kt","kotlin/console.kt","kotlin/coroutines/SafeContinuationJs.kt","kotlin/coroutines/cancellation/CancellationException.kt","kotlin/coroutines/js/internal/EmptyContinuation.kt","kotlin/date.kt","kotlin/dom/Builders.kt","kotlin/dom/Classes.kt","kotlin/dom/Dom.kt","kotlin/dom/EventListener.kt","kotlin/dom/ItemArrayLike.kt","kotlin/dom/Mutations.kt","kotlin/dynamic.kt","kotlin/exceptionUtils.kt","kotlin/grouping.kt","collections/Grouping.kt","kotlin/js.math.kt","kotlin/json.kt","kotlin/math.kt","kotlin/numbers.kt","kotlin/promise.kt","kotlin/random/PlatformRandom.kt","kotlin/reflect/AssociatedObjects.kt","kotlin/reflect/JsClass.kt","kotlin/reflect/KClassImpl.kt","kotlin/reflect/KClassesImpl.kt","kotlin/reflect/KTypeHelpers.kt","kotlin/reflect/KTypeImpl.kt","kotlin/reflect/KTypeParameterImpl.kt","kotlin/reflect/primitives.kt","kotlin/reflect/reflection.kt","kotlin/regexp.kt","kotlin/sequence.kt","kotlin/text/CharacterCodingExceptionJs.kt","kotlin/text/StringBuilderJs.kt","kotlin/text/char.kt","kotlin/text/numberConversions.kt","kotlin/text/regex.kt","kotlin/text/stringsCode.kt","kotlin/text/utf8Encoding.kt","kotlin/throwableExtensions.kt","kotlin/time/DurationUnit.kt","kotlin/time/MonoTimeSource.kt","kotlin/time/formatToDecimals.kt","kotlinx/dom/Builders.kt","kotlinx/dom/Classes.kt","text/regex/RegexExtensions.kt","text/StringBuilder.kt","kotlinx/dom/Dom.kt","kotlinx/dom/Mutations.kt","org.w3c/deprecated.kt","org.w3c/org.khronos.webgl.kt","org.w3c/org.w3c.dom.clipboard.kt","org.w3c/org.w3c.dom.css.kt","org.w3c/org.w3c.dom.encryptedmedia.kt","org.w3c/org.w3c.dom.events.kt","org.w3c/org.w3c.dom.kt","org.w3c/org.w3c.fetch.kt","org.w3c/org.w3c.dom.mediacapture.kt","org.w3c/org.w3c.dom.mediasource.kt","org.w3c/org.

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String.fromCharCode : Kotlin.toString;\n return \"[\" + Array.prototype.map.call(a, function(e) { return toString(e); }).join(\", \") + \"]\";\n};\n\nKotlin.arrayDeepToString = function (arr) {\n return Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals = function (a, b) {\n if (a === b) {\n   return true;\n }\n if (a === null || b === null || !Kotlin.isArrayish(b) || a.length !== b.length) {\n   return false;\n }\n\n for (var i = 0, n = a.length; i < n; i++) {\n   if (!Kotlin.equals(a[i], b[i])) {\n   return false;\n   }\n }\n return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n return Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n if (arr === null) return 0\n var result = 1;\n for (var i = 0, n = arr.length; i < n; i++) {\n   result = ((31 * result | 0) + Kotlin.hashCode(arr[i])) | 0;\n }\n return result;\n};\n\nKotlin.arrayDeepHashCode = function (arr) {\n return Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n array.sort(Kotlin.doubleCompareTo)\n};\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.getCallableRef = function(name, f) {\n f.callableName = name;\n return f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n getter.get = getter;\n

getter.set = setter;\n getter.callableName = name;\n return getPropertyRefClass(getter, setter, propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n obj.constructor = obj;\n return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n {\n mutable: { value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KMutableProperty0 }\n },\n immutable: { value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KProperty0 }\n }\n },\n {\n mutable: { value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KMutableProperty1 }\n },\n immutable: { value: null, implementedInterface: function () {\n return Kotlin.kotlin.reflect.KProperty1 }\n }\n }\n];\n\nfunction getPropertyRefMetadata(cache) {\n if (cache.value === null) {\n cache.value = {\n interfaces: [cache.implementedInterface()],\n baseClass: null,\n functions: {},\n properties: {},\n types: {},\n staticMembers: {}\n };\n }\n return cache.value;\n}\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.toShort = function (a) {\n return (a & 0xFFFF) << 16 >> 16;\n};\n\nKotlin.toByte = function (a) {\n return (a & 0xFF) << 24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function (a) {\n return a instanceof Kotlin.Long ? a : Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a) {\n return a instanceof Kotlin.Long ? a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function (a) {\n return Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n return Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n return +a;\n};\n\nKotlin.numberToChar = function (a) {\n return Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n if (a > 2147483647) return 2147483647;\n if (a < -2147483648) return -2147483648;\n return a | 0;\n};\n\nKotlin.toBoxedChar = function (a) {\n if (a == null) return a;\n if (a instanceof Kotlin.BoxedChar) return a;\n return new Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar = function(a) {\n if (a == null) return a;\n return Kotlin.toChar(a);\n};\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.equals = function (obj1, obj2) {\n if (obj1 == null) {\n return obj2 == null;\n }\n\n if (obj2 == null) {\n return false;\n }\n\n if (obj1 !== obj1) {\n return obj2 !== obj2;\n }\n\n if (typeof obj1 === \"object\" && typeof obj1.equals === \"function\") {\n return obj1.equals(obj2);\n }\n\n if (typeof obj1 === \"number\" && typeof obj2 === \"number\") {\n return obj1 === obj2 && (obj1 !== 0 || 1 / obj1 === 1 / obj2)\n }\n\n return obj1 === obj2;\n};\n\nKotlin.hashCode = function (obj) {\n if (obj == null) {\n return 0;\n }\n var objType = typeof obj;\n if (\"object\" === objType) {\n return \"function\" === typeof obj.hashCode ? obj.hashCode() : getObjectHashCode(obj);\n }\n if (\"function\" === objType) {\n return getObjectHashCode(obj);\n }\n if (\"number\" === objType) {\n return Kotlin.numberHashCode(obj);\n }\n if (\"boolean\" === objType) {\n return Number(obj)\n }\n\n var str = String(obj);\n return getStringHashCode(str);\n};\n\n\nKotlin.toString = function (o) {\n if (o == null) {\n return \"null\";\n }\n else if (Kotlin.isArrayish(o)) {\n return \"[...]\";\n }\n else {\n return o.toString();\n }\n};\n\n/** @const */\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol type once we are on ES6.\n/** @const */\nvar OBJECT_HASH_CODE_PROPERTY_NAME = \"kotlinHashCodeValue$\";\n\nfunction getObjectHashCode(obj) {\n if (!(OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n var hash = (Math.random() * POW_2_32) | 0; // Make 32-bit singed integer.\n Object.defineProperty(obj, OBJECT_HASH_CODE_PROPERTY_NAME, { value: hash, enumerable: false });\n }\n return obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n var hash = 0;\n for (var i = 0; i < str.length; i++) {\n var code = str.charCodeAt(i);\n hash = (hash * 31 + code) | 0; // Keep it 32-bit.\n }\n return hash;\n}\n\nKotlin.identityHashCode = getObjectHashCode;\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by

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See the from* functions below for more\n * convenient ways of constructing Longs.\n *\n * The internal representation of a long is the two given signed, 32-bit values.\n * We use 32-bit pieces because these are the size of integers on which\n * Javascript performs bit-operations. For operations like addition and\n * multiplication, we split each number into 16-bit pieces, which can easily be\n * multiplied within Javascript's floating-point representation without overflow\n * or change in sign.\n *\n * In the algorithms below, we frequently reduce the negative case to the\n * positive case by negating the input(s) and then post-processing the result.\n * Note that we must ALWAYS check specially whether those values are MIN_VALUE\n * (-2^63) because -MIN_VALUE == MIN_VALUE (since 2^63 cannot be represented as\n * a positive number, it overflows back into a negative). Not handling this\n * case would often result in infinite recursion.\n *\n * @param {number} low The low (signed) 32 bits of the long.\n * @param {number} high The high (signed) 32 bits of the long.\n * @constructor\n * @final\n */\nKotlin.Long = function(low, high) {\n /**\n * @type {number}\n * @private\n */\n this.low_ = low | 0; // force into 32 signed bits.\n\n /**\n * @type {number}\n * @private\n */\n this.high_ = high | 0; // force into 32 signed bits.\n};\n\nKotlin.Long.$metadata$ = {\n kind: \"class\",\n simpleName: \"Long\",\n interfaces:[]\n};\n\n\n// NOTE: Common constant values ZERO, ONE, NEG_ONE, etc. are defined below the\n// from* methods on which they depend.\n\n\n/**\n * A cache of the Long representations of small integer values.\n * @type {!Object}\n * @private\n */\nKotlin.Long.IntCache_ = {};\n\n\n/**\n * Returns a Long representing the given (32-bit) integer value.\n * @param {number} value The 32-bit integer in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromInt = function(value) {\n if (-128 <= value && value < 128) {\n var cachedObj = Kotlin.Long.IntCache_[value];\n if (cachedObj) {\n return cachedObj;\n }\n }\n\n var obj = new Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n if (-128 <= value && value < 128) {\n Kotlin.Long.IntCache_[value] = obj;\n }\n return obj;\n};\n\n\n/**\n * Converts this number value to `Long`.\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is `NaN`, `Long.MIN_VALUE` if it's less than `Long.MIN_VALUE`,\n * `Long.MAX_VALUE` if it's bigger than `Long.MAX_VALUE`.\n * @param {number} value The number in question.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromNumber = function(value) {\n if (isNaN(value)) {\n return Kotlin.Long.ZERO;\n } else if (value <= -Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MIN_VALUE;\n } else if (value + 1 >= Kotlin.Long.TWO_PWR_63_DBL_) {\n return Kotlin.Long.MAX_VALUE;\n } else if (value < 0) {\n return Kotlin.Long.fromNumber(-value).negate();\n } else {\n return new Kotlin.Long(\n (value % Kotlin.Long.TWO_PWR_32_DBL_) | 0,\n (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);\n }\n};\n\n\n/**\n * Returns a Long representing the 64-bit integer that comes by concatenating\n * the given high and low bits. Each is assumed to use 32 bits.\n * @param {number} lowBits The low 32-bits.\n * @param {number} highBits The high 32-bits.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromBits = function(lowBits, highBits) {\n return new Kotlin.Long(lowBits, highBits);\n};\n\n\n/**\n * Returns a Long representation of the given string, written using the given\n * radix.\n * @param {string} str The textual representation of the Long.\n * @param {number=} opt_radix The radix in which the text is written.\n * @return {!Kotlin.Long} The corresponding Long value.\n */\nKotlin.Long.fromString = function(str, opt_radix) {\n if (str.length == 0) {\n throw Error('number format error: empty string');\n }\n\n var radix = opt_radix || 10;\n if (radix < 2 || 36 < radix) {\n throw Error('radix out of range: ' + radix);\n }\n\n if (str.charAt(0) == '-') {\n return Kotlin.Long.fromString(str.substring(1), radix).negate();\n } else if (str.indexOf('-') >= 0) {\n throw Error('number format error: interior \"-\" character: ' + str);\n }\n\n // Do several (8) digits each time through the loop, so as to\n // minimize the calls to the very expensive emulated div.\n var radixToPower =

Kotlin.Long.fromNumber(Math.pow(radix, 8));\n\n var result = Kotlin.Long.ZERO;\n for (var i = 0; i < str.length; i += 8) {\n   var size = Math.min(8, str.length - i);\n   var value = parseInt(str.substring(i, i + size), radix);\n   if (size < 8) {\n   var power = Kotlin.Long.fromNumber(Math.pow(radix, size));\n   result = result.multiply(power).add(Kotlin.Long.fromNumber(value));\n   } else {\n   result = result.multiply(radixToPower);\n   result = result.add(Kotlin.Long.fromNumber(value));\n   }\n }\n return result;\n};\n\n\n// NOTE: the compiler should inline these constant values below and then remove\n// these variables, so there should be no runtime penalty for these.\n\n\n/**\n * Number used repeated below in calculations. This must appear before the\n * first call to any from* function below.\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_32_DBL_ =\n   Kotlin.Long.TWO_PWR_16_DBL_ * Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_31_DBL_ =\n   Kotlin.Long.TWO_PWR_32_DBL_ / 2;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_48_DBL_ =\n   Kotlin.Long.TWO_PWR_32_DBL_ * Kotlin.Long.TWO_PWR_16_DBL_;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_64_DBL_ =\n   Kotlin.Long.TWO_PWR_32_DBL_ * Kotlin.Long.TWO_PWR_32_DBL_;\n\n\n/**\n * @type {number}\n * @private\n */\nKotlin.Long.TWO_PWR_63_DBL_ =\n   Kotlin.Long.TWO_PWR_64_DBL_ / 2;\n\n\n/** @type {!Kotlin.Long} */\nKotlin.Long.ZERO = Kotlin.Long.fromInt(0);\n\n\n/** @type {!Kotlin.Long} */\nKotlin.Long.ONE = Kotlin.Long.fromInt(1);\n\n\n/** @type {!Kotlin.Long} */\nKotlin.Long.NEG_ONE = Kotlin.Long.fromInt(-1);\n\n\n/** @type {!Kotlin.Long} */\nKotlin.Long.MAX_VALUE =\n   Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);\n\n\n/** @type {!Kotlin.Long} */\nKotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);\n\n\n/**\n * @type {!Kotlin.Long}\n * @private\n */\nKotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);\n\n\n/** @return {number} The value, assuming it is a 32-bit integer. */\nKotlin.Long.prototype.toInt = function() {\n return this.low_;\n};\n\n\n/** @return {number} The closest floating-point representation to this value. */\nKotlin.Long.prototype.toNumber = function() {\n return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ +\n   this.getLowBitsUnsigned();\n};\n\n/** @return {number} The 32-bit hashCode of this value. */\nKotlin.Long.prototype.hashCode = function() {\n return this.high_ ^ this.low_;\n};\n\n/**\n * @param {number=} opt_radix The radix in which the text should be written.\n * @return {string} The textual representation of this value.\n * @override\n */\nKotlin.Long.prototype.toString = function(opt_radix) {\n var radix = opt_radix || 10;\n if (radix < 2 || 36 < radix) {\n   throw Error('radix out of range: ' + radix);\n }\n\n if (this.isZero()) {\n   return '0';\n }\n\n if (this.isNegative()) {\n   if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   // We need to change the Long value before it can be negated, so we remove\n   // the bottom-most digit in this base and then recurse to do the rest.\n   var radixLong = Kotlin.Long.fromNumber(radix);\n   var div = this.div(radixLong);\n   var rem = div.multiply(radixLong).subtract(this);\n   return div.toString(radix) + rem.toInt().toString(radix);\n   } else {\n   return '-' + this.negate().toString(radix);\n   }\n }\n\n // Do several (6) digits each time through the loop, so as to\n // minimize the calls to the very expensive emulated div.\n var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 6));\n\n var rem = this;\n var result = '';\n while (true) {\n   var remDiv = rem.div(radixToPower);\n   var intval = rem.subtract(remDiv.multiply(radixToPower)).toInt();\n   var digits = intval.toString(radix);\n\n   rem = remDiv;\n   if (rem.isZero()) {\n   return digits + result;\n   } else {\n   while (digits.length < 6) {\n   digits = '0' + digits;\n   }\n   result = '' + digits + result;\n   }\n }\n};\n\n\n/** @return {number} The high 32-bits as a signed value. */\nKotlin.Long.prototype.getHighBits = function() {\n return this.high_;\n};\n\n\n/** @return {number} The low 32-bits as a signed value. */\nKotlin.Long.prototype.getLowBits = function() {\n return this.low_;\n};\n\n\n/** @return {number} The low 32-bits as an unsigned value. */\nKotlin.Long.prototype.getLowBitsUnsigned = function() {\n return (this.low_ >= 0) ?\n   this.low_ : Kotlin.Long.TWO_PWR_32_DBL_ + this.low_;\n};\n\n\n/**\n * @return {number} Returns the number of bits needed to represent the absolute\n *   value of this Long.\n

*/\nKotlin.Long.prototype.getNumBitsAbs = function() {\n if (this.isNegative()) {\n   if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   return 64;\n   } else {\n   return this.negate().getNumBitsAbs();\n   }\n } else {\n   var val = this.high_ != 0 ? this.high_ : this.low_;\n   for (var bit = 31; bit > 0; bit--) {\n   if ((val & (1 << bit)) != 0) {\n   break;\n   }\n   }\n   return this.high_ != 0 ? bit + 33 : bit + 1;\n }\n};\n\n\n/** @return {boolean} Whether this value is zero. */\nKotlin.Long.prototype.isZero = function() {\n return this.high_ == 0 && this.low_ == 0;\n};\n\n\n/** @return {boolean} Whether this value is negative. */\nKotlin.Long.prototype.isNegative = function() {\n return this.high_ < 0;\n};\n\n\n/** @return {boolean} Whether this value is odd. */\nKotlin.Long.prototype.isOdd = function() {\n return (this.low_ & 1) == 1;\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long equals the other.\n */\nKotlin.Long.prototype.equalsLong = function(other) {\n return (this.high_ == other.high_) && (this.low_ == other.low_);\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long does not equal the other.\n */\nKotlin.Long.prototype.notEqualsLong = function(other) {\n return (this.high_ != other.high_) || (this.low_ != other.low_);\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is less than the other.\n */\nKotlin.Long.prototype.lessThan = function(other) {\n return this.compare(other) < 0;\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is less than or equal to the other.\n */\nKotlin.Long.prototype.lessThanOrEqual = function(other) {\n return this.compare(other) <= 0;\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than the other.\n */\nKotlin.Long.prototype.greaterThan = function(other) {\n return this.compare(other) > 0;\n};\n\n\n/**\n * @param {Kotlin.Long} other Long to compare against.\n * @return {boolean} Whether this Long is greater than or equal to the other.\n */\nKotlin.Long.prototype.greaterThanOrEqual = function(other) {\n return this.compare(other) >= 0;\n};\n\n\n/**\n * Compares this Long with the given one.\n * @param {Kotlin.Long} other Long to compare against.\n * @return {number} 0 if they are the same, 1 if the this is greater, and -1\n *   if the given one is greater.\n */\nKotlin.Long.prototype.compare = function(other) {\n if (this.equalsLong(other)) {\n   return 0;\n }\n\n var thisNeg = this.isNegative();\n var otherNeg = other.isNegative();\n if (thisNeg && !otherNeg) {\n   return -1;\n }\n if (!thisNeg && otherNeg) {\n   return 1;\n }\n\n // at this point, the signs are the same, so subtraction will not overflow\n if (this.subtract(other).isNegative()) {\n   return -1;\n } else {\n   return 1;\n }\n};\n\n\n/** @return {!Kotlin.Long} The negation of this value. */\nKotlin.Long.prototype.negate = function() {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   return Kotlin.Long.MIN_VALUE;\n } else {\n   return this.not().add(Kotlin.Long.ONE);\n }\n};\n\n\n/**\n * Returns the sum of this and the given Long.\n * @param {Kotlin.Long} other Long to add to this one.\n * @return {!Kotlin.Long} The sum of this and the given Long.\n */\nKotlin.Long.prototype.add = function(other) {\n // Divide each number into 4 chunks of 16 bits, and then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00 += a00 + b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns the difference of this and the given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return {!Kotlin.Long} The difference of this and the given Long.\n */\nKotlin.Long.prototype.subtract = function(other) {\n return this.add(other.negate());\n};\n\n\n/**\n * Returns the product of this and the given long.\n * @param {Kotlin.Long} other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n */\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n   return Kotlin.Long.ZERO;\n } else if (other.isZero()) {\n   return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   return this.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n   if (other.isNegative()) {\n   return

this.negate().multiply(other.negate());\n } else {\n   return this.negate().multiply(other).negate();\n }\n } else if (other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }\n\n // If both longs are small, use float multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() * other.toNumber());\n }\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 * b00;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a00 * b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 * b48;\n c48 &= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns this Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return {!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div = function(other) {\n if (other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) ||\n other.equalsLong(Kotlin.Long.NEG_ONE)) {\n   return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE == MIN_VALUE\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n   return Kotlin.Long.ONE;\n } else {\n   // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|.\n   var halfThis = this.shiftRight(1);\n   var approx = halfThis.div(other).shiftLeft(1);\n   if (approx.equalsLong(Kotlin.Long.ZERO)) {\n   return other.isNegative() ? Kotlin.Long.ONE : Kotlin.Long.NEG_ONE;\n   } else {\n   var rem = this.subtract(other.multiply(approx));\n   var result = approx.add(rem.div(other));\n   return result;\n   }\n }\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n   return this.negate().div(other.negate());\n } else {\n   return this.negate().div(other).negate();\n }\n } else if (other.isNegative()) {\n return this.div(other.negate()).negate();\n }\n\n // Repeat the following until the remainder is less than other: find a\n // floating-point that approximates remainder / other *from below*, add this\n // into the result, and subtract it from the remainder. It is critical that\n // the approximate value is less than or equal to the real value so that the\n // remainder never becomes negative.\n var res = Kotlin.Long.ZERO;\n var rem = this;\n while (rem.greaterThanOrEqual(other)) {\n // Approximate the result of division. This may be a little greater or\n // smaller than the actual value.\n var approx = Math.max(1, Math.floor(rem.toNumber() / other.toNumber()));\n\n // We will tweak the approximate result by changing it in the 48-th digit or\n // the smallest non-fractional digit, whichever is larger.\n var log2 = Math.ceil(Math.log(approx) / Math.LN2);\n var delta = (log2 <= 48) ? 1 : Math.pow(2, log2 - 48);\n\n // Decrease the approximation until it is smaller than the remainder. Note\n // that if it is too large, the product overflows and is negative.\n var approxRes = Kotlin.Long.fromNumber(approx);\n var approxRem = approxRes.multiply(other);\n while (approxRem.isNegative() || approxRem.greaterThan(rem)) {\n   approx -= delta;\n   approxRes = Kotlin.Long.fromNumber(approx);\n   approxRem = approxRes.multiply(other);\n }\n\n // We know the answer can't be zero... and actually, zero would cause\n // infinite recursion since we would make no progress.\n if (approxRes.isZero()) {\n   approxRes = Kotlin.Long.ONE;\n }\n\n res = res.add(approxRes);\n rem = rem.subtract(approxRem);\n }\n return res;\n};\n\n\n/**\n * Returns this Long modulo the given one.\n * @param {Kotlin.Long} other Long by which to mod.\n * @return {!Kotlin.Long} This Long modulo the given one.\n */\nKotlin.Long.prototype.modulo = function(other) {\n return this.subtract(this.div(other).multiply(other));\n};\n\n\n/** @return {!Kotlin.Long} The bitwise-NOT of this value. */\nKotlin.Long.prototype.not = function() {\n return Kotlin.Long.fromBits(~this.low_, ~this.high_);\n};\n\n\n/**\n * Returns the bitwise-AND of this Long and the given one.\n * @param {Kotlin.Long} other The Long with which to AND.\n * @return {!Kotlin.Long} The bitwise-AND of this and the other.\n

*/\nKotlin.Long.prototype.and = function(other) {\n return Kotlin.Long.fromBits(this.low_ & other.low_,\n   this.high_ & other.high_);\n};\n\n\n/**\n * Returns the bitwise-OR of this Long and the given one.\n * @param {Kotlin.Long} other The Long with which to OR.\n * @return {!Kotlin.Long} The bitwise-OR of this and the other.\n */\nKotlin.Long.prototype.or = function(other) {\n return Kotlin.Long.fromBits(this.low_ | other.low_,\n   this.high_ | other.high_);\n};\n\n\n/**\n * Returns the bitwise-XOR of this Long and the given one.\n * @param {Kotlin.Long} other The Long with which to XOR.\n * @return {!Kotlin.Long} The bitwise-XOR of this and the other.\n */\nKotlin.Long.prototype.xor = function(other) {\n return Kotlin.Long.fromBits(this.low_ ^ other.low_,\n   this.high_ ^ other.high_);\n};\n\n\n/**\n * Returns this Long with bits shifted to the left by the given amount.\n * @param {number} numBits The number of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the left by the given amount.\n */\nKotlin.Long.prototype.shiftLeft = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n   return this;\n } else {\n   var low = this.low_;\n   if (numBits < 32) {\n   var high = this.high_;\n   return Kotlin.Long.fromBits(\n   low << numBits,\n   (high << numBits) | (low >>> (32 - numBits)));\n   } else {\n   return Kotlin.Long.fromBits(0, low << (numBits - 32));\n   }\n }\n};\n\n\n/**\n * Returns this Long with bits shifted to the right by the given amount.\n * @param {number} numBits The number of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the right by the given amount.\n */\nKotlin.Long.prototype.shiftRight = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n   return this;\n } else {\n   var high = this.high_;\n   if (numBits < 32) {\n   var low = this.low_;\n   return Kotlin.Long.fromBits(\n   (low >>> numBits) | (high << (32 - numBits)),\n   high >> numBits);\n   } else {\n   return Kotlin.Long.fromBits(\n   high >> (numBits - 32),\n   high >= 0 ? 0 : -1);\n   }\n }\n};\n\n\n/**\n * Returns this Long with bits shifted to the right by the given amount, with\n * zeros placed into the new leading bits.\n * @param {number} numBits The number of bits by which to shift.\n * @return {!Kotlin.Long} This shifted to the right by the given amount, with\n *   zeros placed into the new leading bits.\n */\nKotlin.Long.prototype.shiftRightUnsigned = function(numBits) {\n numBits &= 63;\n if (numBits == 0) {\n   return this;\n } else {\n   var high = this.high_;\n   if (numBits < 32) {\n   var low = this.low_;\n   return Kotlin.Long.fromBits(\n   (low >>> numBits) | (high << (32 - numBits)),\n   high >>> numBits);\n   } else if (numBits == 32) {\n   return Kotlin.Long.fromBits(high, 0);\n   } else {\n   return Kotlin.Long.fromBits(high >>> (numBits - 32), 0);\n   }\n }\n};\n\n// Support for Kotlin\nKotlin.Long.prototype.equals = function (other) {\n   return other instanceof Kotlin.Long && this.equalsLong(other);\n};\n\nKotlin.Long.prototype.compareTo_11rb$ = Kotlin.Long.prototype.compare;\n\nKotlin.Long.prototype.inc = function() {\n   return this.add(Kotlin.Long.ONE);\n};\n\nKotlin.Long.prototype.dec = function() {\n   return this.add(Kotlin.Long.NEG_ONE);\n};\n\nKotlin.Long.prototype.valueOf = function() {\n   return this.toNumber();\n};\n\nKotlin.Long.prototype.unaryPlus = function() {\n   return this;\n};\n\nKotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;\nKotlin.Long.prototype.inv = Kotlin.Long.prototype.not;\n\nKotlin.Long.prototype.rangeTo = function (other) {\n   return new Kotlin.kotlin.ranges.LongRange(this, other);\n};","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/**\n * @param {string} id\n * @param {Object} declaration\n */\nKotlin.defineModule = function (id, declaration) {\n};\n\nKotlin.defineInlineFunction = function(tag, fun) {\n   return fun;\n};\n\nKotlin.wrapFunction = function(fun) {\n   var f = function() {\n   f = fun();\n   return f.apply(this, arguments);\n   };\n   return function() {\n   return f.apply(this, arguments);\n   };\n};\n\nKotlin.isTypeOf = function(type) {\n   return function (object) {\n   return typeof object === type;\n   }\n};\n\nKotlin.isInstanceOf = function (klass) {\n   return function (object) {\n   return Kotlin.isType(object, klass);\n   }\n};\n\nKotlin.orNull = function (fn) {\n   return function (object) {\n   return object == null || fn(object);\n   }\n};\n\nKotlin.andPredicate = function (a, b) {\n   return function (object) {\n   return a(object) && b(object);\n   }\n};\n\nKotlin.kotlinModuleMetadata = function (abiVersion, moduleName, data) {\n};\n\nKotlin.suspendCall = function(value) {\n   return value;\n};\n\nKotlin.coroutineResult = function(qualifier) {\n   throwMarkerError();\n};\n\nKotlin.coroutineController = function(qualifier) {\n

throwMarkerError();\n};\n\nKotlin.coroutineReceiver = function(qualifier) {\n throwMarkerError();\n};\n\nKotlin.setCoroutineResult = function(value, qualifier) {\n throwMarkerError();\n};\n\nKotlin.getReifiedTypeParameterKType = function(typeParameter) {\n throwMarkerError();\n};\n\nfunction throwMarkerError() {\n throw new Error(\n \"This marker function should never been called. \" +\n \"Looks like compiler did not eliminate it properly. \" +\n \"Please, report an issue if you caught this exception.\");\n}\n\nKotlin.getFunctionById = function(id, defaultValue) {\n return function() {\n return defaultValue;\n }\n};","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.compareTo = function (a, b) {\n var typeA = typeof a;\n if (typeA === \"number\") {\n if (typeof b === \"number\") {\n return Kotlin.doubleCompareTo(a, b);\n }\n return Kotlin.primitiveCompareTo(a, b);\n }\n if (typeA === \"string\" || typeA === \"boolean\") {\n return Kotlin.primitiveCompareTo(a, b);\n }\n return a.compareTo_11rb$(b);\n};\n\nKotlin.primitiveCompareTo = function (a, b) {\n return a < b ? -1 : a > b ? 1 : 0;\n};\n\nKotlin.doubleCompareTo = function (a, b) {\n if (a < b) return -1;\n if (a > b) return 1;\n\n if (a === b) {\n if (a !== 0) return 0;\n\n var ia = 1 / a;\n return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n }\n\n return a !== a ? (b !== b ? 0 : 1) : -1\n};\n\nKotlin.charInc = function (value) {\n return Kotlin.toChar(value+1);\n};\n\nKotlin.charDec = function (value) {\n return Kotlin.toChar(value-1);\n};\n\nKotlin.imul = Math.imul || imul;\n\nKotlin.imulEmulated = imul;\n\nfunction imul(a, b) {\n return ((a & 0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;\n}\n\n(function() {\n var buf = new ArrayBuffer(8);\n var bufFloat64 = new Float64Array(buf);\n var bufFloat32 = new Float32Array(buf);\n var bufInt32 = new Int32Array(buf);\n var lowIndex = 0;\n var highIndex = 1;\n\n bufFloat64[0] = -1; // bff00000_00000000\n if (bufInt32[lowIndex] !== 0) {\n lowIndex = 1;\n highIndex = 0;\n }\n\n Kotlin.doubleToBits = function(value) {\n return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);\n };\n\n Kotlin.doubleToRawBits = function(value) {\n bufFloat64[0] = value;\n return Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);\n };\n\n Kotlin.doubleFromBits = function(value) {\n bufInt32[lowIndex] = value.low_;\n bufInt32[highIndex] = value.high_;\n return bufFloat64[0];\n };\n\n Kotlin.floatToBits = function(value) {\n return Kotlin.floatToRawBits(isNaN(value) ? NaN : value);\n };\n\n Kotlin.floatToRawBits = function(value) {\n bufFloat32[0] = value;\n return bufInt32[0];\n };\n\n Kotlin.floatFromBits = function(value) {\n bufInt32[0] = value;\n return bufFloat32[0];\n };\n\n // returns zero value for number with positive sign bit and non-zero value for number with negative sign bit.\n Kotlin.doubleSignBit = function(value) {\n bufFloat64[0] = value;\n return bufInt32[highIndex] & 0x80000000;\n };\n\n Kotlin.numberHashCode = function(obj) {\n if ((obj | 0) === obj) {\n return obj | 0;\n }\n else {\n bufFloat64[0] = obj;\n return (bufInt32[highIndex] * 31 | 0) + bufInt32[lowIndex] | 0;\n }\n }\n})();\n\nKotlin.ensureNotNull = function(x) {\n return x != null ? x : Kotlin.throwNPE();\n};\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nif (typeof String.prototype.startsWith === \"undefined\") {\n Object.defineProperty(String.prototype, \"startsWith\", {\n value: function (searchString, position) {\n position = position || 0;\n return this.lastIndexOf(searchString, position) === position;\n }\n });\n}\nif (typeof String.prototype.endsWith === \"undefined\") {\n Object.defineProperty(String.prototype, \"endsWith\", {\n value: function (searchString, position) {\n var subjectString = this.toString();\n if (position === undefined || position > subjectString.length) {\n position = subjectString.length;\n }\n position -= searchString.length;\n var lastIndex = subjectString.indexOf(searchString, position);\n return lastIndex !== -1 && lastIndex === position;\n }\n });\n}\n// ES6 Math polyfills\nif (typeof Math.sign === \"undefined\") {\n Math.sign = function(x) {\n x = +x; // convert to a number\n if (x === 0 || isNaN(x)) {\n return Number(x);\n }\n return x > 0 ? 1 : -1;\n };\n}\nif (typeof Math.trunc === \"undefined\") {\n Math.trunc = function(x) {\n if (isNaN(x)) {\n return NaN;\n }\n if (x > 0) {\n return Math.floor(x);\n }\n return Math.ceil(x);\n };\n}\n\n(function() {\n var epsilon =

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2.220446049250313E-16;\n    var taylor_2_bound = Math.sqrt(epsilon);\n    var taylor_n_bound =
Math.sqrt(taylor_2_bound);\n    var upper_taylor_2_bound = 1/taylor_2_bound;\n    var upper_taylor_n_bound =
1/taylor_n_bound;\n\n    if (typeof Math.sinh === \"undefined\") {\n        Math.sinh = function(x) {\n            if
(Math.abs(x) < taylor_n_bound) {\n                var result = x;\n                if (Math.abs(x) > taylor_2_bound) {\n
result += (x * x * x) / 6;\n                }\n                return result;\n            } else {\n                var y =
Math.exp(x);\n                var y1 = 1 / y;\n                if (!isFinite(y)) return Math.exp(x - Math.LN2);\n                if
(!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n                return (y - y1) / 2;\n            }\n        };\n    }\n    if
(typeof Math.cosh === \"undefined\") {\n        Math.cosh = function(x) {\n            var y = Math.exp(x);\n            var
y1 = 1 / y;\n            if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);\n            return (y +
y1) / 2;\n        };\n    }\n\n    if (typeof Math.tanh === \"undefined\") {\n        Math.tanh = function(x){\n            if
(Math.abs(x) < taylor_n_bound) {\n                var result = x;\n                if (Math.abs(x) > taylor_2_bound) {\n
result -= (x * x * x) / 3;\n                }\n                return result;\n            }\n            else {\n                var a =
Math.exp(+x), b = Math.exp(-x);\n                return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n
}\n        };\n    }\n\n    // Inverse hyperbolic function implementations derived from boost special math functions,\n
// Copyright Eric Ford & Hubert Holin 2001.\n\n    if (typeof Math.asinh === \"undefined\") {\n        var asinh =
function(x) {\n            if (x >= +taylor_n_bound)\n            {\n                if (x > upper_taylor_n_bound)\n
{\n                    if (x > upper_taylor_2_bound)\n                    {\n                        // approximation by laurent series in
1/x at 0+ order from -1 to 0\n                        return Math.log(x) + Math.LN2;\n                    }\n                    else\n
{\n                        // approximation by laurent series in 1/x at 0+ order from -1 to 1\n                        return
Math.log(x * 2 + (1 / (x * 2)));\n                    }\n                }\n                else\n                {\n                    return
Math.log(x + Math.sqrt(x * x + 1));\n                }\n            }\n            else if (x <= -taylor_n_bound)\n            {\n
return -asinh(-x);\n            }\n            else\n            {\n                // approximation by taylor series in x at 0 up to
order 2\n                var result = x;\n                if (Math.abs(x) >= taylor_2_bound)\n                {\n                    var x3 =
x * x * x;\n                    // approximation by taylor series in x at 0 up to order 4\n                    result -= x3 / 6;\n
}\n                return result;\n            }\n        };\n        Math.asinh = asinh;\n    }\n    if (typeof Math.acosh ===
\"undefined\") {\n        Math.acosh = function(x) {\n            if (x < 1)\n            {\n                return NaN;\n            }\n
else if (x - 1 >= taylor_n_bound)\n            {\n                if (x > upper_taylor_2_bound)\n                {\n
// approximation by laurent series in 1/x at 0+ order from -1 to 0\n                    return Math.log(x) + Math.LN2;\n
}\n                else\n                {\n                    return Math.log(x + Math.sqrt(x * x - 1));\n                }\n
}\n            else\n            {\n                var y = Math.sqrt(x - 1);\n                // approximation by taylor series in y at 0
up to order 2\n                var result = y;\n                if (y >= taylor_2_bound)\n                {\n                    var y3 = y *
y * y;\n                    // approximation by taylor series in y at 0 up to order 4\n                    result -= y3 / 12;\n
}\n\n                return Math.sqrt(2) * result;\n            }\n        };\n    }\n    if (typeof Math.atanh === \"undefined\")
{\n        Math.atanh = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var result = x;\n
if (Math.abs(x) > taylor_2_bound) {\n                    result += (x * x * x) / 3;\n                }\n                return result;\n
}\n            return Math.log((1 + x) / (1 - x)) / 2;\n        };\n    }\n    if (typeof Math.log1p === \"undefined\") {\n
Math.log1p = function(x) {\n            if (Math.abs(x) < taylor_n_bound) {\n                var x2 = x * x;\n
var x3 = x2 * x;\n                var x4 = x3 * x;\n                // approximation by taylor series in x at 0 up to order 4\n
return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n            }\n            return Math.log(x + 1);\n        };\n    }\n    if (typeof
Math.expm1 === \"undefined\") {\n        Math.expm1 = function(x) {\n            if (Math.abs(x) < taylor_n_bound)
{\n                var x2 = x * x;\n                var x3 = x2 * x;\n                var x4 = x3 * x;\n                // approximation by
taylor series in x at 0 up to order 4\n                return (x4 / 24 + x3 / 6 + x2 / 2 + x);\n            }\n            return
Math.exp(x) - 1;\n        };\n    }\n})();\nif (typeof Math.hypot === \"undefined\") {\n    Math.hypot = function() {\n
var y = 0;\n        var length = arguments.length;\n\n        for (var i = 0; i < length; i++) {\n            if (arguments[i]
=== Infinity || arguments[i] === -Infinity) {\n                return Infinity;\n            }\n            y += arguments[i] *
arguments[i];\n        }\n        return Math.sqrt(y);\n    };\n}\nif (typeof Math.log10 === \"undefined\") {\n
Math.log10 = function(x) {\n        return Math.log(x) * Math.LOG10E;\n    };\n}\nif (typeof Math.log2 ===
\"undefined\") {\n    Math.log2 = function(x) {\n        return Math.log(x) * Math.LOG2E;\n    };\n}\nif (typeof
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Math.clz32 === \"undefined\") {\n    Math.clz32 = (function(log, LN2) {\n        return function(x) {\n            var asUint = x >>> 0;\n            if (asUint === 0) {\n                return 32;\n            }\n            return 31 - (log(asUint) / LN2 | 0) | 0; // the \"| 0\" acts like math.floor\n        };\n    })(Math.log, Math.LN2);\n}\n\n// For HtmlUnit and PhantomJs\nif (typeof ArrayBuffer.isView === \"undefined\") {\n    ArrayBuffer.isView = function(a) {\n return a != null && a.__proto__ != null && a.__proto__.__proto__ === Int8Array.prototype.__proto__;\n };\n}\n\nif (typeof Array.prototype.fill === \"undefined\") {\n    // Polyfill from https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Array/fill#Polyfill\n    Object.defineProperty(Array.prototype, 'fill', {\n        value: function (value) {\n\n            // Steps 1-2.\n            if (this == null) {\n                throw new TypeError('this is null or not defined');\n            }\n\n            var O = Object(this);\n\n            // Steps 3-5.\n            var len = O.length >>> 0;\n\n            // Steps 6-7.\n            var start = arguments[1];\n            var relativeStart = start >> 0;\n\n            // Step 8.\n            var k = relativeStart < 0 ?\n                Math.max(len + relativeStart, 0) :\n                Math.min(relativeStart, len);\n\n            // Steps 9-10.\n            var end = arguments[2];\n            var relativeEnd = end === undefined ?\n                len : end >> 0;\n\n            // Step 11.\n            var finalValue = relativeEnd < 0 ?\n                Math.max(len + relativeEnd, 0) :\n                Math.min(relativeEnd, len);\n\n            // Step 12.\n            while (k < finalValue) {\n                O[k] = value;\n                k++;\n            }\n\n            // Step 13.\n            return O;\n        }\n    });\n}\n\n(function() {\n    function normalizeOffset(offset, length) {\n        if (offset < 0) return Math.max(0, offset + length);\n        return Math.min(offset, length);\n    }\n    function typedArraySlice(begin, end) {\n        if (typeof end === \"undefined\") {\n            end = this.length;\n        }\n        begin = normalizeOffset(begin || 0, this.length);\n        end = Math.max(begin, normalizeOffset(end, this.length));\n        return new this.constructor(this.subarray(begin, end));\n    }\n\n    var arrays = [Int8Array, Int16Array, Uint16Array, Int32Array, Float32Array, Float64Array];\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof TypedArray.prototype.fill === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'fill', {\n                value: Array.prototype.fill\n            });\n        }\n        if (typeof TypedArray.prototype.slice === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'slice', {\n                value: typedArraySlice\n            });\n        }\n    }\n\n    // Patch apply to work with TypedArrays if needed.\n    try {\n        (function() {}).apply(null, new Int32Array(0))\n    } catch (e) {\n        var apply = Function.prototype.apply;\n        Object.defineProperty(Function.prototype, 'apply', {\n            value: function(self, array) {\n                return apply.call(this, self, [].slice.call(array));\n            }\n        });\n    }\n\n\n    // Patch map to work with TypedArrays if needed.\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof TypedArray.prototype.map === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'map', {\n                value: function(callback, self) {\n                    return [].slice.call(this).map(callback, self);\n                }\n            });\n        }\n    }\n\n    // Patch sort to work with TypedArrays if needed.\n    // TODO: consider to remove following function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\n    var totalOrderComparator = function (a, b) {\n        if (a < b) return -1;\n        if (a > b) return 1;\n\n        if (a === b) {\n            if (a !== 0) return 0;\n\n            var ia = 1 / a;\n            return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n        }\n\n        return a !== a ? (b !== b ? 0 : 1) : -1\n    };\n\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof TypedArray.prototype.sort === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'sort', {\n                value: function(compareFunction) {\n                    return Array.prototype.sort.call(this, compareFunction || totalOrderComparator);\n                }\n            });\n        }\n    }\n})();\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors. \n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.Kind = {\n    CLASS: \"class\",\n    INTERFACE: \"interface\",\n    OBJECT: \"object\"\n};\n\nKotlin.callGetter = function (thisObject, klass, propertyName) {\n    var propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n    if (propertyDescriptor != null && propertyDescriptor.get != null) {\n        return propertyDescriptor.get.call(thisObject);\n    }\n\n    propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor != null && \"value\" in propertyDescriptor) {\n        return thisObject[propertyName];\n    }\n\n    return Kotlin.callGetter(thisObject, Object.getPrototypeOf(klass), propertyName);\n};\n\nKotlin.callSetter = function (thisObject, klass, propertyName,
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value) {\n   var propertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n   if (propertyDescriptor != null && propertyDescriptor.set != null) {\n   propertyDescriptor.set.call(thisObject, value);\n   return;\n   }\n\n   propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject, propertyName);\n   if (propertyDescriptor != null && \"value\" in propertyDescriptor) {\n   thisObject[propertyName] = value;\n   return\n   }\n\n   Kotlin.callSetter(thisObject, Object.getPrototypeOf(klass), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n   if (ctor === iface) return true;\n\n   var metadata = ctor.$metadata$;\n   if (metadata != null) {\n   var interfaces = metadata.interfaces;\n   for (var i = 0; i < interfaces.length; i++) {\n   if (isInheritanceFromInterface(interfaces[i], iface)) {\n   return true;\n   }\n   }\n   }\n\n   var superPrototype = ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n   var superConstructor = superPrototype != null ? superPrototype.constructor : null;\n   return superConstructor != null && isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n *\n * @param {*} object\n * @param {Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n   if (klass === Object) {\n   switch (typeof object) {\n   case \"string\":\n   case \"number\":\n   case \"boolean\":\n   case \"function\":\n   return true;\n   default:\n   return object instanceof Object;\n   }\n   }\n\n   if (object == null || klass == null || (typeof object !== 'object' && typeof object !== 'function')) {\n   return false;\n   }\n\n   if (typeof klass === \"function\" && object instanceof klass) {\n   return true;\n   }\n\n   var proto = Object.getPrototypeOf(klass);\n   var constructor = proto != null ? proto.constructor : null;\n   if (constructor != null && \"$metadata$\" in constructor) {\n   var metadata = constructor.$metadata$;\n   if (metadata.kind === Kotlin.Kind.OBJECT) {\n   return object === klass;\n   }\n   }\n\n   var klassMetadata = klass.$metadata$;\n\n   // In WebKit (JavaScriptCore) for some interfaces from DOM typeof returns \"object\", nevertheless they can be used in RHS of instanceof\n   if (klassMetadata == null) {\n   return object instanceof klass;\n   }\n\n   if (klassMetadata.kind === Kotlin.Kind.INTERFACE && object.constructor != null) {\n   return isInheritanceFromInterface(object.constructor, klass);\n   }\n\n   return false;\n};\n\nKotlin.isNumber = function (a) {\n   return typeof a == \"number\" || a instanceof Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n   return value instanceof Kotlin.BoxedChar\n};\n\nKotlin.isComparable = function (value) {\n   var type = typeof value;\n\n   return type === \"string\" ||\n   type === \"boolean\" ||\n   Kotlin.isNumber(value) ||\n   Kotlin.isType(value, Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n   return typeof value === \"string\" || Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\n@PublishedApi\nexternal internal fun <T> Array(size: Int): Array<T>\n\n@JsName(\"newArray\")\nfun <T> newArray(size: Int, initValue: T) = fillArrayVal(Array<T>(size), initValue)\n\n@JsName(\"newArrayF\")\ninline fun <T> arrayWithFun(size: Int, init: (Int) -> T) = fillArrayFun(Array<T>(size), init)\n\n@JsName(\"fillArray\")\ninline fun <T> fillArrayFun(array: Array<T>, init: (Int) -> T): Array<T> {\n   for (i in 0..array.size - 1) {\n   array[i] = init(i)\n   }\n   return array\n}\n\n@JsName(\"booleanArray\")\nfun booleanArray(size: Int, init: dynamic): Array<Boolean> {\n   val result: dynamic = Array<Boolean>(size)\n   result.`$type$` = \"BooleanArray\"\n   return when (init) {\n   null, true -> fillArrayVal(result, false)\n   false -> result\n   else -> fillArrayFun<Boolean>(result, init)\n   }\n}\n\n@JsName(\"booleanArrayF\")\ninline fun booleanArrayWithFun(size: Int, init: (Int) -> Boolean): Array<Boolean> = fillArrayFun(booleanArray(size, false), init)\n\n@JsName(\"charArray\")\n@Suppress(\"UNUSED_PARAMETER\")\nfun charArray(size: Int, init: dynamic): Array<Char> {\n   val result = js(\"new Uint16Array(size)\")\n   result.`$type$` = \"CharArray\"\n   return when (init) {\n   null, true, false -> result // For consistency\n   else -> fillArrayFun<Char>(result, init)\n   }\n}\n\n@JsName(\"charArrayF\")\ninline fun charArrayWithFun(size: Int, init: (Int) -> Char): Array<Char> {\n   val array = charArray(size, null)\n   for (i in 0..array.size - 1) {\n   @Suppress(\"UNUSED_VARIABLE\") // used in js block\n   val value = init(i)\n   js(\"array[i] = value;\")\n

}\n   return array\n}\n\n@JsName(\"untypedCharArrayF\")\ninline fun untypedCharArrayWithFun(size: Int, init: (Int) -> Char): Array<Char> {\n   val array = Array<Char>(size)\n   for (i in 0..array.size - 1) {\n @Suppress(\"UNUSED_VARIABLE\") // used in js block\n   val value = init(i)\n   js(\"array[i] = value;\")\n   }\n   return array\n}\n\n@JsName(\"longArray\")\nfun longArray(size: Int, init: dynamic): Array<Long> {\n   val result: dynamic = Array<Long>(size)\n   result.`$type$` = \"LongArray\"\n   return when (init) {\n   null, true -> fillArrayVal(result, 0L)\n   false -> result\n   else -> fillArrayFun<Long>(result, init)\n   }\n}\n\n@JsName(\"longArrayF\")\ninline fun longArrayWithFun(size: Int, init: (Int) -> Long): Array<Long> = fillArrayFun(longArray(size, false), init)\n\nprivate fun <T> fillArrayVal(array: Array<T>, initValue: T): Array<T> {\n   for (i in 0..array.size - 1) {\n   array[i] = initValue\n   }\n   return array\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\npublic class Enum<T : Enum<T>> : Comparable<Enum<T>> {\n   @JsName(\"name$\") private var _name: String = \"\"\n @JsName(\"ordinal$\") private var _ordinal: Int = 0\n\n   val name: String\n   get() = _name\n\n   val ordinal: Int\n   get() = _ordinal\n\n   override fun compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)\n\n override fun equals(other: Any?) = this === other\n\n   override fun hashCode(): Int = js(\"Kotlin.identityHashCode\")(this)\n\n   override fun toString() = name\n\n   companion object\n}",null,"/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"ArraysKt\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component1(): T {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component1(): Byte {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component1(): Short {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component1(): Int {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component1(): Long {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component1(): Float {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component1(): Double {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component1(): Boolean {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component1(): Char {\n   return

get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component2(): T {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component2(): Byte {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component2(): Short {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component2(): Int {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component2(): Long {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component2(): Float {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component2(): Double {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component2(): Boolean {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component2(): Char {\n   return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component3(): T {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component3(): Byte {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component3(): Short {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component3(): Int {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component3(): Long {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component3(): Float {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component3(): Double {\n   return

get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component3(): Boolean {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component3(): Char {\n   return get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component4(): T {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component4(): Byte {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component4(): Short {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component4(): Int {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component4(): Long {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component4(): Float {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component4(): Double {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component4(): Boolean {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component4(): Char {\n   return get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Array<out T>.component5(): T {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5(): Byte {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ShortArray.component5(): Short {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun LongArray.component5(): Long {\n   return

get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun DoubleArray.component5(): Double {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component5(): Boolean {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component5(): Char {\n   return get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.contains(element: T): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun ByteArray.contains(element: Byte): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun ShortArray.contains(element: Short): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun IntArray.contains(element: Int): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun LongArray.contains(element: Long): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"any { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@Suppress(\"DEPRECATION\")\npublic operator fun FloatArray.contains(element: Float): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'any { it == element }' instead to continue using this behavior, or '.asList().contains(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"any { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@Suppress(\"DEPRECATION\")\npublic operator fun DoubleArray.contains(element: Double): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun BooleanArray.contains(element: Boolean): Boolean {\n return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun CharArray.contains(element: Char): Boolean {\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun <T> Array<out T>.elementAt(index: Int): T\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun ByteArray.elementAt(index: Int): Byte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun ShortArray.elementAt(index: Int): Short\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun IntArray.elementAt(index: Int): Int\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun LongArray.elementAt(index: Int): Long\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAt\n */\npublic expect fun FloatArray.elementAt(index: Int): Float\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun DoubleArray.elementAt(index: Int): Double\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun BooleanArray.elementAt(index: Int): Boolean\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun CharArray.elementAt(index: Int): Char\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Float): Float {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.elementAtOrNull(index: Int): T? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an

element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.elementAtOrNull(index: Int): Byte? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.elementAtOrNull(index: Int): Short? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.elementAtOrNull(index: Int): Int? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.elementAtOrNull(index: Int): Long? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.elementAtOrNull(index: Int): Float? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.elementAtOrNull(index: Int): Double? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.elementAtOrNull(index: Int): Boolean? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.elementAtOrNull(index: Int): Char? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.find(predicate: (T) -> Boolean): T? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.find(predicate: (Byte) -> Boolean): Byte? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.find(predicate: (Short) -> Boolean): Short? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.find(predicate: (Int) -> Boolean): Int? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.find(predicate: (Long) -> Boolean): Long? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.find(predicate: (Float) -> Boolean): Float? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.find(predicate: (Boolean) -> Boolean): Boolean? {\n   return firstOrNull(predicate)\n}\n\n/**\n *

Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.find(predicate: (Char) -> Boolean): Char? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.findLast(predicate: (Byte) -> Boolean): Byte? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.findLast(predicate: (Short) -> Boolean): Short? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.findLast(predicate: (Int) -> Boolean): Int? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.findLast(predicate: (Long) -> Boolean): Long? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.findLast(predicate: (Float) -> Boolean): Float? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.findLast(predicate: (Double) -> Boolean): Double? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.findLast(predicate: (Boolean) -> Boolean): Boolean? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.findLast(predicate: (Char) -> Boolean): Char? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun <T> Array<out T>.first(): T {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ByteArray.first(): Byte {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ShortArray.first(): Short {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun IntArray.first(): Int {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun LongArray.first(): Long {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun FloatArray.first(): Float {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun DoubleArray.first(): Double {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun BooleanArray.first(): Boolean {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the

array is empty.\n */\npublic fun CharArray.first(): Char {\n   if (isEmpty())\n   throw NoSuchElementException(\"Array is empty.\")\n   return this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Array<out T>.first(predicate: (T) -> Boolean): T {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.first(predicate: (Short) -> Boolean): Short {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun IntArray.first(predicate: (Int) -> Boolean): Int {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.first(predicate: (Long) -> Boolean): Long {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.first(predicate: (Double) -> Boolean): Double {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.first(predicate: (Char) -> Boolean): Char {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun <T> Array<out T>.firstOrNull(): T? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun ByteArray.firstOrNull(): Byte? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun ShortArray.firstOrNull(): Short? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun IntArray.firstOrNull(): Int? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun LongArray.firstOrNull(): Long? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun FloatArray.firstOrNull(): Float? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun DoubleArray.firstOrNull(): Double? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun BooleanArray.firstOrNull(): Boolean? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun CharArray.firstOrNull(): Char? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun <T> Array<out T>.firstOrNull(predicate: (T) -> Boolean): T? {\n   for (element in this) if (predicate(element)) return element\n

return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun ShortArray.firstOrNull(predicate: (Short) -> Boolean): Short? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun DoubleArray.firstOrNull(predicate: (Double) -> Boolean): Double? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun BooleanArray.firstOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun CharArray.firstOrNull(predicate: (Char) -> Boolean): Char? {\n   for (element in this) if (predicate(element)) return element\n   return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.getOrElse(index: Int, defaultValue: (Int) -> T): T {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.getOrElse(index: Int, defaultValue: (Int) -> Byte): Byte {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.getOrElse(index: Int, defaultValue: (Int) -> Short): Short {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.getOrElse(index: Int, defaultValue: (Int) -> Int): Int {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.getOrElse(index: Int, defaultValue: (Int) -> Long): Long {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.getOrElse(index: Int, defaultValue: (Int) -> Float): Float {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrElse(index: Int, defaultValue: (Int) -> Double): Double {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.getOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun

CharArray.getOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun <T> Array<out T>.getOrNull(index: Int): T? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun ByteArray.getOrNull(index: Int): Byte? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun ShortArray.getOrNull(index: Int): Short? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun IntArray.getOrNull(index: Int): Int? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun LongArray.getOrNull(index: Int): Long? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun FloatArray.getOrNull(index: Int): Float? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun DoubleArray.getOrNull(index: Int): Double? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun BooleanArray.getOrNull(index: Int): Boolean? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun CharArray.getOrNull(index: Int): Char? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.indexOf(element: T): Int {\n if (element == null) {\n for (index in indices) {\n if (this[index] == null) {\n return index\n }\n }\n } else {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun ByteArray.indexOf(element: Byte): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun ShortArray.indexOf(element: Short): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun IntArray.indexOf(element: Int): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun LongArray.indexOf(element: Long): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"indexOfFirst { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.indexOf(element: Float): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values

and will be removed soon. Use 'indexOfFirst { it == element }' instead to continue using this behavior, or '.asList().indexOf(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"indexOfFirst { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun DoubleArray.indexOf(element: Double): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun BooleanArray.indexOf(element: Boolean): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun CharArray.indexOf(element: Char): Int {\n for (index in indices) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T> Array<out T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T> Array<out T>.indexOfLast(predicate: (T) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last

element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun DoubleArray.indexOfLast(predicate: (Double) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun BooleanArray.indexOfLast(predicate: (Boolean) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun CharArray.indexOfLast(predicate: (Char) -> Boolean): Int {\n for (index in indices.reversed()) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun <T> Array<out T>.last(): T {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ByteArray.last(): Byte {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun ShortArray.last(): Short {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun IntArray.last(): Int {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun LongArray.last(): Long {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun FloatArray.last(): Float {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun DoubleArray.last(): Double {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun BooleanArray.last(): Boolean {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\npublic fun CharArray.last(): Char {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Array<out T>.last(predicate: (T) -> Boolean): T {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ByteArray.last(predicate: (Byte) -> Boolean): Byte {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.last(predicate: (Short) -> Boolean): Short {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws

[NoSuchElementException] if no such element is found.\n */\npublic inline fun IntArray.last(predicate: (Int) -> Boolean): Int {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.last(predicate: (Long) -> Boolean): Long {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun FloatArray.last(predicate: (Float) -> Boolean): Float {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.last(predicate: (Double) -> Boolean): Double {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun BooleanArray.last(predicate: (Boolean) -> Boolean): Boolean {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.last(predicate: (Char) -> Boolean): Char {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.lastIndexOf(element: T): Int {\n   if (element == null) {\n   for (index in indices.reversed()) {\n   if (this[index] == null) {\n   return index\n   }\n   }\n   } else {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun ByteArray.lastIndexOf(element: Byte): Int {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun ShortArray.lastIndexOf(element: Short): Int {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun IntArray.lastIndexOf(element: Int): Int {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun LongArray.lastIndexOf(element: Long): Int {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or '.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"indexOfLast { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.lastIndexOf(element: Float): Int {\n   for (index in indices.reversed()) {\n   if (element == this[index]) {\n   return index\n   }\n   }\n   return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\n@Deprecated(\"The function has unclear behavior when searching for NaN or zero values and will be removed soon. Use 'indexOfLast { it == element }' instead to continue using this behavior, or '.asList().lastIndexOf(element: T)' to get the same search behavior as in a list.\", ReplaceWith(\"indexOfLast { it == element }\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun

DoubleArray.lastIndexOf(element: Double): Int {\n for (index in indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun BooleanArray.lastIndexOf(element: Boolean): Int {\n for (index in indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n */\npublic fun CharArray.lastIndexOf(element: Char): Int {\n for (index in indices.reversed()) {\n if (element == this[index]) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun <T> Array<out T>.lastOrNull(): T? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun ByteArray.lastOrNull(): Byte? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun ShortArray.lastOrNull(): Short? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun IntArray.lastOrNull(): Int? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun LongArray.lastOrNull(): Long? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun FloatArray.lastOrNull(): Float? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun DoubleArray.lastOrNull(): Double? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun BooleanArray.lastOrNull(): Boolean? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n */\npublic fun CharArray.lastOrNull(): Char? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun <T> Array<out T>.lastOrNull(predicate: (T) -> Boolean): T? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun ByteArray.lastOrNull(predicate: (Byte) -> Boolean): Byte? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun ShortArray.lastOrNull(predicate: (Short) -> Boolean): Short? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun IntArray.lastOrNull(predicate: (Int) -> Boolean): Int? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun LongArray.lastOrNull(predicate: (Long) -> Boolean): Long? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun FloatArray.lastOrNull(predicate: (Float) -> Boolean): Float? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun DoubleArray.lastOrNull(predicate: (Double) -> Boolean): Double? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun BooleanArray.lastOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun CharArray.lastOrNull(predicate: (Char) -> Boolean): Char? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n

*/\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.random(): T {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.random(): Byte {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.random(): Short {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.random(): Int {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.random(): Long {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.random(): Float {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.random(): Double {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.random(): Boolean {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.random(): Char {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> Array<out T>.random(random: Random): T {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun ByteArray.random(random: Random): Byte {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun ShortArray.random(random: Random): Short {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun IntArray.random(random: Random): Int {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun LongArray.random(random: Random): Long {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun FloatArray.random(random: Random): Float {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun DoubleArray.random(random: Random): Double {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun BooleanArray.random(random: Random): Boolean {\n

if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun CharArray.random(random: Random): Char {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.randomOrNull(): T? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.randomOrNull(): Byte? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.randomOrNull(): Short? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.randomOrNull(): Int? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.randomOrNull(): Long? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.randomOrNull(): Float? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.randomOrNull(): Double? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.randomOrNull(): Boolean? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.randomOrNull(): Char? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> Array<out T>.randomOrNull(random: Random): T? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun ByteArray.randomOrNull(random: Random): Byte? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun ShortArray.randomOrNull(random: Random): Short? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun IntArray.randomOrNull(random: Random): Int? {\n if (isEmpty())\n return null\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of

randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
LongArray.randomOrNull(random: Random): Long? {\n   if (isEmpty())\n   return null\n   return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
FloatArray.randomOrNull(random: Random): Float? {\n   if (isEmpty())\n   return null\n   return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
DoubleArray.randomOrNull(random: Random): Double? {\n   if (isEmpty())\n   return null\n   return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
BooleanArray.randomOrNull(random: Random): Boolean? {\n   if (isEmpty())\n   return null\n   return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun
CharArray.randomOrNull(random: Random): Char? {\n   if (isEmpty())\n   return null\n   return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n */\npublic fun <T> Array<out T>.single(): T {\n   return when (size) {\n   0 ->
throw NoSuchElementException(\"Array is empty.\")\n   1 -> this[0]\n   else -> throw
IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun ByteArray.single(): Byte
{\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is empty.\")\n   1 -> this[0]\n
else -> throw IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
ShortArray.single(): Short {\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is
empty.\")\n   1 -> this[0]\n   else -> throw IllegalArgumentException(\"Array has more than one element.\")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun IntArray.single(): Int {\n   return when (size) {\n   0 -> throw
NoSuchElementException(\"Array is empty.\")\n   1 -> this[0]\n   else -> throw
IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun LongArray.single(): Long
{\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is empty.\")\n   1 -> this[0]\n
else -> throw IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n * Returns the
single element, or throws an exception if the array is empty or has more than one element.\n */\npublic fun
FloatArray.single(): Float {\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is
empty.\")\n   1 -> this[0]\n   else -> throw IllegalArgumentException(\"Array has more than one element.\")\n
}\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one
element.\n */\npublic fun DoubleArray.single(): Double {\n   return when (size) {\n   0 -> throw
NoSuchElementException(\"Array is empty.\")\n   1 -> this[0]\n   else -> throw
IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n */\npublic fun BooleanArray.single():
Boolean {\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is empty.\")\n   1 ->
this[0]\n   else -> throw IllegalArgumentException(\"Array has more than one element.\")\n   }\n}\n\n/**\n *
Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\npublic
fun CharArray.single(): Char {\n   return when (size) {\n   0 -> throw NoSuchElementException(\"Array is

empty.\")\n 1 -> this[0]\n else -> throw IllegalArgumentException(\"Array has more than one element.\")\n }\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun <T> Array<out T>.single(predicate: (T) -> Boolean): T {\n var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as T\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun ByteArray.single(predicate: (Byte) -> Boolean): Byte {\n var single: Byte? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Byte\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun ShortArray.single(predicate: (Short) -> Boolean): Short {\n var single: Short? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Short\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun IntArray.single(predicate: (Int) -> Boolean): Int {\n var single: Int? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Int\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun LongArray.single(predicate: (Long) -> Boolean): Long {\n var single: Long? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Long\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun FloatArray.single(predicate: (Float) -> Boolean): Float {\n var single: Float? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Float\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun DoubleArray.single(predicate: (Double) -> Boolean): Double {\n var single: Double? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Double\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n var single: Boolean? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no

element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Boolean\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char {\n var single: Char? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as Char\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T> Array<out T>.singleOrNull(): T? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun IntArray.singleOrNull(): Int? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun DoubleArray.singleOrNull(): Double? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun BooleanArray.singleOrNull(): Boolean? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun CharArray.singleOrNull(): Char? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -> Boolean): T? {\n var single: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n var single: Byte? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n var single: Short? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {\n var single: Int? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {\n var single: Long? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun FloatArray.singleOrNull(predicate: (Float) -> Boolean): Float? {\n var single: Float? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element

was not found or more than one element was found.\n */\npublic inline fun DoubleArray.singleOrNull(predicate: (Double) -> Boolean): Double? {\n var single: Double? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n var single: Boolean? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {\n var single: Char? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Array<out T>.drop(n: Int): List<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun ByteArray.drop(n: Int): List<Byte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun ShortArray.drop(n: Int): List<Short> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun IntArray.drop(n: Int): List<Int> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun LongArray.drop(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun FloatArray.drop(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun DoubleArray.drop(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun BooleanArray.drop(n: Int): List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun CharArray.drop(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size -

n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Array<out T>.dropLast(n: Int): List<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun ShortArray.dropLast(n: Int): List<Short> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun IntArray.dropLast(n: Int): List<Int> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun LongArray.dropLast(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun FloatArray.dropLast(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun DoubleArray.dropLast(n: Int): List<Double> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun BooleanArray.dropLast(n: Int): List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun CharArray.dropLast(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Array<out T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun ByteArray.dropLastWhile(predicate: (Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun ShortArray.dropLastWhile(predicate: (Short) -> Boolean): List<Short> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements

except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun IntArray.dropLastWhile(predicate: (Int) -> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun LongArray.dropLastWhile(predicate: (Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun FloatArray.dropLastWhile(predicate: (Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropLastWhile(predicate: (Double) -> Boolean): List<Double> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Array<out T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n var yielding = false\n val list = ArrayList<T>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun ByteArray.dropWhile(predicate: (Byte) -> Boolean): List<Byte> {\n var yielding = false\n val list = ArrayList<Byte>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun ShortArray.dropWhile(predicate: (Short) -> Boolean): List<Short> {\n var yielding = false\n val list = ArrayList<Short>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun IntArray.dropWhile(predicate: (Int) -> Boolean): List<Int> {\n var yielding = false\n val list = ArrayList<Int>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun LongArray.dropWhile(predicate: (Long) -> Boolean): List<Long> {\n var yielding = false\n val list = ArrayList<Long>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun

FloatArray.dropWhile(predicate: (Float) -> Boolean): List<Float> {\n var yielding = false\n val list = ArrayList<Float>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropWhile(predicate: (Double) -> Boolean): List<Double> {\n var yielding = false\n val list = ArrayList<Double>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun BooleanArray.dropWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n var yielding = false\n val list = ArrayList<Boolean>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropWhile(predicate: (Char) -> Boolean): List<Char> {\n var yielding = false\n val list = ArrayList<Char>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Array<out T>.filter(predicate: (T) -> Boolean): List<T> {\n return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun ByteArray.filter(predicate: (Byte) -> Boolean): List<Byte> {\n return filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n return filterTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun IntArray.filter(predicate: (Int) -> Boolean): List<Int> {\n return filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun LongArray.filter(predicate: (Long) -> Boolean): List<Long> {\n return filterTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun FloatArray.filter(predicate: (Float) -> Boolean): List<Float> {\n return filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n return filterTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun BooleanArray.filter(predicate: (Boolean) -> Boolean): List<Boolean> {\n return filterTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun CharArray.filter(predicate: (Char) -> Boolean): List<Char> {\n return filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Array<out T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n return filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n return

filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun ShortArray.filterIndexed(predicate: (index: Int, Short) -> Boolean): List<Short> {\n   return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n   return filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun LongArray.filterIndexed(predicate: (index: Int, Long) -> Boolean): List<Long> {\n   return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun FloatArray.filterIndexed(predicate: (index: Int, Float) -> Boolean): List<Float> {\n   return filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun DoubleArray.filterIndexed(predicate: (index: Int, Double) -> Boolean): List<Double> {\n   return filterIndexedTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n   return filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharArray.filterIndexed(predicate: (index: Int, Char) -> Boolean): List<Char> {\n   return filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterIndexedTo(destination: C, predicate: (index: Int, Byte) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return

destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterIndexedTo(destination: C, predicate: (index: Int, Int) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterIndexedTo(destination: C, predicate: (index: Int, Float) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterIndexedTo(destination: C, predicate: (index: Int, Boolean) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a list containing all elements that are instances of specified type parameter R.\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstance\n */\npublic inline fun <reified R> Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n   return filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type parameter R to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Array<*>.filterIsInstanceTo(destination: C): C {\n   for (element in this) if (element is R) destination.add(element)\n   return destination\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Array<out T>.filterNot(predicate: (T) -> Boolean): List<T> {\n   return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun ByteArray.filterNot(predicate: (Byte) -> Boolean): List<Byte> {\n   return filterNotTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun ShortArray.filterNot(predicate: (Short) -> Boolean): List<Short> {\n   return

filterNotTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun IntArray.filterNot(predicate: (Int) -> Boolean): List<Int> {\n   return filterNotTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun LongArray.filterNot(predicate: (Long) -> Boolean): List<Long> {\n   return filterNotTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun FloatArray.filterNot(predicate: (Float) -> Boolean): List<Float> {\n   return filterNotTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun DoubleArray.filterNot(predicate: (Double) -> Boolean): List<Double> {\n   return filterNotTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun BooleanArray.filterNot(predicate: (Boolean) -> Boolean): List<Boolean> {\n   return filterNotTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun CharArray.filterNot(predicate: (Char) -> Boolean): List<Char> {\n   return filterNotTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Array<out T?>.filterNotNull(): List<T> {\n   return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C : MutableCollection<in T>, T : Any> Array<out T?>.filterNotNullTo(destination: C): C {\n   for (element in this) if (element != null) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterNotTo(destination: C, predicate: (Byte) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterNotTo(destination: C, predicate: (Short) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterNotTo(destination: C, predicate: (Int) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterNotTo(destination: C, predicate: (Long) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterNotTo(destination: C, predicate: (Float) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample

samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterNotTo(destination: C, predicate: (Double) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterNotTo(destination: C, predicate: (Boolean) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Array<out T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterTo(destination: C, predicate: (Byte) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterTo(destination: C, predicate: (Short) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterTo(destination: C, predicate: (Int) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Long>> LongArray.filterTo(destination: C, predicate: (Long) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Float>> FloatArray.filterTo(destination: C, predicate: (Float) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Double>> DoubleArray.filterTo(destination: C, predicate: (Double) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Boolean>> BooleanArray.filterTo(destination: C, predicate: (Boolean) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : MutableCollection<in Char>> CharArray.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<out T>.slice(indices: IntRange): List<T> {\n   if (indices.isEmpty()) return listOf()\n   return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun ByteArray.slice(indices: IntRange): List<Byte> {\n   if (indices.isEmpty()) return listOf()\n   return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic

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fun ShortArray.slice(indices: IntRange): List<Short> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun IntArray.slice(indices: IntRange): List<Int> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun LongArray.slice(indices: IntRange): List<Long> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun FloatArray.slice(indices: IntRange): List<Float> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun DoubleArray.slice(indices: IntRange): List<Double> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun BooleanArray.slice(indices: IntRange): List<Boolean> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun CharArray.slice(indices: IntRange): List<Char> {\n    if (indices.isEmpty()) return listOf()\n    return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun <T> Array<out T>.slice(indices: Iterable<Int>): List<T> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<T>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun ByteArray.slice(indices: Iterable<Int>): List<Byte> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Byte>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun ShortArray.slice(indices: Iterable<Int>): List<Short> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Short>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun IntArray.slice(indices: Iterable<Int>): List<Int> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Int>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun LongArray.slice(indices: Iterable<Int>): List<Long> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Long>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun FloatArray.slice(indices: Iterable<Int>): List<Float> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Float>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Double>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun BooleanArray.slice(indices: Iterable<Int>): List<Boolean> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Boolean>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun CharArray.slice(indices: Iterable<Int>): List<Char> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Char>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun <T> Array<T>.sliceArray(indices: Collection<Int>): Array<T> {\n    val result = arrayOfNulls(this, indices.size)\n    var targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
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ByteArray.sliceArray(indices: Collection<Int>): ByteArray {\n val result = ByteArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun ShortArray.sliceArray(indices: Collection<Int>): ShortArray {\n val result = ShortArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun IntArray.sliceArray(indices: Collection<Int>): IntArray {\n val result = IntArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun LongArray.sliceArray(indices: Collection<Int>): LongArray {\n val result = LongArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun FloatArray.sliceArray(indices: Collection<Int>): FloatArray {\n val result = FloatArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n val result = DoubleArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n val result = BooleanArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun CharArray.sliceArray(indices: Collection<Int>): CharArray {\n val result = CharArray(indices.size)\n var targetIndex = 0\n for (sourceIndex in indices) {\n result[targetIndex++] = this[sourceIndex]\n }\n return result\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<T>.sliceArray(indices: IntRange): Array<T> {\n if (indices.isEmpty()) return copyOfRange(0, 0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun ByteArray.sliceArray(indices: IntRange): ByteArray {\n if (indices.isEmpty()) return ByteArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.sliceArray(indices: IntRange): ShortArray {\n if (indices.isEmpty()) return ShortArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun IntArray.sliceArray(indices: IntRange): IntArray {\n if (indices.isEmpty()) return IntArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun LongArray.sliceArray(indices: IntRange): LongArray {\n if (indices.isEmpty()) return LongArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun FloatArray.sliceArray(indices: IntRange): FloatArray {\n if (indices.isEmpty()) return FloatArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun DoubleArray.sliceArray(indices: IntRange): DoubleArray {\n if (indices.isEmpty()) return DoubleArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun BooleanArray.sliceArray(indices: IntRange): BooleanArray {\n if (indices.isEmpty()) return BooleanArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun CharArray.sliceArray(indices: IntRange): CharArray {\n if (indices.isEmpty()) return CharArray(0)\n return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Array<out T>.take(n: Int): List<T> {\n

require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<T>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun ByteArray.take(n: Int): List<Byte> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Byte>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun ShortArray.take(n: Int): List<Short> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Short>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun IntArray.take(n: Int): List<Int> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Int>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun LongArray.take(n: Int): List<Long> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Long>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun FloatArray.take(n: Int): List<Float> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Float>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun DoubleArray.take(n: Int): List<Double> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Double>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun BooleanArray.take(n: Int): List<Boolean> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Boolean>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun CharArray.take(n: Int): List<Char> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<Char>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Array<out T>.takeLast(n: Int): List<T> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list =

ArrayList<T>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun ByteArray.takeLast(n: Int): List<Byte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Byte>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun ShortArray.takeLast(n: Int): List<Short> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Short>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun IntArray.takeLast(n: Int): List<Int> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Int>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun LongArray.takeLast(n: Int): List<Long> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Long>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun FloatArray.takeLast(n: Int): List<Float> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Float>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun DoubleArray.takeLast(n: Int): List<Double> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Double>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun BooleanArray.takeLast(n: Int): List<Boolean> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Boolean>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun CharArray.takeLast(n: Int): List<Char> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<Char>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Array<out T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n   for (index in lastIndex downTo 0) {\n   if (!predicate(this[index])) {\n   return drop(index + 1)\n   }\n   }\n   return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun ByteArray.takeLastWhile(predicate: (Byte) -> Boolean): List<Byte> {\n   for (index in lastIndex downTo 0) {\n   if (!predicate(this[index])) {\n

return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun IntArray.takeLastWhile(predicate: (Int) -> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun LongArray.takeLastWhile(predicate: (Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun FloatArray.takeLastWhile(predicate: (Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun CharArray.takeLastWhile(predicate: (Char) -> Boolean): List<Char> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n val list = ArrayList<T>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun ByteArray.takeWhile(predicate: (Byte) -> Boolean): List<Byte> {\n val list = ArrayList<Byte>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {\n val list = ArrayList<Short>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun IntArray.takeWhile(predicate: (Int) -> Boolean): List<Int> {\n val list = ArrayList<Int>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {\n val list = ArrayList<Long>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun FloatArray.takeWhile(predicate: (Float) -> Boolean): List<Float> {\n val list = ArrayList<Float>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n

*/\npublic inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {\n val list = ArrayList<Double>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun BooleanArray.takeWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n val list = ArrayList<Boolean>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun CharArray.takeWhile(predicate: (Char) -> Boolean): List<Char> {\n val list = ArrayList<Char>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun <T> Array<T>.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun ByteArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun ShortArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun IntArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun LongArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun FloatArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun DoubleArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun BooleanArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun CharArray.reverse(): Unit {\n val midPoint = (size / 2) - 1\n if (midPoint < 0) return\n var reverseIndex = lastIndex\n for (index in 0..midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<T>.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex = toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws

IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val midPoint = (fromIndex + toIndex) / 2\n   if (fromIndex == midPoint) return\n   var reverseIndex = toIndex - 1\n   for (index in fromIndex until midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws

IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex = toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val midPoint = (fromIndex + toIndex) / 2\n if (fromIndex == midPoint) return\n var reverseIndex = toIndex - 1\n for (index in fromIndex until midPoint) {\n val tmp = this[index]\n this[index] = this[reverseIndex]\n this[reverseIndex] = tmp\n reverseIndex--\n }\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun <T> Array<out T>.reversed(): List<T> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun ByteArray.reversed(): List<Byte> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun ShortArray.reversed(): List<Short> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun IntArray.reversed(): List<Int> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun LongArray.reversed(): List<Long> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun FloatArray.reversed(): List<Float> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun DoubleArray.reversed(): List<Double> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun BooleanArray.reversed(): List<Boolean> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun CharArray.reversed(): List<Char> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun <T> Array<T>.reversedArray(): Array<T> {\n if (isEmpty()) return this\n val result = arrayOfNulls(this, size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ByteArray.reversedArray(): ByteArray {\n if (isEmpty()) return this\n val result = ByteArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray(): ShortArray {\n if (isEmpty()) return this\n val result = ShortArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n if (isEmpty()) return this\n val result = IntArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun LongArray.reversedArray(): LongArray {\n if (isEmpty()) return this\n val result = LongArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray(): FloatArray {\n if (isEmpty()) return this\n val result = FloatArray(size)\n val lastIndex = lastIndex\n for (i in 0..lastIndex)\n result[lastIndex - i] = this[i]\n return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n if (isEmpty()) return

this\n   val result = DoubleArray(size)\n   val lastIndex = lastIndex\n   for (i in 0..lastIndex)\n   result[lastIndex - i] = this[i]\n   return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun BooleanArray.reversedArray(): BooleanArray {\n   if (isEmpty()) return this\n   val result = BooleanArray(size)\n   val lastIndex = lastIndex\n   for (i in 0..lastIndex)\n   result[lastIndex - i] = this[i]\n   return result\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun CharArray.reversedArray(): CharArray {\n   if (isEmpty()) return this\n   val result = CharArray(size)\n   val lastIndex = lastIndex\n   for (i in 0..lastIndex)\n   result[lastIndex - i] = this[i]\n   return result\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<T>.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.shuffle(): Unit {\n   shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<T>.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n

*/\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.shuffle(random: Random): Unit {\n   for (i in lastIndex downTo 1) {\n   val j = random.nextInt(i + 1)\n   val copy = this[i]\n   this[i] = this[j]\n   this[j] = copy\n   }\n}\n\n/**\n * Sorts elements in the array in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -> R?): Unit {\n   if (size > 1) sortWith(compareBy(selector))\n}\n\n/**\n * Sorts elements in the array in-place descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n   if (size > 1) sortWith(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out T>.sortDescending(): Unit {\n   sortWith(reverseOrder())\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun ByteArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun ShortArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun IntArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun LongArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun FloatArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun DoubleArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\npublic fun CharArray.sortDescending(): Unit {\n   if (size > 1) {\n   sort()\n   reverse()\n   }\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out T>.sorted(): List<T> {\n   return sortedArray().asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun ByteArray.sorted(): List<Byte> {\n   return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun ShortArray.sorted(): List<Short> {\n   return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun IntArray.sorted(): List<Int> {\n   return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all

elements sorted according to their natural sort order.\n */\npublic fun LongArray.sorted(): List<Long> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun FloatArray.sorted(): List<Float> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun DoubleArray.sorted(): List<Double> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\npublic fun CharArray.sorted(): List<Char> {\n return toTypedArray().apply { sort() }.asList()\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<T>.sortedArray(): Array<T> {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun ByteArray.sortedArray(): ByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun ShortArray.sortedArray(): ShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun IntArray.sortedArray(): IntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun LongArray.sortedArray(): LongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun FloatArray.sortedArray(): FloatArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun DoubleArray.sortedArray(): DoubleArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\npublic fun CharArray.sortedArray(): CharArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<T>.sortedArrayDescending(): Array<T> {\n if (isEmpty()) return this\n return this.copyOf().apply { sortWith(reverseOrder()) }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun ShortArray.sortedArrayDescending(): ShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending(): LongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun FloatArray.sortedArrayDescending(): FloatArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun DoubleArray.sortedArrayDescending(): DoubleArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun CharArray.sortedArrayDescending(): CharArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T> {\n if (isEmpty()) return this\n return this.copyOf().apply { sortWith(comparator) }\n}\n\n/**\n * Returns a list

of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <R : Comparable<R>> CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R :

Comparable<R>> IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {\n   return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {\n   return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {\n   return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> CharArray.sortedByDescending(crossinline selector: (Char) -> R?): List<Char> {\n   return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out T>.sortedDescending(): List<T> {\n   return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun ByteArray.sortedDescending(): List<Byte> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun ShortArray.sortedDescending(): List<Short> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun IntArray.sortedDescending(): List<Int> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedDescending(): List<Long> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun FloatArray.sortedDescending(): List<Float> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun DoubleArray.sortedDescending(): List<Double> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun CharArray.sortedDescending(): List<Char> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Array<out T>.sortedWith(comparator: Comparator<in T>): List<T> {\n   return sortedArrayWith(comparator).asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun ShortArray.sortedWith(comparator: Comparator<in Short>): List<Short> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun IntArray.sortedWith(comparator: Comparator<in Int>): List<Int> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according

to the specified [comparator].\n */\npublic fun DoubleArray.sortedWith(comparator: Comparator<in Double>): List<Double> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun BooleanArray.sortedWith(comparator: Comparator<in Boolean>): List<Boolean> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n */\npublic fun CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {\n   return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun <T> Array<out T>.asList(): List<T>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun ByteArray.asList(): List<Byte>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun ShortArray.asList(): List<Short>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun IntArray.asList(): List<Int>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun LongArray.asList(): List<Long>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun FloatArray.asList(): List<Float>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun DoubleArray.asList(): List<Double>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun BooleanArray.asList(): List<Boolean>\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic expect fun CharArray.asList(): List<Char>\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic expect infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The specified arrays are also considered deeply equal if both are `null`.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic expect fun <T> Array<out T>.contentDeepHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T> Array<out T>?.contentDeepHashCode(): Int\n\n/**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `\"[...]\"` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic expect fun <T> Array<out T>.contentDeepToString(): String\n\n/**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `\"[...]\"` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T> Array<out T>?.contentDeepToString(): String\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic

expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun ByteArray.contentEquals(other: ByteArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun ShortArray.contentEquals(other: ShortArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun IntArray.contentEquals(other: IntArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun LongArray.contentEquals(other: LongArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun FloatArray.contentEquals(other: FloatArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect infix fun CharArray.contentEquals(other: CharArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean\n\n/**\n * Returns `true` if the

two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun IntArray?.contentEquals(other: IntArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun LongArray?.contentEquals(other: LongArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\npublic expect infix fun CharArray?.contentEquals(other: CharArray?): Boolean\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun <T> Array<out T>.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun ByteArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun ShortArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun IntArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun LongArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is

[List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun FloatArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun DoubleArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun BooleanArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun CharArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T> Array<out T>?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ByteArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ShortArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun IntArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun LongArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun FloatArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun DoubleArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun BooleanArray?.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\npublic expect fun CharArray?.contentHashCode(): Int\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun <T> Array<out T>.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun ByteArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun ShortArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun IntArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun LongArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun

FloatArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun DoubleArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun BooleanArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic expect fun CharArray.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T> Array<out T>?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ByteArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ShortArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun IntArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun LongArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun FloatArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun DoubleArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun BooleanArray?.contentToString(): String\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\npublic expect fun CharArray?.contentToString(): String\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T>\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset

the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

*/\n@SinceKotlin(\"1.3\")\npublic expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\npublic expect fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect fun <T> Array<T>.copyOf(): Array<T>\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun ByteArray.copyOf(): ByteArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun ShortArray.copyOf(): ShortArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun IntArray.copyOf(): IntArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun LongArray.copyOf(): LongArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun FloatArray.copyOf(): FloatArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun DoubleArray.copyOf():

DoubleArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun BooleanArray.copyOf(): BooleanArray\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic expect fun CharArray.copyOf(): CharArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun ByteArray.copyOf(newSize: Int): ByteArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun ShortArray.copyOf(newSize: Int): ShortArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun IntArray.copyOf(newSize: Int): IntArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun LongArray.copyOf(newSize: Int): LongArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun FloatArray.copyOf(newSize: Int): FloatArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun DoubleArray.copyOf(newSize: Int): DoubleArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun BooleanArray.copyOf(newSize: Int): BooleanArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char (`\\u0000`) values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic expect fun CharArray.copyOf(newSize: Int): CharArray\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if

necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect fun <T> Array<T>.copyOf(newSize: Int): Array<T?>\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect fun <T> Array<T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T>\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun

CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\npublic expect fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val <T> Array<out T>.indices:

IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val ByteArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val ShortArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val IntArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val LongArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val FloatArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val DoubleArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val BooleanArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns the range of valid indices for the array.\n */\npublic val CharArray.indices: IntRange\n   get() = IntRange(0, lastIndex)\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isEmpty(): Boolean {\n   return size == 0\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isNotEmpty(): Boolean {\n   return !isEmpty()\n}\n\n/**\n * Returns the last valid index for the array.\n */\npublic val <T> Array<out T>.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ByteArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ShortArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val IntArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val LongArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val FloatArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val DoubleArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val BooleanArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val CharArray.lastIndex: Int\n   get() = size - 1\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n

*/\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect operator fun <T> Array<T>.plus(element: T): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun ByteArray.plus(element: Byte): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun ShortArray.plus(element: Short): ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun IntArray.plus(element: Int): IntArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun LongArray.plus(element: Long): LongArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun FloatArray.plus(element: Float): FloatArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun DoubleArray.plus(element: Double): DoubleArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun BooleanArray.plus(element: Boolean): BooleanArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun CharArray.plus(element: Char): CharArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect operator fun <T> Array<T>.plus(elements: Collection<T>): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun ShortArray.plus(elements: Collection<Short>): ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun IntArray.plus(elements: Collection<Int>): IntArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun LongArray.plus(elements: Collection<Long>): LongArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun FloatArray.plus(elements: Collection<Float>): FloatArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun CharArray.plus(elements: Collection<Char>): CharArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect operator fun <T> Array<T>.plus(elements: Array<out T>): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun ByteArray.plus(elements: ByteArray): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun ShortArray.plus(elements: ShortArray): ShortArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun IntArray.plus(elements: IntArray): IntArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun LongArray.plus(elements: LongArray): LongArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun FloatArray.plus(elements: FloatArray): FloatArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun

BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun CharArray.plus(elements: CharArray): CharArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NO_ACTUAL_FOR_EXPECT\")\npublic expect fun <T> Array<T>.plusElement(element: T): Array<T>\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun IntArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun LongArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun ByteArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun ShortArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun DoubleArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun FloatArray.sort(): Unit\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic expect fun CharArray.sort(): Unit\n\n/**\n * Sorts the array in-place according to the natural order of its elements.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\npublic expect fun <T : Comparable<T>> Array<out T>.sort(): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by

default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\npublic expect fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Array<out T>.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sortWith(reverseOrder(), fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param

fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n sort(fromIndex, toIndex)\n reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit\n\n/**\n * Sorts a range in the array in-place with the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit\n\n/**\n * Returns an array of Boolean containing all of the elements of this generic array.\n */\npublic fun Array<out Boolean>.toBooleanArray(): BooleanArray {\n return BooleanArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this generic array.\n */\npublic fun Array<out Byte>.toByteArray(): ByteArray {\n return ByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Char containing all of the elements of this generic array.\n */\npublic fun Array<out Char>.toCharArray(): CharArray {\n return CharArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Double containing all of the elements of this generic array.\n */\npublic fun Array<out Double>.toDoubleArray(): DoubleArray {\n return DoubleArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Float containing all of the elements of this generic array.\n */\npublic fun Array<out Float>.toFloatArray(): FloatArray {\n return FloatArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Int containing all of the elements of this generic array.\n */\npublic fun Array<out Int>.toIntArray(): IntArray {\n return IntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Long containing all of the elements of this generic array.\n */\npublic fun Array<out Long>.toLongArray(): LongArray {\n return LongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of Short containing all of the elements of this generic array.\n */\npublic fun Array<out Short>.toShortArray(): ShortArray {\n return ShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun ByteArray.toTypedArray(): Array<Byte>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun ShortArray.toTypedArray(): Array<Short>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun IntArray.toTypedArray(): Array<Int>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun LongArray.toTypedArray(): Array<Long>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun FloatArray.toTypedArray(): Array<Float>\n\n/**\n * Returns a

typed object array containing all of the elements of this primitive array.\n */\npublic expect fun DoubleArray.toTypedArray(): Array<Double>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun BooleanArray.toTypedArray(): Array<Boolean>\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic expect fun CharArray.toTypedArray(): Array<Char>\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the

map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitives\n */\npublic inline fun <K, V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <T, K> Array<out T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Byte>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> ShortArray.associateBy(keySelector: (Short) -> K): Map<K, Short> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Short>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> IntArray.associateBy(keySelector: (Int) -> K): Map<K, Int> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Int>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K> LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Long>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration

order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
FloatArray.associateBy(keySelector: (Float) -> K): Map<K, Float> {\n   val capacity =
mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Float>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
DoubleArray.associateBy(keySelector: (Double) -> K): Map<K, Double> {\n   val capacity =
mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Double>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n   val capacity =
mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesBy\n */\npublic inline fun <K>
CharArray.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n   val capacity =
mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Char>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <T, K, V> Array<out T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n   val
capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n * \n * @sample
samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, V> {\n   val
capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
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samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline
fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V> {\n
val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity),
keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would

have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> FloatArray.associateBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> DoubleArray.associateBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> BooleanArray.associateBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByWithValueTransform\n */\npublic inline fun <K, V> CharArray.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n   val capacity = mapCapacity(size).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <T, K, M : MutableMap<in K, in T>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n   for (element in this) {\n   destination.put(keySelector(element), element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the

[keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Byte>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Short>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Int>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Long>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given array\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is

provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K, valueTransform: (Float) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {\n   for (element in this) {\n

destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given array.\n *\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n   for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n 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in V>> Array<out T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n *\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateTo(destination: M, transform: (Byte) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n *\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n *\n * If any of two pairs would have the same key the last one gets added to the map.\n *\n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided 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+= transform(element)\n   }\n   return destination\n}\n\n/**\n * Populates and

returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> DoubleArray.associateTo(destination: M, transform: (Double) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample samples.collections.Arrays.Transformations.associateArrayOfPrimitivesTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> CharArray.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <K, V> Array<out K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result = LinkedHashMap<K, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> ByteArray.associateWith(valueSelector: (Byte) -> V): Map<Byte, V> {\n val result = LinkedHashMap<Byte, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> ShortArray.associateWith(valueSelector: (Short) -> V): Map<Short, V> {\n val result = LinkedHashMap<Short, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> IntArray.associateWith(valueSelector: (Int) -> V): Map<Int, V> {\n val result = LinkedHashMap<Int, V>(mapCapacity(size).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V>

LongArray.associateWith(valueSelector: (Long) -> V): Map<Long, V> {\n   val result = LinkedHashMap<Long, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> FloatArray.associateWith(valueSelector: (Float) -> V): Map<Float, V> {\n   val result = LinkedHashMap<Float, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> DoubleArray.associateWith(valueSelector: (Double) -> V): Map<Double, V> {\n   val result = LinkedHashMap<Double, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> BooleanArray.associateWith(valueSelector: (Boolean) -> V): Map<Boolean, V> {\n   val result = LinkedHashMap<Boolean, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V> CharArray.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n   val result = LinkedHashMap<Char, V>(mapCapacity(size.coerceAtMost(128)).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <K, V, M : MutableMap<in K, in V>> Array<out K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n   for (element in this) {\n   destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Byte, in V>> ByteArray.associateWithTo(destination: M, valueSelector: (Byte) -> V): M {\n   for (element in this) {\n   destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Short, in V>>

ShortArray.associateWithTo(destination: M, valueSelector: (Short) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Int, in V>> IntArray.associateWithTo(destination: M, valueSelector: (Int) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Long, in V>> LongArray.associateWithTo(destination: M, valueSelector: (Long) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Float, in V>> FloatArray.associateWithTo(destination: M, valueSelector: (Float) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Double, in V>> DoubleArray.associateWithTo(destination: M, valueSelector: (Double) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Boolean, in V>> BooleanArray.associateWithTo(destination: M, valueSelector: (Boolean) -> V): M {\n   for (element in this) {\n   destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in Char, in V>> CharArray.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n   for (element in this) {\n destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <T, C : MutableCollection<in T>> Array<out T>.toCollection(destination: C): C {\n   for (item in this) {\n   destination.add(item)\n   }\n   return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Byte>> ByteArray.toCollection(destination: C): C {\n   for (item in this) {\n

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destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Short>> ShortArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Int>> IntArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Long>> LongArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Float>> FloatArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Double>> DoubleArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Boolean>> BooleanArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Char>> CharArray.toCollection(destination: C): C {\n    for (item in this) {\n        destination.add(item)\n    }\n    return destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun <T> Array<out T>.toHashSet(): HashSet<T> {\n    return toCollection(HashSet<T>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun ByteArray.toHashSet(): HashSet<Byte> {\n    return toCollection(HashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun ShortArray.toHashSet(): HashSet<Short> {\n    return toCollection(HashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun IntArray.toHashSet(): HashSet<Int> {\n    return toCollection(HashSet<Int>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun LongArray.toHashSet(): HashSet<Long> {\n    return toCollection(HashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun FloatArray.toHashSet(): HashSet<Float> {\n    return toCollection(HashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun DoubleArray.toHashSet(): HashSet<Double> {\n    return toCollection(HashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun BooleanArray.toHashSet(): HashSet<Boolean> {\n    return toCollection(HashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun CharArray.toHashSet(): HashSet<Char> {\n    return toCollection(HashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun <T> Array<out T>.toList(): List<T> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun ByteArray.toList(): List<Byte> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun ShortArray.toList(): List<Short> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun IntArray.toList(): List<Int> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun LongArray.toList(): List<Long> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun FloatArray.toList(): List<Float> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun DoubleArray.toList(): List<Double> {\n    return when (size) {\n        0 -> emptyList()\n        1 ->
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listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun BooleanArray.toList(): List<Boolean> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun CharArray.toList(): List<Char> {\n    return when (size) {\n        0 -> emptyList()\n        1 -> listOf(this[0])\n        else -> this.toMutableList()\n    }\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n    return ArrayList(this.asCollection())\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n    val list = ArrayList<Byte>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun ShortArray.toMutableList(): MutableList<Short> {\n    val list = ArrayList<Short>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun IntArray.toMutableList(): MutableList<Int> {\n    val list = ArrayList<Int>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun LongArray.toMutableList(): MutableList<Long> {\n    val list = ArrayList<Long>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun FloatArray.toMutableList(): MutableList<Float> {\n    val list = ArrayList<Float>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n    val list = ArrayList<Double>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun BooleanArray.toMutableList(): MutableList<Boolean> {\n    val list = ArrayList<Boolean>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this array.\n */\npublic fun CharArray.toMutableList(): MutableList<Char> {\n    val list = ArrayList<Char>(size)\n    for (item in this) list.add(item)\n    return list\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun <T> Array<out T>.toSet(): Set<T> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun ByteArray.toSet(): Set<Byte> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun ShortArray.toSet(): Set<Short> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun IntArray.toSet(): Set<Int> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun LongArray.toSet(): Set<Long> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun FloatArray.toSet(): Set<Float> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun DoubleArray.toSet(): Set<Double> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun BooleanArray.toSet(): Set<Boolean> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all
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elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun CharArray.toSet(): Set<Char> {\n   return when (size) {\n   0 -> emptySet()\n   1 -> setOf(this[0])\n   else -> toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n   }\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R> Array<out T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> ByteArray.flatMap(transform: (Byte) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> ShortArray.flatMap(transform: (Short) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> IntArray.flatMap(transform: (Int) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> LongArray.flatMap(transform: (Long) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> FloatArray.flatMap(transform: (Float) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> BooleanArray.flatMap(transform: (Boolean) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> CharArray.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequence\")\npublic inline fun <T, R> Array<out T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *

@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ByteArray.flatMapIndexed(transform: (index: Int, Byte) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> ShortArray.flatMapIndexed(transform: (index: Int, Short) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> IntArray.flatMapIndexed(transform: (index: Int, Int) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> LongArray.flatMapIndexed(transform: (index: Int, Long) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> FloatArray.flatMapIndexed(transform: (index: Int, Float) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> DoubleArray.flatMapIndexed(transform: (index: Int, Double) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *
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inline fun <R> BooleanArray.flatMapIndexed(transform: (index: Int, Boolean) -> Iterable<R>): List<R> {\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic
inline fun <R> CharArray.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n *

@sample samples.collections.Collections.Transformations.flatMapIndexed\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequence\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R> Array<out T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n   return
flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform:
(index: Int, T) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++,
element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Byte) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++,
element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Short) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++,
element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> IntArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Int) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++, element)\n
    destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> LongArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Long) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++,
element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given
[destination].\n
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ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli
c inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapIndexedTo(destination: C, transform: (index: Int,
Float) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++,
element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from
results of [transform] function being invoked on each element\n * and its index in the original array, to the given

[destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli c inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapIndexedTo(destination: C, transform: (index: Int, Double) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli c inline fun <R, C : MutableCollection<in R>> BooleanArray.flatMapIndexedTo(destination: C, transform: (index: Int, Boolean) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npubli c inline fun <R, C : MutableCollection<in R>> CharArray.flatMapIndexedTo(destination: C, transform: (index: Int, Char) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequenceTo\")\n@kotlin.internal.InlineOnly\npu blic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination: C, transform: (Short) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C, transform: (Int) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapTo(destination: C, transform: (Float) -> Iterable<R>): C {\n for (element in this) {\n val

list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C, transform: (Double) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequenceTo\")\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K> Array<out T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n return groupByTo(LinkedHashMap<K, MutableList<Byte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n return groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {\n return groupByTo(LinkedHashMap<K, MutableList<Int>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {\n return groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the

entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {\n   return groupByTo(LinkedHashMap<K, MutableList<Float>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {\n   return groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {\n   return groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n   return groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V> Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values

returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V> CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K, M : MutableMap<in K, MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Byte>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Byte>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the

[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Short>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Int>>> IntArray.groupByTo(destination: M, keySelector: (Int) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Int>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Long>>> LongArray.groupByTo(destination: M, keySelector: (Long) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Long>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Float>>> FloatArray.groupByTo(destination: M, keySelector: (Float) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Float>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Double>>> DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Double>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Boolean>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Boolean>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =

destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by 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@sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> IntArray.groupByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> LongArray.groupByTo(destination: M, keySelector: (Long) -> K, valueTransform: (Long) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> FloatArray.groupByTo(destination: M, keySelector: (Float) -> K, valueTransform: (Float) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> DoubleArray.groupByTo(destination: M, keySelector: (Double) -> K, valueTransform: (Double) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M :

MutableMap<in K, MutableList<V>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<V>() }\n   list.add(valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharArray.groupByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<V>() }\n   list.add(valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Creates a [Grouping] source from an array to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K> Array<out T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n   return object : Grouping<T, K> {\n   override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n   override fun keyOf(element: T): K = keySelector(element)\n   }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <T, R> Array<out T>.map(transform: (T) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> ByteArray.map(transform: (Byte) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> ShortArray.map(transform: (Short) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> IntArray.map(transform: (Int) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> LongArray.map(transform: (Long) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> FloatArray.map(transform: (Float) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> DoubleArray.map(transform: (Double) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> BooleanArray.map(transform: (Boolean) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <R> CharArray.map(transform: (Char) -> R): List<R> {\n   return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R> Array<out T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n   return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each

element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> LongArray.mapIndexed(transform: (index: Int, Long) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> FloatArray.mapIndexed(transform: (index: Int, Float) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> DoubleArray.mapIndexed(transform: (index: Int, Double) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> BooleanArray.mapIndexed(transform: (index: Int, Boolean) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R> CharArray.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any> Array<out T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n return mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given

[transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.mapIndexedTo(destination: C, transform: (index: Int, Byte) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.mapIndexedTo(destination: C, transform: (index: Int, Short) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> IntArray.mapIndexedTo(destination: C, transform: (index: Int, Int) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> LongArray.mapIndexedTo(destination: C, transform: (index: Int, Long) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.mapIndexedTo(destination: C, transform: (index: Int, Float) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.mapIndexedTo(destination: C, transform: (index: Int, Double) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.mapIndexedTo(destination: C, transform: (index: Int, Boolean) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <R, C : MutableCollection<in R>> CharArray.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <T, R : Any> Array<out T>.mapNotNull(transform: (T) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each element in the original array\n * and appends only the non-null results to the given [destination].\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Array<out T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n

*/\npublic inline fun <T, R, C : MutableCollection<in R>> Array<out T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ByteArray.mapTo(destination: C, transform: (Byte) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.mapTo(destination: C, transform: (Short) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> IntArray.mapTo(destination: C, transform: (Int) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> LongArray.mapTo(destination: C, transform: (Long) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.mapTo(destination: C, transform: (Float) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> DoubleArray.mapTo(destination: C, transform: (Double) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> BooleanArray.mapTo(destination: C, transform: (Boolean) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharArray.mapTo(destination: C, transform: (Char) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun <T> Array<out T>.withIndex(): Iterable<IndexedValue<T>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun ByteArray.withIndex(): Iterable<IndexedValue<Byte>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun ShortArray.withIndex(): Iterable<IndexedValue<Short>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun IntArray.withIndex(): Iterable<IndexedValue<Int>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun LongArray.withIndex(): Iterable<IndexedValue<Long>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun FloatArray.withIndex(): Iterable<IndexedValue<Float>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun DoubleArray.withIndex(): Iterable<IndexedValue<Double>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>> {\n return IndexingIterable { iterator()

}\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun CharArray.withIndex(): Iterable<IndexedValue<Char>> {\n   return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * Among equal elements of the given array, only the first one will be present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Array<out T>.distinct(): List<T> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun ByteArray.distinct(): List<Byte> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun ShortArray.distinct(): List<Short> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun IntArray.distinct(): List<Int> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun LongArray.distinct(): List<Long> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun FloatArray.distinct(): List<Float> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun DoubleArray.distinct(): List<Double> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun BooleanArray.distinct(): List<Boolean> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun CharArray.distinct(): List<Char> {\n   return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the given array with equal keys, only the first one will be present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K> Array<out T>.distinctBy(selector: (T) -> K): List<T> {\n   val set = HashSet<K>()\n   val list = ArrayList<T>()\n   for (e in this) {\n   val key = selector(e)\n   if (set.add(key))\n   list.add(e)\n   }\n   return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K> ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n   val set = HashSet<K>()\n   val list = ArrayList<Byte>()\n   for (e in this) {\n   val key = selector(e)\n   if (set.add(key))\n   list.add(e)\n   }\n   return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they

were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n val set = HashSet<K>()\n val list =
ArrayList<Short>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
IntArray.distinctBy(selector: (Int) -> K): List<Int> {\n val set = HashSet<K>()\n val list = ArrayList<Int>()\n
for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n
* Returns a list containing only elements from the given array\n * having distinct keys returned by the given
[selector] function.\n * \n * The elements in the resulting list are in the same order as they were in the source
array.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline
fun <K> LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n val set = HashSet<K>()\n val list =
ArrayList<Long>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n val set = HashSet<K>()\n val list =
ArrayList<Float>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n val set = HashSet<K>()\n val list =
ArrayList<Double>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n
}\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
BooleanArray.distinctBy(selector: (Boolean) -> K): List<Boolean> {\n val set = HashSet<K>()\n val list =
ArrayList<Boolean>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n
}\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n * \n * @sample
samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <K>
CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n val set = HashSet<K>()\n val list =
ArrayList<Char>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T>
Array<out T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set
containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun
ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.retainAll(other)\n
return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified

collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun IntArray.intersect(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun LongArray.intersect(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun FloatArray.intersect(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun DoubleArray.intersect(other: Iterable<Double>): Set<Double> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun BooleanArray.intersect(other: Iterable<Boolean>): Set<Boolean> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this array and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun CharArray.intersect(other: Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun <T> Array<out T>.subtract(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun ByteArray.subtract(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun ShortArray.subtract(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun IntArray.subtract(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun LongArray.subtract(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun FloatArray.subtract(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this

array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun BooleanArray.subtract(other: Iterable<Boolean>): Set<Boolean> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun CharArray.subtract(other: Iterable<Char>): Set<Char> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun <T> Array<out T>.toMutableSet(): MutableSet<T> {\n return toCollection(LinkedHashSet<T>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun ByteArray.toMutableSet(): MutableSet<Byte> {\n return toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun ShortArray.toMutableSet(): MutableSet<Short> {\n return toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun IntArray.toMutableSet(): MutableSet<Int> {\n return toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun LongArray.toMutableSet(): MutableSet<Long> {\n return toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun FloatArray.toMutableSet(): MutableSet<Float> {\n return toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun DoubleArray.toMutableSet(): MutableSet<Double> {\n return toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun BooleanArray.toMutableSet(): MutableSet<Boolean> {\n return toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given array.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun CharArray.toMutableSet(): MutableSet<Char> {\n return toCollection(LinkedHashSet<Char>(mapCapacity(size.coerceAtMost(128))))\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun <T> Array<out T>.union(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun ByteArray.union(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements

that are contained in both collections use [intersect].\n */\npublic infix fun ShortArray.union(other: Iterable<Short>): Set<Short> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun IntArray.union(other: Iterable<Int>): Set<Int> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun LongArray.union(other: Iterable<Long>): Set<Long> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun FloatArray.union(other: Iterable<Float>): Set<Float> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun DoubleArray.union(other: Iterable<Double>): Set<Double> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun CharArray.union(other: Iterable<Char>): Set<Char> {\n   val set = this.toMutableSet()\n   set.addAll(other)\n   return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T> Array<out T>.all(predicate: (T) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun ByteArray.all(predicate: (Byte) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun ShortArray.all(predicate: (Short) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun IntArray.all(predicate: (Int) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun LongArray.all(predicate: (Long) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun FloatArray.all(predicate: (Float) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun

DoubleArray.all(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun BooleanArray.all(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun CharArray.all(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T> Array<out T>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun ByteArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun ShortArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun IntArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun LongArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun FloatArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun DoubleArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun BooleanArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun CharArray.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T> Array<out T>.any(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun ByteArray.any(predicate: (Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun ShortArray.any(predicate: (Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun IntArray.any(predicate: (Int) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun LongArray.any(predicate: (Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun FloatArray.any(predicate: (Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun DoubleArray.any(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun BooleanArray.any(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return

false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharArray.any(predicate: (Char) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.count(): Int {\n   return size\n}\n\n/**\n * Returns the number of elements in this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T> Array<out T>.count(predicate: (T) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun IntArray.count(predicate: (Int) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun LongArray.count(predicate: (Long) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun BooleanArray.count(predicate: (Boolean) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun CharArray.count(predicate: (Char) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes

current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n *\n * Returns the specified [initial] value if the array is empty.\n *\n * @param [operation] function that takes the

index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is

empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRight(initial: R, operation: (Byte, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldRight(initial: R, operation: (Double, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldRight(initial: R, operation: (Boolean, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator =

operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRightIndexed(initial: R, operation: (index: Int, Int, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> LongArray.foldRightIndexed(initial: R, operation: (index: Int, Long, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n *

\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(index, get(index), accumulator)\n   --index\n   }\n   return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun ByteArray.forEach(action: (Byte) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun IntArray.forEach(action: (Int) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun LongArray.forEach(action: (Long) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun FloatArray.forEach(action: (Float) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun CharArray.forEach(action: (Char) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun ByteArray.forEachIndexed(action: (index: Int, Byte) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun FloatArray.forEachIndexed(action: (index: Int, Float) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun BooleanArray.forEachIndexed(action: (index: Int, Boolean) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs

the action on the element.\n */\npublic inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Array<out Double>.max(): Double? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Array<out Float>.max(): Float? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Array<out T>.max(): T? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ByteArray.max(): Byte? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ShortArray.max(): Short? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun IntArray.max(): Int? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun LongArray.max(): Long? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.max(): Float? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun DoubleArray.max(): Double? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharArray.max(): Char? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxBy(selector: (T) -> R): T? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> ByteArray.maxBy(selector: (Byte) -> R): Byte? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> ShortArray.maxBy(selector: (Short) -> R): Short? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> IntArray.maxBy(selector: (Int) -> R): Int? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> LongArray.maxBy(selector: (Long) -> R): Long? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> FloatArray.maxBy(selector: (Float) -> R): Float? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> DoubleArray.maxBy(selector: (Double) -> R): Double? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> BooleanArray.maxBy(selector: (Boolean) -> R): Boolean? {\n   return maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> CharArray.maxBy(selector: (Char) -> R): Char? {\n   return

maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxByOrNull(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> ByteArray.maxByOrNull(selector: (Byte) -> R): Byte? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> ShortArray.maxByOrNull(selector: (Short) -> R): Short? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> IntArray.maxByOrNull(selector: (Int) -> R): Int? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> LongArray.maxByOrNull(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> FloatArray.maxByOrNull(selector: (Float) -> R): Float? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> DoubleArray.maxByOrNull(selector: (Double) -> R): Double? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> BooleanArray.maxByOrNull(selector: (Boolean) -> R): Boolean? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n

maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> CharArray.maxByOrNull(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var maxElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return maxElem\n var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for

(i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.maxOf(selector: (T) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.maxOf(selector: (Byte) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.maxOf(selector: (Short) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.maxOf(selector: (Int) -> Float):

Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.maxOf(selector: (Long) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOf(selector: (Float) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.maxOf(selector: (Double) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOf(selector: (Boolean) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOf(selector: (Char) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out T>.maxOf(selector: (T) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>

ByteArray.maxOf(selector: (Byte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ShortArray.maxOf(selector: (Short) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> IntArray.maxOf(selector: (Int) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> LongArray.maxOf(selector: (Long) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> FloatArray.maxOf(selector: (Float) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> DoubleArray.maxOf(selector: (Double) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> BooleanArray.maxOf(selector: (Boolean) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

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> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.maxOfOrNull(selector: (Float) -
> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n
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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.maxOfOrNull(selector:
(Boolean) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in
1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return
maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to
each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function
is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.maxOfOrNull(selector: (Char) ->
Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n
val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns
the largest value among all values produced by [selector] function\n * applied to each element in the array or `null`
if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxOfOrNull(selector: (T) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for
(i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n
return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n *
applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ByteArray.maxOfOrNull(selector: (Byte) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
ShortArray.maxOfOrNull(selector: (Short) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
IntArray.maxOfOrNull(selector: (Int) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
LongArray.maxOfOrNull(selector: (Long) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
FloatArray.maxOfOrNull(selector: (Float) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
DoubleArray.maxOfOrNull(selector: (Double) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
BooleanArray.maxOfOrNull(selector: (Boolean) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharArray.maxOfOrNull(selector: (Char) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue =
selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n
maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n *
@throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out
T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n   if (isEmpty()) throw
NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v =
selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return
maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values

produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.maxOfWith(comparator: Comparator<in R>, selector: (Byte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.maxOfWith(comparator: Comparator<in R>, selector: (Short) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.maxOfWith(comparator: Comparator<in R>, selector: (Int) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.maxOfWith(comparator: Comparator<in R>, selector: (Long) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.maxOfWith(comparator: Comparator<in R>, selector: (Float) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.maxOfWith(comparator: Comparator<in R>, selector: (Double) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.maxOfWith(comparator: Comparator<in R>, selector: (Boolean) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if

(comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.maxOfWith(comparator: Comparator<in R>, selector: (Char) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n if (isEmpty())

return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Array<out Double>.maxOrNull(): Double? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Array<out Float>.maxOrNull(): Float? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Array<out T>.maxOrNull(): T? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.maxOrNull(): Byte? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.maxOrNull(): Short? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.maxOrNull(): Int? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.maxOrNull(): Long? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.maxOrNull(): Float? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.maxOrNull(): Double? {\n   if (isEmpty())

return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.maxOrNull(): Char? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (max < e) max = e\n   }\n   return max\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun LongArray.maxWith(comparator: Comparator<in Long>): Long? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.maxWith(comparator: Comparator<in Float>): Float? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun DoubleArray.maxWith(comparator: Comparator<in Double>): Double? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun BooleanArray.maxWith(comparator: Comparator<in Boolean>): Boolean? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharArray.maxWith(comparator: Comparator<in Char>): Char? {\n   return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<out T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.maxWithOrNull(comparator: Comparator<in Byte>): Byte? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.maxWithOrNull(comparator: Comparator<in Short>): Short? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.maxWithOrNull(comparator: Comparator<in Int>): Int? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n

*/\n@SinceKotlin(\"1.4\")\npublic fun LongArray.maxWithOrNull(comparator: Comparator<in Long>): Long? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.maxWithOrNull(comparator: Comparator<in Float>): Float? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.maxWithOrNull(comparator: Comparator<in Double>): Double? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.maxWithOrNull(comparator: Comparator<in Boolean>): Boolean? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Array<out Double>.min(): Double? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Array<out Float>.min(): Float? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Array<out T>.min(): T? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ByteArray.min(): Byte? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ShortArray.min(): Short? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun IntArray.min(): Int? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun LongArray.min(): Long? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.min(): Float? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun DoubleArray.min(): Double? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharArray.min(): Char? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <T, R : Comparable<R>> Array<out T>.minBy(selector: (T) -> R): T? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> ByteArray.minBy(selector: (Byte) -> R): Byte? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> ShortArray.minBy(selector: (Short) -> R): Short? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\",

ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> LongArray.minBy(selector: (Long) -> R): Long? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> FloatArray.minBy(selector: (Float) -> R): Float? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> DoubleArray.minBy(selector: (Double) -> R): Double? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> BooleanArray.minBy(selector: (Boolean) -> R): Boolean? {\n return minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> CharArray.minBy(selector: (Char) -> R): Char? {\n return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Array<out T>.minByOrNull(selector: (T) -> R): T? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> ByteArray.minByOrNull(selector: (Byte) -> R): Byte? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> ShortArray.minByOrNull(selector: (Short) -> R): Short? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> IntArray.minByOrNull(selector: (Int) -> R): Int? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> LongArray.minByOrNull(selector: (Long) -> R): Long? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample

samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> FloatArray.minByOrNull(selector: (Float) -> R): Float? {\n   if (isEmpty()) return null\n   var minElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return minElem\n   var minValue = selector(minElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (minValue > v) {\n   minElem = e\n   minValue = v\n   }\n   }\n   return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> DoubleArray.minByOrNull(selector: (Double) -> R): Double? {\n   if (isEmpty()) return null\n   var minElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return minElem\n   var minValue = selector(minElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (minValue > v) {\n   minElem = e\n   minValue = v\n   }\n   }\n   return minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> BooleanArray.minByOrNull(selector: (Boolean) -> R): Boolean? 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ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.minOf(selector: (Int) -> Double): Double {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.minOf(selector: (Long) -> Double): Double {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n  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Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n
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Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n
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*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.minOfOrNull(selector: (Double) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.minOfOrNull(selector: (Boolean) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.minOfOrNull(selector: (Char) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n

val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Array<out T>.minOfOrNull(selector: (T) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ByteArray.minOfOrNull(selector: (Byte) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ShortArray.minOfOrNull(selector: (Short) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> IntArray.minOfOrNull(selector: (Int) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> LongArray.minOfOrNull(selector: (Long) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> FloatArray.minOfOrNull(selector: (Float) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> DoubleArray.minOfOrNull(selector: (Double) -> R): R? {\n if (isEmpty()) return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> BooleanArray.minOfOrNull(selector: (Boolean) -> R): R? {\n if (isEmpty()) return null\n var minValue =

selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> CharArray.minOfOrNull(selector: (Char) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWith(comparator: Comparator<in R>, selector: (Byte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWith(comparator: Comparator<in R>, selector: (Short) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> IntArray.minOfWith(comparator: Comparator<in R>, selector: (Int) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.minOfWith(comparator: Comparator<in R>, selector: (Long) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.minOfWith(comparator:

Comparator<in R>, selector: (Float) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.minOfWith(comparator: Comparator<in R>, selector: (Double) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.minOfWith(comparator: Comparator<in R>, selector: (Boolean) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.minOfWith(comparator: Comparator<in R>, selector: (Char) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Array<out T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Byte) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Short) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
IntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Int) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
LongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Long) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
FloatArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Float) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
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function applied to each element in the array or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
DoubleArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Double) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
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BooleanArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Boolean) -> R): R? {\n if (isEmpty())
return null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
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*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n if (isEmpty()) return
null\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if
(comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n *
Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\npublic fun Array<out Double>.minOrNull(): Double? {\n if (isEmpty()) return null\n
var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min, e)\n }\n return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Array<out Float>.minOrNull(): Float? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n min = minOf(min,
e)\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Array<out T>.minOrNull(): T? {\n if (isEmpty())
return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n

return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.minOrNull(): Byte? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.minOrNull(): Short? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.minOrNull(): Int? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.minOrNull(): Long? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.minOrNull(): Float? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   min = minOf(min, e)\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.minOrNull(): Double? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   min = minOf(min, e)\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.minOrNull(): Char? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun IntArray.minWith(comparator: Comparator<in Int>): Int? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun FloatArray.minWith(comparator: Comparator<in Float>): Float? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>): Double? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun BooleanArray.minWith(comparator: Comparator<in Boolean>): Boolean? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharArray.minWith(comparator: Comparator<in Char>): Char? {\n   return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the

provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Array<out T>.minWithOrNull(comparator: Comparator<in T>): T? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ByteArray.minWithOrNull(comparator: Comparator<in Byte>): Byte? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun ShortArray.minWithOrNull(comparator: Comparator<in Short>): Short? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun IntArray.minWithOrNull(comparator: Comparator<in Int>): Int? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun LongArray.minWithOrNull(comparator: Comparator<in Long>): Long? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun FloatArray.minWithOrNull(comparator: Comparator<in Float>): Float? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun DoubleArray.minWithOrNull(comparator: Comparator<in Double>): Double? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun BooleanArray.minWithOrNull(comparator: Comparator<in Boolean>): Boolean? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharArray.minWithOrNull(comparator: Comparator<in Char>): Char? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Array<out T>.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun ByteArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun ShortArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun IntArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun LongArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun FloatArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun DoubleArray.none(): Boolean {\n   return

isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun BooleanArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun CharArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T> Array<out T>.none(predicate: (T) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ByteArray.none(predicate: (Byte) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun ShortArray.none(predicate: (Short) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun IntArray.none(predicate: (Int) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun LongArray.none(predicate: (Long) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun FloatArray.none(predicate: (Float) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun DoubleArray.none(predicate: (Double) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun CharArray.none(predicate: (Char) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.onEach(action: (T) -> Unit): Array<out T> {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEach(action: (Byte) -> Unit): ByteArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEach(action: (Short) -> Unit): ShortArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.onEach(action: (Int) -> Unit): IntArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEach(action: (Long) -> Unit): LongArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEach(action: (Float) ->

Unit): FloatArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEach(action: (Double) -> Unit): DoubleArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEach(action: (Boolean) -> Unit): BooleanArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.onEach(action: (Char) -> Unit): CharArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.onEachIndexed(action: (index: Int, T) -> Unit): Array<out T> {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.onEachIndexed(action: (index: Int, Byte) -> Unit): ByteArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.onEachIndexed(action: (index: Int, Short) -> Unit): ShortArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.onEachIndexed(action: (index: Int, Int) -> Unit): IntArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.onEachIndexed(action: (index: Int, Long) -> Unit): LongArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.onEachIndexed(action: (index: Int, Float) -> Unit): FloatArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.onEachIndexed(action: (index: Int, Double) -> Unit): DoubleArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.onEachIndexed(action: (index: Int, Boolean) -> Unit): BooleanArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun

CharArray.onEachIndexed(action: (index: Int, Char) -> Unit): CharArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Array<out T>.reduce(operation: (acc: S, T) -> S): S {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator: S = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun IntArray.reduce(operation: (acc: Int, Int) -> Int): Int {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in

1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {\n if (isEmpty())\n throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. 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{\n   var index = lastIndex\n   if (index < 0) return null\n   var accumulator = get(index--)\n   while (index >= 0) {\n   accumulator = operation(get(index--), accumulator)\n   }\n   return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R> Array<out T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n   if (isEmpty()) return listOf(initial)\n   val result = ArrayList<R>(size + 1).apply { add(initial) }\n   var accumulator = initial\n   for (element in this) {\n   accumulator = operation(accumulator, element)\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFold(initial: R, operation: (acc: R, Byte) -> R): List<R> {\n   if (isEmpty()) return listOf(initial)\n   val result = ArrayList<R>(size + 1).apply { add(initial) }\n   var accumulator = initial\n   for (element in this) {\n   accumulator = operation(accumulator, element)\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFold(initial: R, operation: (acc: R, Short) -> R): List<R> {\n   if (isEmpty()) return listOf(initial)\n   val result = ArrayList<R>(size + 1).apply { add(initial) }\n   var accumulator = initial\n   for (element in this) {\n   accumulator = operation(accumulator, element)\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param

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current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.runningFold(initial: R, operation: (acc: R, Double) -> R): List<R> {\n   if (isEmpty()) return listOf(initial)\n   val result = ArrayList<R>(size + 1).apply { add(initial) }\n   var accumulator = initial\n   for (element in this) {\n   accumulator = operation(accumulator, element)\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFold(initial: R, operation: (acc: R, Boolean) -> R): List<R> {\n   if (isEmpty()) return listOf(initial)\n   val result = ArrayList<R>(size + 1).apply { add(initial) }\n   var accumulator = initial\n   for (element in this) {\n   accumulator = operation(accumulator, element)\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFold(initial: R,

operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R> Array<out T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ByteArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> ShortArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator 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[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n

*/\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> LongArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> FloatArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator 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[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> BooleanArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(size + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that

takes current accumulator value and the element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Array<out T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n   if (isEmpty()) return emptyList()\n   var accumulator: S = this[0]\n   val result = ArrayList<S>(size).apply { add(accumulator) }\n   for (index in 1 until size) {\n   accumulator = operation(accumulator, this[index])\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.runningReduce(operation: (acc: Byte, Byte) -> Byte): List<Byte> {\n   if (isEmpty()) return emptyList()\n   var accumulator = this[0]\n   val result = ArrayList<Byte>(size).apply { add(accumulator) }\n   for (index in 1 until size) {\n   accumulator = operation(accumulator, this[index])\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.runningReduce(operation: (acc: Short, Short) -> Short): List<Short> {\n   if (isEmpty()) return emptyList()\n   var accumulator = this[0]\n   val result = ArrayList<Short>(size).apply { add(accumulator) }\n   for (index in 1 until size) {\n   accumulator = operation(accumulator, this[index])\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.runningReduce(operation: (acc: Int, Int) -> Int): List<Int> {\n   if (isEmpty()) return emptyList()\n   var accumulator = this[0]\n   val result = ArrayList<Int>(size).apply { add(accumulator) }\n   for (index in 1 until size) {\n   accumulator = operation(accumulator, this[index])\n   result.add(accumulator)\n   }\n   return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.runningReduce(operation: (acc: Long, Long) -> Long): List<Long> {\n   if (isEmpty()) return emptyList()\n   var accumulator = this[0]\n   val result = ArrayList<Long>(size).apply { add(accumulator) }\n   for (index in 1 until size) {\n   accumulator = 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*/\n@SinceKotlin(\"1.4\")\npublic inline fun <S, T : S> Array<out T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n if (isEmpty()) return emptyList()\n var accumulator: S = this[0]\n val result = ArrayList<S>(size).apply { add(accumulator) }\n for (index in 1 until size) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun 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Short, Short) -> Short): List<Short> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Short>(size).apply {

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*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> DoubleArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): List<R> {\n return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n 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not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharArray.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n   return runningFoldIndexed(initial, operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Array<out T>.scanReduce(operation: (acc: S, T) -> S): List<S> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.scanReduce(operation: (acc: Byte, Byte) -> Byte): List<Byte> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.scanReduce(operation: (acc: Short, Short) -> Short): List<Short> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.scanReduce(operation: (acc: Int, Int) -> Int): List<Int> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.scanReduce(operation: (acc: Long, Long) -> Long): List<Long> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.scanReduce(operation: (acc: Float, Float) -> Float): List<Float> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.scanReduce(operation: (acc: Double, Double) -> Double): List<Double> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.scanReduce(operation: (acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.scanReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Array<out T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n   return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli

c inline fun ByteArray.scanReduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): List<Byte> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun ShortArray.scanReduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): List<Short> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun IntArray.scanReduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): List<Int> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun LongArray.scanReduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): List<Long> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun FloatArray.scanReduceIndexed(operation: (index: Int, acc: Float, Float) -> Float): List<Float> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun DoubleArray.scanReduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): List<Double> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun BooleanArray.scanReduceIndexed(operation: (index: Int, acc: Boolean, Boolean) -> Boolean): List<Boolean> {\n return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npubli c inline fun CharArray.scanReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n return runningReduceIndexed(operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun <T> Array<out T>.sumBy(selector: (T) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun ByteArray.sumBy(selector: (Byte) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun ShortArray.sumBy(selector: (Short) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun IntArray.sumBy(selector: (Int) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun LongArray.sumBy(selector: (Long) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun FloatArray.sumBy(selector: (Float) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun DoubleArray.sumBy(selector: (Double) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic

inline fun BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun CharArray.sumBy(selector: (Char) -> Int): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun <T> Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun ShortArray.sumByDouble(selector: (Short) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun IntArray.sumByDouble(selector: (Int) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun LongArray.sumByDouble(selector: (Long) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun FloatArray.sumByDouble(selector: (Float) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun DoubleArray.sumByDouble(selector: (Double) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun BooleanArray.sumByDouble(selector: (Boolean) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun CharArray.sumByDouble(selector: (Char) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this)

{\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]

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sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
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DoubleArray.sumOf(selector: (Double) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this)
{\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by
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*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun
BooleanArray.sumOf(selector: (Boolean) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this)
{\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.sumOf(selector: (Char) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this) {\n
sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal
.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> UInt): UInt {\n   var sum: UInt =
0.toUInt()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal
.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n
for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal
.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n
for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal
.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for
(element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal
.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n
for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all
values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal

.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.sumOf(selector: (T) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sumOf(selector: (Byte) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sumOf(selector: (Short) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sumOf(selector: (Int) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sumOf(selector: (Long) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sumOf(selector: (Float) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sumOf(selector: (Double) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.sumOf(selector: (Boolean) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sumOf(selector: (Char) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any> Array<T?>.requireNoNulls(): Array<T> {\n   for (element in this) {\n   if (element == null) {\n   throw IllegalArgumentException(\"null element found in $this.\")\n   }\n   }\n   @Suppress(\"UNCHECKED_CAST\")\n   return this as Array<T>\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun <T> Array<out T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n   val first = ArrayList<T>()\n   val second = ArrayList<T>()\n   for (element in this) {\n   if (predicate(element)) {\n   first.add(element)\n   } else {\n   second.add(element)\n   }\n   }\n   return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun ByteArray.partition(predicate: (Byte) -> Boolean): Pair<List<Byte>, List<Byte>> {\n   val first = ArrayList<Byte>()\n   val second = ArrayList<Byte>()\n   for (element in this) {\n   if (predicate(element)) {\n   first.add(element)\n   } else {\n   second.add(element)\n   }\n   }\n   return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun ShortArray.partition(predicate: (Short) -> Boolean): Pair<List<Short>, List<Short>> {\n   val first = ArrayList<Short>()\n   val second = ArrayList<Short>()\n   for (element in this) {\n   if (predicate(element)) {\n   first.add(element)\n   } else {\n   second.add(element)\n   }\n   }\n   return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun IntArray.partition(predicate: (Int) -> Boolean): Pair<List<Int>, List<Int>> {\n   val first = ArrayList<Int>()\n   val second = ArrayList<Int>()\n   for (element in this) {\n   if (predicate(element)) {\n   first.add(element)\n   } else {\n   second.add(element)\n   }\n   }\n   return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun LongArray.partition(predicate: (Long) -> Boolean): Pair<List<Long>, List<Long>> {\n   val first = ArrayList<Long>()\n   val second = ArrayList<Long>()\n   for (element in this) {\n   if (predicate(element)) {\n   first.add(element)\n   } else {\n   second.add(element)\n   }\n   }\n   return Pair(first,

second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun FloatArray.partition(predicate: (Float) -> Boolean): Pair<List<Float>, List<Float>> {\n val first = ArrayList<Float>()\n val second = ArrayList<Float>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun DoubleArray.partition(predicate: (Double) -> Boolean): Pair<List<Double>, List<Double>> {\n val first = ArrayList<Double>()\n val second = ArrayList<Double>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun BooleanArray.partition(predicate: (Boolean) -> Boolean): Pair<List<Boolean>, List<Boolean>> {\n val first = ArrayList<Boolean>()\n val second = ArrayList<Boolean>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Arrays.Transformations.partitionArrayOfPrimitives\n */\npublic inline fun CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {\n val first = ArrayList<Char>()\n val second = ArrayList<Char>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Array<out T>.zip(other: Array<out R>): List<Pair<T, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ShortArray.zip(other: Array<out R>): List<Pair<Short, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> IntArray.zip(other: Array<out R>): List<Pair<Int, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> LongArray.zip(other: Array<out R>): List<Pair<Long, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> FloatArray.zip(other: Array<out R>): List<Pair<Float, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> DoubleArray.zip(other: Array<out

R>): List<Pair<Double, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> BooleanArray.zip(other: Array<out R>): List<Pair<Boolean, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> CharArray.zip(other: Array<out R>): List<Pair<Char, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Array<out T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> ByteArray.zip(other: Array<out R>, transform: (a: Byte, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> IntArray.zip(other: Array<out R>, transform: (a: Int, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> FloatArray.zip(other: Array<out R>, transform: (a: Float, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array

with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> BooleanArray.zip(other: Array<out R>, transform: (a: Boolean, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> CharArray.zip(other: Array<out R>, transform: (a: Char, b: R) -> V): List<V> {\n   val size = 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collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> ShortArray.zip(other: Iterable<R>): List<Pair<Short, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> IntArray.zip(other: Iterable<R>): List<Pair<Int, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> LongArray.zip(other: Iterable<R>): List<Pair<Long, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> FloatArray.zip(other: Iterable<R>): List<Pair<Float, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> DoubleArray.zip(other: Iterable<R>): List<Pair<Double, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> BooleanArray.zip(other: Iterable<R>): List<Pair<Boolean, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <R> CharArray.zip(other: Iterable<R>): List<Pair<Char, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Array<out T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n   val arraySize = size\n   val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n   var i = 0\n   for (element in other) {\n

if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> ByteArray.zip(other: Iterable<R>, transform: (a: Byte, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> ShortArray.zip(other: Iterable<R>, transform: (a: Short, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> IntArray.zip(other: Iterable<R>, transform: (a: Int, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> LongArray.zip(other: Iterable<R>, transform: (a: Long, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same 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shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> CharArray.zip(other: Iterable<R>, transform: (a: Char, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun ByteArray.zip(other: ByteArray): List<Pair<Byte, Byte>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun ShortArray.zip(other: ShortArray): List<Pair<Short, Short>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun IntArray.zip(other: IntArray): List<Pair<Int, Int>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun FloatArray.zip(other: FloatArray): List<Pair<Float, Float>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun DoubleArray.zip(other: DoubleArray): List<Pair<Double, Double>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun BooleanArray.zip(other: BooleanArray): List<Pair<Boolean, Boolean>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun CharArray.zip(other: CharArray): List<Pair<Char, Char>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V> ByteArray.zip(other: ByteArray, transform: (a: Byte, b: Byte) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <V> ShortArray.zip(other: ShortArray, transform: (a: Short, b: Short) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample 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= null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   buffer.appendElement(element, transform)\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> ByteArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Byte) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n

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= null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Long) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> FloatArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Float) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> DoubleArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Double) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1)

buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element.toString())\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <A : Appendable> CharArray.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Char) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1) buffer.append(separator)\n   if (limit < 0 || count <= limit) {\n   if (transform != null)\n   buffer.append(transform(element))\n   else\n   buffer.append(element)\n   } else break\n   }\n   if (limit >= 0 && count > limit) buffer.append(truncated)\n   buffer.append(postfix)\n   return buffer\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T> Array<out T>.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n   return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun ByteArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Byte) -> CharSequence)? = null): String {\n   return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun ShortArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Short) -> CharSequence)? = null): String {\n   return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun IntArray.joinToString(separator:

CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Int) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun LongArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Long) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun FloatArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Float) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun DoubleArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Double) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun BooleanArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun CharArray.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Char) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun <T> Array<out T>.asIterable(): Iterable<T> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun ByteArray.asIterable(): Iterable<Byte> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun ShortArray.asIterable(): Iterable<Short> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun IntArray.asIterable(): Iterable<Int> {\n if (isEmpty()) return emptyList()\n return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun LongArray.asIterable(): Iterable<Long> {\n if

(isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun FloatArray.asIterable(): Iterable<Float> {\n   if (isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun DoubleArray.asIterable(): Iterable<Double> {\n   if (isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun BooleanArray.asIterable(): Iterable<Boolean> {\n   if (isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being iterated.\n */\npublic fun CharArray.asIterable(): Iterable<Char> {\n   if (isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun <T> Array<out T>.asSequence(): Sequence<T> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ByteArray.asSequence(): Sequence<Byte> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun ShortArray.asSequence(): Sequence<Short> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun IntArray.asSequence(): Sequence<Int> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun LongArray.asSequence(): Sequence<Long> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun FloatArray.asSequence(): Sequence<Float> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun DoubleArray.asSequence(): Sequence<Double> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun BooleanArray.asSequence(): Sequence<Boolean> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic fun CharArray.asSequence(): Sequence<Char> {\n   if (isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfByte\")\npublic fun Array<out Byte>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfShort\")\npublic fun Array<out Short>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfInt\")\npublic fun Array<out Int>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfLong\")\npublic fun Array<out Long>.average(): Double {\n   var sum:

Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfFloat\")\npublic fun Array<out Float>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\n@kotlin.jvm.JvmName(\"averageOfDouble\")\npublic fun Array<out Double>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun ByteArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun ShortArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun IntArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun LongArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun FloatArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun DoubleArray.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   ++count\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfByte\")\npublic fun Array<out Byte>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfShort\")\npublic fun Array<out Short>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfInt\")\npublic fun Array<out Int>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfLong\")\npublic fun Array<out Long>.sum(): Long {\n   var sum: Long = 0L\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfFloat\")\npublic fun Array<out Float>.sum(): Float {\n   var sum: Float = 0.0f\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfDouble\")\npublic fun Array<out Double>.sum(): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ByteArray.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ShortArray.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun IntArray.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun LongArray.sum(): Long {\n   var sum: Long = 0L\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun FloatArray.sum(): Float {\n   var sum: Float = 0.0f\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun DoubleArray.sum(): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the

license/LICENSE.txt file.\n
/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"RangesKt\")\n\npackage kotlin.ranges\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n   return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun LongRange.random(): Long {\n   return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.random(): Char {\n   return random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun IntRange.random(random: Random): Int {\n   try {\n   return random.nextInt(this)\n   } catch(e: IllegalArgumentException) {\n   throw NoSuchElementException(e.message)\n   }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun LongRange.random(random: Random): Long {\n   try {\n   return random.nextLong(this)\n   } catch(e: IllegalArgumentException) {\n   throw NoSuchElementException(e.message)\n   }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun CharRange.random(random: Random): Char {\n   try {\n   return random.nextInt(first.toInt(), last.toInt() + 1).toChar()\n   } catch(e: IllegalArgumentException) {\n   throw NoSuchElementException(e.message)\n   }\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.randomOrNull(): Int? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun LongRange.randomOrNull(): Long? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.randomOrNull(): Char? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun IntRange.randomOrNull(random: Random): Int? {\n   if (isEmpty())\n   return null\n   return random.nextInt(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun LongRange.randomOrNull(random: Random): Long? {\n   if (isEmpty())\n   return null\n   return random.nextLong(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharRange.randomOrNull(random: Random): Char? {\n   if (isEmpty())\n   return null\n   return random.nextInt(first.toInt(), last.toInt() + 1).toChar()\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline operator fun IntRange.contains(element: Int?): Boolean {\n   return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains

the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element: Long?): Boolean {\n   return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element: Char?): Boolean {\n   return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value: Byte): Boolean {\n   return contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun ClosedRange<Long>.contains(value: Byte): Boolean {\n   return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Byte): Boolean {\n   return contains(value.toShort())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value: Byte): Boolean {\n   return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value: Byte): Boolean {\n   return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value: Double): Boolean {\n   return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun ClosedRange<Long>.contains(value: Double): Boolean {\n   return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun ClosedRange<Byte>.contains(value: Double): Boolean {\n   return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Double): Boolean {\n   return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value: Double): Boolean {\n   return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value: Float): Boolean {\n   return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n *

Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun ClosedRange<Long>.contains(value: Float): Boolean {\n   return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun ClosedRange<Byte>.contains(value: Float): Boolean {\n   return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Float): Boolean {\n   return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value: Float): Boolean {\n   return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun ClosedRange<Long>.contains(value: Int): Boolean {\n   return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun ClosedRange<Byte>.contains(value: Int): Boolean {\n   return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Int): Boolean {\n   return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value: Int): Boolean {\n   return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value: Int): Boolean {\n   return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value: Long): Boolean {\n   return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun ClosedRange<Byte>.contains(value: Long): Boolean {\n   return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"shortRangeContains\")\npublic operator fun ClosedRange<Short>.contains(value: Long): Boolean {\n   return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value: Long): Boolean {\n   return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer

and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value: Long): Boolean {\n   return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"intRangeContains\")\npublic operator fun ClosedRange<Int>.contains(value: Short): Boolean {\n   return contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"longRangeContains\")\npublic operator fun ClosedRange<Long>.contains(value: Short): Boolean {\n   return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName(\"byteRangeContains\")\npublic operator fun ClosedRange<Byte>.contains(value: Short): Boolean {\n   return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"doubleRangeContains\")\npublic operator fun ClosedRange<Double>.contains(value: Short): Boolean {\n   return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated(\"This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.\")\n@DeprecatedSinceKotlin(warningSince = \"1.3\", errorSince = \"1.4\")\n@kotlin.jvm.JvmName(\"floatRangeContains\")\npublic operator fun ClosedRange<Float>.contains(value: Short): Boolean {\n   return contains(value.toFloat())\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Byte): IntProgression {\n   return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Byte): LongProgression {\n   return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Byte): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Byte): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Char.downTo(to: Char): CharProgression {\n   return CharProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Int): IntProgression {\n   return IntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Int): LongProgression {\n   return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Int): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to]

value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Int): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to, -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Long): LongProgression {\n   return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Long): LongProgression {\n   return LongProgression.fromClosedRange(this, to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Long): LongProgression {\n   return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Long): LongProgression {\n   return LongProgression.fromClosedRange(this.toLong(), to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Int.downTo(to: Short): IntProgression {\n   return IntProgression.fromClosedRange(this, to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Long.downTo(to: Short): LongProgression {\n   return LongProgression.fromClosedRange(this, to.toLong(), -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Byte.downTo(to: Short): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\npublic infix fun Short.downTo(to: Short): IntProgression {\n   return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun IntProgression.reversed(): IntProgression {\n   return IntProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun LongProgression.reversed(): LongProgression {\n   return LongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\npublic fun CharProgression.reversed(): CharProgression {\n   return CharProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun IntProgression.step(step: Int): IntProgression {\n   checkStepIsPositive(step > 0, step)\n   return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun LongProgression.step(step: Long): LongProgression {\n   checkStepIsPositive(step > 0, step)\n   return LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\npublic infix fun CharProgression.step(step: Int): CharProgression {\n   checkStepIsPositive(step > 0, step)\n   return CharProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\ninternal fun Int.toByteExactOrNull(): Byte? {\n   return if (this in Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByte() else null\n}\n\ninternal fun Long.toByteExactOrNull(): Byte? {\n   return if (this in Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByte() else null\n}\n\ninternal fun Short.toByteExactOrNull(): Byte? {\n   return if (this in

Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByte() else null\n}\n\ninternal fun Double.toByteExactOrNull(): Byte? {\n   return if (this in Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toInt().toByte() else null\n}\n\ninternal fun Float.toByteExactOrNull(): Byte? {\n   return if (this in Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat()) this.toInt().toByte() else null\n}\n\ninternal fun Long.toIntExactOrNull(): Int? {\n   return if (this in Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong()) this.toInt() else null\n}\n\ninternal fun Double.toIntExactOrNull(): Int? {\n   return if (this in Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null\n}\n\ninternal fun Float.toIntExactOrNull(): Int? {\n   return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat()) this.toInt() else null\n}\n\ninternal fun Double.toLongExactOrNull(): Long? {\n   return if (this in Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null\n}\n\ninternal fun Float.toLongExactOrNull(): Long? {\n   return if (this in Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null\n}\n\ninternal fun Int.toShortExactOrNull(): Short? {\n   return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt()) this.toShort() else null\n}\n\ninternal fun Long.toShortExactOrNull(): Short? {\n   return if (this in Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else null\n}\n\ninternal fun Double.toShortExactOrNull(): Short? {\n   return if (this in Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toInt().toShort() else null\n}\n\ninternal fun Float.toShortExactOrNull(): Short? {\n   return if (this in Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toInt().toShort() else null\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Byte): IntRange {\n   return this .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Byte): LongRange {\n   return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Byte): IntRange {\n   return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Byte): IntRange {\n   return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Char.until(to: Char): CharRange {\n   if (to <= '\\u0000') return CharRange.EMPTY\n   return this .. (to - 1).toChar()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Int): IntRange {\n   if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n   return this .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Int): LongRange {\n   return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Int): IntRange {\n   if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n   return this.toInt() .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Int): IntRange {\n   if (to <= Int.MIN_VALUE) return IntRange.EMPTY\n   return this.toInt() .. (to - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Long): LongRange {\n   if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n   return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the

[to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Long): LongRange {\n   if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n   return this .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Long): LongRange {\n   if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n   return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Long): LongRange {\n   if (to <= Long.MIN_VALUE) return LongRange.EMPTY\n   return this.toLong() .. (to - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Int.until(to: Short): IntRange {\n   return this .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Long.until(to: Short): LongRange {\n   return this .. (to.toLong() - 1).toLong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Byte.until(to: Short): IntRange {\n   return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\npublic infix fun Short.until(to: Short): IntRange {\n   return this.toInt() .. (to.toInt() - 1).toInt()\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastComparable\n */\npublic fun <T : Comparable<T>> T.coerceAtLeast(minimumValue: T): T {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Byte.coerceAtLeast(minimumValue: Byte): Byte {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Int.coerceAtLeast(minimumValue: Int): Int {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Long.coerceAtLeast(minimumValue: Long): Long {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Float.coerceAtLeast(minimumValue: Float): Float {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Double.coerceAtLeast(minimumValue: Double): Double {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostComparable\n */\npublic fun <T : Comparable<T>> T.coerceAtMost(maximumValue: T): T {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n

* Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Byte.coerceAtMost(maximumValue: Byte): Byte {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Short.coerceAtMost(maximumValue: Short): Short {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Int.coerceAtMost(maximumValue: Int): Int {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Long.coerceAtMost(maximumValue: Long): Long {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Float.coerceAtMost(maximumValue: Float): Float {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Double.coerceAtMost(maximumValue: Double): Double {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n */\npublic fun <T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n   if (minimumValue !== null && maximumValue !== null) {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   }\n   else {\n   if (minimumValue !== null && this < minimumValue) return minimumValue\n   if (maximumValue !== null && this > maximumValue) return maximumValue\n   }\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Byte.coerceIn(minimumValue: Byte, maximumValue: Byte): Byte {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Short.coerceIn(minimumValue: Short, maximumValue: Short): Short {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value

is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Int.coerceIn(minimumValue: Int, maximumValue: Int): Int {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Long.coerceIn(minimumValue: Long, maximumValue: Long): Long {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Float.coerceIn(minimumValue: Float, maximumValue: Float): Float {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Double.coerceIn(minimumValue: Double, maximumValue: Double): Double {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInFloatingPointRange\n */\n@SinceKotlin(\"1.1\")\npublic fun <T : Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n   if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n   return when {\n   // this < start equiv to this <= start && !(this >= start)\n   range.lessThanOrEquals(this, range.start) && !range.lessThanOrEquals(range.start, this) -> range.start\n   // this > end equiv to this >= end && !(this <= end)\n   range.lessThanOrEquals(range.endInclusive, this) && !range.lessThanOrEquals(this, range.endInclusive) -> range.endInclusive\n   else -> this\n   }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n */\npublic fun <T : Comparable<T>> T.coerceIn(range: ClosedRange<T>): T {\n   if (range is ClosedFloatingPointRange) {\n   return this.coerceIn<T>(range)\n   }\n   if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n   return when {\n   this < range.start -> range.start\n   this > range.endInclusive -> range.endInclusive\n   else -> this\n   }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n   if (range is ClosedFloatingPointRange) {\n   return this.coerceIn<Int>(range)\n   }\n   if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n   return when {\n   this < range.start -> range.start\n   this > range.endInclusive -> range.endInclusive\n   else -> this\n   }\n}\n\n/**\n * Ensures that this value lies in the

specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n */\npublic fun Long.coerceIn(range: ClosedRange<Long>): Long {\n if (range is ClosedFloatingPointRange) {\n return this.coerceIn<Long>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n return when {\n this < range.start -> range.start\n this > range.endInclusive -> range.endInclusive\n else -> this\n }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\n\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UByte @PublishedApi internal constructor(@PublishedApi internal val data: Byte) : Comparable<UByte> {\n\n companion object {\n /**\n * A constant holding the minimum value an instance of UByte can have.\n */\n public const val MIN_VALUE: UByte = UByte(0)\n\n /**\n * A constant holding the maximum value an instance of UByte can have.\n */\n public const val MAX_VALUE: UByte = UByte(-1)\n\n /**\n * The number of bytes used to represent an instance of UByte in a binary form.\n */\n public const val SIZE_BYTES: Int = 1\n\n /**\n * The number of bits used to represent an instance of UByte in a binary form.\n */\n public const val SIZE_BITS: Int = 8\n }\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n @Suppress(\"OVERRIDE_BY_INLINE\")\n public override inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort): UInt = this.toUInt().minus(other.toUInt())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt = this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt = this.toUInt().times(other.toUInt())\n /** Multiplies this value by the other value. */\n

@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt = this.toUInt().div(other)\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt = this.toUInt().rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /** Increments this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun inc(): UByte = UByte(data.inc())\n /** Decrements this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UByte = UByte(data.dec())\n\n /** Creates a range from this value to the specified [other] value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UByte): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UByte): UByte = UByte(this.data and other.data)\n /** Performs a bitwise OR operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UByte): UByte = UByte(this.data or other.data)\n /** Performs a bitwise XOR operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte = UByte(this.data xor other.data)\n /** Inverts the bits in this value. */\n @kotlin.internal.InlineOnly\n public inline fun inv(): UByte = UByte(data.inv())\n\n /**\n * Converts this [UByte] value to [Byte].\n *\n * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this `UByte`. Otherwise the result is negative.\n *\n * The resulting `Byte` value has the same binary representation as this `UByte` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data\n /**\n * Converts this [UByte] value to [Short].\n *\n * The resulting `Short` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `Short` value are the same as the bits of this `UByte` value,\n * whereas the most significant 8 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort() and 0xFF\n /**\n * Converts this [UByte] value to [Int].\n *\n * The resulting `Int` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `Int` value are the same as the bits of this `UByte` value,\n * whereas the most significant 24 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFF\n /**\n * Converts this [UByte] value to [Long].\n *\n * The resulting `Long` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `Long` value are the same as the bits of this `UByte` value,\n * whereas the most significant 56 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and 0xFF\n\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = this\n /**\n * Converts this [UByte] value to [UShort].\n *\n * The resulting `UShort` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this `UByte` value,\n * whereas the most significant 8 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = UShort(data.toShort() and 0xFF)\n /**\n * Converts this [UByte] value to [UInt].\n *\n * The resulting `UInt` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `UInt` value are

the same as the bits of this `UByte` value,\n * whereas the most significant 24 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)\n /**\n * Converts this [UByte] value to [ULong].\n *\n * The resulting `ULong` value represents the same numerical value as this `UByte`.\n *\n * The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `UByte` value,\n * whereas the most significant 56 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)\n\n /**\n * Converts this [UByte] value to [Float].\n *\n * The resulting `Float` value represents the same numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toInt().toFloat()\n /**\n * Converts this [UByte] value to [Double].\n *\n * The resulting `Double` value represents the same numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n\n}\n\n/**\n * Converts this [Byte] value to [UByte].\n *\n * If this value is positive, the resulting `UByte` value represents the same numerical value as this `Byte`.\n *\n * The resulting `UByte` value has the same binary representation as this `Byte` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Byte.toUByte(): UByte = UByte(this)\n/**\n * Converts this [Short] value to [UByte].\n *\n * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `Short`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this `Short` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Short.toUByte(): UByte = UByte(this.toByte())\n/**\n * Converts this [Int] value to [UByte].\n *\n * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `Int`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this `Int` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Int.toUByte(): UByte = UByte(this.toByte())\n/**\n * Converts this [Long] value to [UByte].\n *\n * If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this `Long` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUByte(): UByte = UByte(this.toByte())\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\n\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UInt @PublishedApi internal constructor(@PublishedApi internal val data: Int) : Comparable<UInt> {\n\n companion object {\n /**\n * A constant holding the minimum value an instance of UInt can have.\n */\n public const val MIN_VALUE: UInt = UInt(0)\n\n /**\n * A constant holding the maximum value an instance of UInt can have.\n */\n public const val MAX_VALUE: UInt = UInt(-1)\n\n /**\n * The number of bytes used to represent an instance of UInt in a binary form.\n */\n public const val SIZE_BYTES: Int = 4\n\n /**\n * The number of bits used to represent an instance of UInt in a binary form.\n */\n public const val SIZE_BITS: Int = 32\n }\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toUInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toUInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other

value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n @Suppress(\"OVERRIDE_BY_INLINE\")\n public override inline operator fun compareTo(other: UInt): Int = uintCompare(this.data, other.data)\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UByte): UInt = this.plus(other.toUInt())\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UShort): UInt = this.plus(other.toUInt())\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UInt): UInt = UInt(this.data.plus(other.data))\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UByte): UInt = this.minus(other.toUInt())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort): UInt = this.minus(other.toUInt())\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = UInt(this.data.minus(other.data))\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt = this.times(other.toUInt())\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): UInt = this.div(other.toUInt())\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt = this.div(other.toUInt())\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt = uintDivide(this, other)\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt = this.rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = uintRemainder(this, other)\n /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /** Increments this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun inc(): UInt = UInt(data.inc())\n /** Decrements this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UInt = UInt(data.dec())\n\n /** Creates a range from this value to the specified [other] value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange = UIntRange(this, other)\n\n /** Shifts this value left by the [bitCount] number of bits. */\n @kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): UInt = UInt(data shl bitCount)\n /** Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros. */\n @kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n /** Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun and(other: UInt): UInt = UInt(this.data and other.data)\n /** Performs a bitwise OR operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UInt): UInt = UInt(this.data or

other.data)\n   /** Performs a bitwise XOR operation between the two values. */\n   @kotlin.internal.InlineOnly\n public inline infix fun xor(other: UInt): UInt = UInt(this.data xor other.data)\n   /** Inverts the bits in this value. */\n   @kotlin.internal.InlineOnly\n   public inline fun inv(): UInt = UInt(data.inv())\n\n   /**\n   * Converts this [UInt] value to [Byte].\n   *\n   * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n   * the same numerical value as this `UInt`.\n   *\n   * The resulting `Byte` value is represented by the least significant 8 bits of this `UInt` value.\n   * Note that the resulting `Byte` value may be negative.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toByte(): Byte = data.toByte()\n   /**\n   * Converts this [UInt] value to [Short].\n   *\n   * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n   * the same numerical value as this `UInt`.\n   *\n   * The resulting `Short` value is represented by the least significant 16 bits of this `UInt` value.\n   * Note that the resulting `Short` value may be negative.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toShort(): Short = data.toShort()\n   /**\n   * Converts this [UInt] value to [Int].\n   *\n   * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int` value represents\n   * the same numerical value as this `UInt`. Otherwise the result is negative.\n   *\n   * The resulting `Int` value has the same binary representation as this `UInt` value.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toInt(): Int = data\n   /**\n   * Converts this [UInt] value to [Long].\n   *\n   * The resulting `Long` value represents the same numerical value as this `UInt`.\n   *\n   * The least significant 32 bits of the resulting `Long` value are the same as the bits of this `UInt` value,\n   * whereas the most significant 32 bits are filled with zeros.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toLong(): Long = data.toLong() and 0xFFFF_FFFF\n\n   /**\n   * Converts this [UInt] value to [UByte].\n   *\n   * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n   * the same numerical value as this `UInt`.\n   *\n   * The resulting `UByte` value is represented by the least significant 8 bits of this `UInt` value.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toUByte(): UByte = data.toUByte()\n   /**\n   * Converts this [UInt] value to [UShort].\n   *\n   * If this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n   * the same numerical value as this `UInt`.\n   *\n   * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toUShort(): UShort = data.toUShort()\n   /** Returns this value. */\n   @kotlin.internal.InlineOnly\n   public inline fun toUInt(): UInt = this\n   /**\n   * Converts this [UInt] value to [ULong].\n   *\n   * The resulting `ULong` value represents the same numerical value as this `UInt`.\n   *\n   * The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `UInt` value,\n   * whereas the most significant 32 bits are filled with zeros.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toULong(): ULong = ULong(data.toLong() and 0xFFFF_FFFF)\n\n   /**\n   * Converts this [UInt] value to [Float].\n   *\n   * The resulting value is the closest `Float` to this `UInt` value.\n   * In case when this `UInt` value is exactly between two `Float`s,\n   * the one with zero at least significant bit of mantissa is selected.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toFloat(): Float = this.toDouble().toFloat()\n   /**\n   * Converts this [UInt] value to [Double].\n   *\n   * The resulting `Double` value represents the same numerical value as this `UInt`.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toDouble(): Double = uintToDouble(data)\n\n   public override fun toString(): String = toLong().toString()\n\n}\n\n/**\n * Converts this [Byte] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte` value,\n * whereas the most significant 24 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Byte.toUInt(): UInt = UInt(this.toInt())\n/**\n * Converts this [Short] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Short`.\n *\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `Short` value,\n * whereas the most significant 16 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Short.toUInt(): UInt = UInt(this.toInt())\n/**\n * Converts this [Int] value to [UInt].\n *\n * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n *\n * The resulting `UInt` value has the

same binary representation as this `Int` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Int.toUInt(): UInt = UInt(this)\n/**\n * Converts this [Long] value to [UInt].\n *\n * If this value is positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UInt` value is represented by the least significant 32 bits of this `Long` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUInt(): UInt = UInt(this.toInt())\n\n/**\n * Converts this [Float] value to [UInt].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n/**\n * Converts this [Double] value to [UInt].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is negative or `NaN`, [UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Double.toUInt(): UInt = doubleToUInt(this)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\n\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UShort @PublishedApi internal constructor(@PublishedApi internal val data: Short) : Comparable<UShort> {\n\n   companion object {\n   /**\n   * A constant holding the minimum value an instance of UShort can have.\n   */\n   public const val MIN_VALUE: UShort = UShort(0)\n\n   /**\n   * A constant holding the maximum value an instance of UShort can have.\n   */\n   public const val MAX_VALUE: UShort = UShort(-1)\n\n   /**\n   * The number of bytes used to represent an instance of UShort in a binary form.\n   */\n   public const val SIZE_BYTES: Int = 2\n\n   /**\n   * The number of bits used to represent an instance of UShort in a binary form.\n   */\n   public const val SIZE_BITS: Int = 16\n   }\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: UByte): Int = this.toInt().compareTo(other.toInt())\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   @Suppress(\"OVERRIDE_BY_INLINE\")\n   public override inline operator fun compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UShort): UInt = this.toUInt().plus(other.toUInt())\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)\n\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UShort):

UInt = this.toUInt().minus(other.toUInt())\n   /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: ULong): ULong = this.toULong().minus(other)\n\n   /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun times(other: UByte): UInt = this.toUInt().times(other.toUInt())\n   /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun times(other: UShort): UInt = this.toUInt().times(other.toUInt())\n   /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n /** Multiplies this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun times(other: ULong): ULong = this.toULong().times(other)\n\n   /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun div(other: UByte): UInt = this.toUInt().div(other.toUInt())\n   /** Divides this value by the other value. */\n   @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n   /** Divides this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun div(other: UInt): UInt = this.toUInt().div(other)\n   /** Divides this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n   /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UByte): UInt = this.toUInt().rem(other.toUInt())\n   /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UShort): UInt = this.toUInt().rem(other.toUInt())\n   /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n   /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n   /** Increments this value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun inc(): UShort = UShort(data.inc())\n   /** Decrements this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun dec(): UShort = UShort(data.dec())\n\n /** Creates a range from this value to the specified [other] value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rangeTo(other: UShort): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n   /** Performs a bitwise AND operation between the two values. */\n   @kotlin.internal.InlineOnly\n   public inline infix fun and(other: UShort): UShort = UShort(this.data and other.data)\n   /** Performs a bitwise OR operation between the two values. */\n   @kotlin.internal.InlineOnly\n   public inline infix fun or(other: UShort): UShort = UShort(this.data or other.data)\n   /** Performs a bitwise XOR operation between the two values. */\n @kotlin.internal.InlineOnly\n   public inline infix fun xor(other: UShort): UShort = UShort(this.data xor other.data)\n   /** Inverts the bits in this value. */\n   @kotlin.internal.InlineOnly\n   public inline fun inv(): UShort = UShort(data.inv())\n\n   /**\n   * Converts this [UShort] value to [Byte].\n   *\n   * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n   * the same numerical value as this `UShort`.\n   *\n   * The resulting `Byte` value is represented by the least significant 8 bits of this `UShort` value.\n   * Note that the resulting `Byte` value may be negative.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toByte(): Byte = data.toByte()\n   /**\n   * Converts this [UShort] value to [Short].\n   *\n   * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n   * the same numerical value as this `UShort`. Otherwise the result is negative.\n   *\n   * The resulting `Short` value has the same binary representation as this `UShort` value.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toShort(): Short = data\n   /**\n   * Converts this [UShort] value to [Int].\n   *\n   * The resulting `Int` value represents the same numerical value as this `UShort`.\n   *\n   * The least significant 16 bits of the resulting `Int` value are the same as the bits of this `UShort` value,\n   * whereas the most significant 16 bits are filled with zeros.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toInt(): Int = data.toInt() and 0xFFFF\n   /**\n * Converts this [UShort] value to [Long].\n   *\n   * The resulting `Long` value represents the same numerical value as this `UShort`.\n   *\n   * The least significant 16 bits of the resulting `Long` value are the same as the bits

of this `UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and 0xFFFF\n\n /**\n * Converts this [UShort] value to [UByte].\n *\n * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `UShort`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this `UShort` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = this\n /**\n * Converts this [UShort] value to [UInt].\n *\n * The resulting `UInt` value represents the same numerical value as this `UShort`.\n *\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `UShort` value,\n * whereas the most significant 16 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)\n /**\n * Converts this [UShort] value to [ULong].\n *\n * The resulting `ULong` value represents the same numerical value as this `UShort`.\n *\n * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and 0xFFFF)\n\n /**\n * Converts this [UShort] value to [Float].\n *\n * The resulting `Float` value represents the same numerical value as this `UShort`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toInt().toFloat()\n /**\n * Converts this [UShort] value to [Double].\n *\n * The resulting `Double` value represents the same numerical value as this `UShort`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n\n}\n\n/**\n * Converts this [Byte] value to [UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this `Byte` value,\n * whereas the most significant 8 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Byte.toUShort(): UShort = UShort(this.toShort())\n/**\n * Converts this [Short] value to [UShort].\n *\n * If this value is positive, the resulting `UShort` value represents the same numerical value as this `Short`.\n *\n * The resulting `UShort` value has the same binary representation as this `Short` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Short.toUShort(): UShort = UShort(this)\n/**\n * Converts this [Int] value to [UShort].\n *\n * If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `Int`.\n *\n * The resulting `UShort` value is represented by the least significant 16 bits of this `Int` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Int.toUShort(): UShort = UShort(this.toShort())\n/**\n * Converts this [Long] value to [UShort].\n *\n * If this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `Long`.\n *\n * The resulting `UShort` value is represented by the least significant 16 bits of this `Long` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Long.toUShort(): UShort = UShort(this.toShort())\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/**\n * A range of values of type `Char`.\n */\npublic class CharRange(start: Char, endInclusive: Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n override val start: Char get() = first\n override val endInclusive: Char get() = last\n\n override fun contains(value: Char): Boolean = first <= value && value <= last\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other: Any?): Boolean =\n other is CharRange && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n override fun toString(): String = \"$first..$last\"\n\n companion object {\n /** An empty range of values of type Char. */\n public val EMPTY: CharRange = CharRange(1.toChar(), 0.toChar())\n }\n}\n\n/**\n * A

range of values of type `Int`.\n */\npublic class IntRange(start: Int, endInclusive: Int) : IntProgression(start, endInclusive, 1), ClosedRange<Int> {\n   override val start: Int get() = first\n   override val endInclusive: Int get() = last\n\n   override fun contains(value: Int): Boolean = first <= value && value <= last\n\n   override fun isEmpty(): Boolean = first > last\n\n   override fun equals(other: Any?): Boolean =\n   other is IntRange && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * first + last)\n\n   override fun toString(): String = \"$first..$last\"\n\n   companion object {\n   /** An empty range of values of type Int. */\n   public val EMPTY: IntRange = IntRange(1, 0)\n   }\n}\n\n/**\n * A range of values of type `Long`.\n */\npublic class LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long> {\n   override val start: Long get() = first\n   override val endInclusive: Long get() = last\n\n   override fun contains(value: Long): Boolean = first <= value && value <= last\n\n   override fun isEmpty(): Boolean = first > last\n\n   override fun equals(other: Any?): Boolean =\n   other is LongRange && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))).toInt()\n\n   override fun toString(): String = \"$first..$last\"\n\n   companion object {\n   /** An empty range of values of type Long. */\n   public val EMPTY: LongRange = LongRange(1, 0)\n   }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\nimport kotlin.random.Random\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n   override fun hasNext(): Boolean = false\n   override fun hasPrevious(): Boolean = false\n   override fun nextIndex(): Int = 0\n   override fun previousIndex(): Int = -1\n   override fun next(): Nothing = throw NoSuchElementException()\n   override fun previous(): Nothing = throw NoSuchElementException()\n}\n\ninternal object EmptyList : List<Nothing>, Serializable, RandomAccess {\n   private const val serialVersionUID: Long = -7390468764508069838L\n\n   override fun equals(other: Any?): Boolean = other is List<*> && other.isEmpty()\n   override fun hashCode(): Int = 1\n   override fun toString(): String = \"[]\"\n\n   override val size: Int get() = 0\n   override fun isEmpty(): Boolean = true\n   override fun contains(element: Nothing): Boolean = false\n   override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n\n   override fun get(index: Int): Nothing = throw IndexOutOfBoundsException(\"Empty list doesn't contain element at index $index.\")\n   override fun indexOf(element: Nothing): Int = -1\n   override fun lastIndexOf(element: Nothing): Int = -1\n\n   override fun iterator(): Iterator<Nothing> = EmptyIterator\n   override fun listIterator(): ListIterator<Nothing> = EmptyIterator\n   override fun listIterator(index: Int): ListIterator<Nothing> {\n   if (index != 0) throw IndexOutOfBoundsException(\"Index: $index\")\n   return EmptyIterator\n   }\n\n   override fun subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n   if (fromIndex == 0 && toIndex == 0) return this\n   throw IndexOutOfBoundsException(\"fromIndex: $fromIndex, toIndex: $toIndex\")\n   }\n\n   private fun readResolve(): Any = EmptyList\n}\n\ninternal fun <T> Array<out T>.asCollection(): Collection<T> = ArrayAsCollection(this, isVarargs = false)\n\nprivate class ArrayAsCollection<T>(val values: Array<out T>, val isVarargs: Boolean) : Collection<T> {\n   override val size: Int get() = values.size\n   override fun isEmpty(): Boolean = values.isEmpty()\n   override fun contains(element: T): Boolean = values.contains(element)\n   override fun containsAll(elements: Collection<T>): Boolean = elements.all { contains(it) }\n   override fun iterator(): Iterator<T> = values.iterator()\n   // override hidden toArray implementation to prevent copying of values array\n   public fun toArray(): Array<out Any?> = values.copyToArrayOfAny(isVarargs)\n}\n\n/**\n * Returns an empty read-only list. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n */\npublic fun <T> emptyList(): List<T> = EmptyList\n\n/**\n * Returns a new read-only list of given elements. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.readOnlyList\n */\npublic fun <T> listOf(vararg elements: T): List<T> = if (elements.size > 0) elements.asList() else emptyList()\n\n/**\n * Returns an empty read-only list. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n

*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> listOf(): List<T> = emptyList()\n\n/**\n * Returns an empty new [MutableList].\n * @sample samples.collections.Collections.Lists.emptyMutableList\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> = ArrayList()\n\n/**\n * Returns an empty new [ArrayList].\n * @sample samples.collections.Collections.Lists.emptyArrayList\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T> = ArrayList()\n\n/**\n * Returns a new [MutableList] with the given elements.\n * @sample samples.collections.Collections.Lists.mutableList\n */\npublic fun <T> mutableListOf(vararg elements: T): MutableList<T> =\n   if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n * Returns a new [ArrayList] with the given elements.\n * @sample samples.collections.Collections.Lists.arrayList\n */\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T> =\n   if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n * Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n */\npublic fun <T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()\n\n/**\n * Returns a new read-only list only of those given elements, that are not null. The returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n */\npublic fun <T : Any> listOfNotNull(vararg elements: T?): List<T> = elements.filterNotNull()\n\n/**\n * Creates a new read-only list with the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each list element sequentially starting from the first one.\n * It should return the value for a list element given its index.\n *\n * @sample samples.collections.Collections.Lists.readOnlyListFromInitializer\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> List(size: Int, init: (index: Int) -> T): List<T> = MutableList(size, init)\n\n/**\n * Creates a new mutable list with the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each list element sequentially starting from the first one.\n * It should return the value for a list element given its index.\n *\n * @sample samples.collections.Collections.Lists.mutableListFromInitializer\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList(size: Int, init: (index: Int) -> T): MutableList<T> {\n   val list = ArrayList<T>(size)\n   repeat(size) { index -> list.add(init(index)) }\n   return list\n}\n\n/**\n * Builds a new read-only [List] by populating a [MutableList] using the given [builderAction]\n * and returning a read-only list with the same elements.\n *\n * The list passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * @sample samples.collections.Builders.Lists.buildListSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildList(@BuilderInference builderAction: MutableList<E>.() -> Unit): List<E> {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return buildListInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildListInternal(builderAction: MutableList<E>.() -> Unit): List<E>\n\n/**\n * Builds a new read-only [List] by populating a [MutableList] using the given [builderAction]\n * and returning a read-only list with the same elements.\n *\n * The list passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * [capacity] is used to hint the expected number of elements added in the [builderAction].\n *\n * @throws IllegalArgumentException if the given [capacity] is negative.\n *\n * @sample samples.collections.Builders.Lists.buildListSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildList(capacity: Int, @BuilderInference builderAction: MutableList<E>.() -> Unit): List<E> {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return buildListInternal(capacity, builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>.() -> Unit):

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List<E>\n\n/**\n * Returns an [IntRange] of the valid indices for this collection.\n * @sample
samples.collections.Collections.Collections.indicesOfCollection\n */\npublic val Collection<*>.indices: IntRange\n
 get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if the list is empty.\n *\n * @sample
samples.collections.Collections.Lists.lastIndexOfList\n */\npublic val <T> List<T>.lastIndex: Int\n    get() =
this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * @sample
samples.collections.Collections.Collections.collectionIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is
either null or empty.\n * @sample samples.collections.Collections.Collections.collectionIsNullOrEmpty\n
*/\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty():
Boolean {\n    contract {\n        returns(false) implies (this@isNullOrEmpty != null)\n    }\n\n    return this == null ||
this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * @sample
samples.collections.Collections.Collections.collectionOrEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>?.orEmpty(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and
the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrEmpty\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orEmpty(): List<T> = this ?: emptyList()\n\n/**\n
* Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is
empty.\n *\n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n
*/\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : Collection<*>, C : R =\n    if (isEmpty()) defaultValue() else this\n\n\n/**\n * Checks if all
elements in the specified collection are contained in this collection.\n *\n * Allows to overcome type-safety
restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample
samples.collections.Collections.Collections.collectionContainsAll\n
*/\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\") // false warning, extension takes precedence in
some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>
Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\n\n/**\n * Returns a
new list with the elements of this list randomly shuffled\n * using the specified [random] instance as the source of
randomness.\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> Iterable<T>.shuffled(random: Random): List<T> =
toMutableList().apply { shuffle(random) }\n\n\ninternal fun <T> List<T>.optimizeReadOnlyList() = when (size) {\n
 0 -> emptyList()\n    1 -> listOf(this[0])\n    else -> this\n}\n\n/**\n * Searches this list or its range for the provided
[element] using the binary search algorithm.\n * The list is expected to be sorted into ascending order according to
the Comparable natural ordering of its elements,\n * otherwise the result is undefined.\n *\n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n *\n * `null`
value is considered to be less than any non-null value.\n *\n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchOnComparable\n * @sample
samples.collections.Collections.Lists.binarySearchWithBoundaries\n */\npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n    rangeCheck(size, fromIndex,
toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <= high) {\n        val mid = (low +
high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = compareValues(midVal,
element)\n\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n
    return mid // key found\n    }\n    return -(low + 1)  // key not found\n}\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending
order according to the specified [comparator],\n * otherwise the result is undefined.\n *\n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n *\n * `null`
value is considered to be less than any non-null value.\n *\n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
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insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified subrange of list) still remains sorted according to the specified [comparator].\n * @sample samples.collections.Collections.Lists.binarySearchWithComparator\n */\npublic fun <T> List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {\n rangeCheck(size, fromIndex, toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <= high) {\n val mid = (low + high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp = comparator.compare(midVal, element)\n\n if (cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return mid // key found\n }\n return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range for an element having the key returned by the specified [selector] function\n * equal to the provided [key] value using the binary search algorithm.\n * The list is expected to be sorted into ascending order according to the Comparable natural ordering of keys of its elements.\n * otherwise the result is undefined.\n *\n * If the list contains multiple elements with the specified [key], there is no guarantee which one will be found.\n *\n * `null` value is considered to be less than any non-null value.\n *\n * @return the index of the element with the specified [key], if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n * @sample samples.collections.Collections.Lists.binarySearchByKey\n */\npublic inline fun <T, K : Comparable<K>> List<T>.binarySearchBy(\n key: K?,\n fromIndex: Int = 0,\n toIndex: Int = size,\n crossinline selector: (T) -> K?\n): Int =\n binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }\n\n// do not introduce this overload --- too rare\n//public fun <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>, fromIndex: Int = 0, toIndex: Int = size(), selector: (T) -> K): Int =\n// binarySearch(fromIndex, toIndex) { comparator.compare(selector(it), key) }\n\n\n/**\n * Searches this list or its range for an element for which the given [comparison] function returns zero using the binary search algorithm.\n *\n * The list is expected to be sorted so that the signs of the [comparison] function's return values ascend on the list elements,\n * i.e. negative values come before zero and zeroes come before positive values.\n * Otherwise, the result is undefined.\n *\n * If the list contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.\n *\n * @param comparison function that returns zero when called on the list element being searched.\n * On the elements coming before the target element, the function must return negative values;\n * on the elements coming after the target element, the function must return positive values.\n *\n * @return the index of the found element, if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n * @sample samples.collections.Collections.Lists.binarySearchWithComparisonFunction\n */\npublic fun <T> List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {\n rangeCheck(size, fromIndex, toIndex)\n\n var low = fromIndex\n var high = toIndex - 1\n\n while (low <= high) {\n val mid = (low + high).ushr(1) // safe from overflows\n val midVal = get(mid)\n val cmp = comparison(midVal)\n\n if (cmp < 0)\n low = mid + 1\n else if (cmp > 0)\n high = mid - 1\n else\n return mid // key found\n }\n return -(low + 1) // key not found\n}\n\n/**\n * Checks that `from` and `to` are in\n * the range of [0..size] and throws an appropriate exception, if they aren't.\n */\nprivate fun rangeCheck(size: Int, fromIndex: Int, toIndex: Int) {\n when {\n fromIndex > toIndex -> throw IllegalArgumentException(\"fromIndex ($fromIndex) is greater than toIndex ($toIndex).\")\n fromIndex < 0 -> throw IndexOutOfBoundsException(\"fromIndex ($fromIndex) is less than zero.\")\n toIndex > size -> throw IndexOutOfBoundsException(\"toIndex ($toIndex) is greater than size ($size).\")\n }\n}\n\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal expect fun checkIndexOverflow(index: Int): Int\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal expect fun checkCountOverflow(count: Int): Int\n\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun throwIndexOverflow() { throw ArithmeticException(\"Index overflow has happened.\") }\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun throwCountOverflow() { throw ArithmeticException(\"Count overflow has happened.\") }\n\n","/*\n * Copyright

2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"MapsKt\")\n@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\nprivate object EmptyMap : Map<Any?, Nothing>, Serializable {\n   private const val serialVersionUID: Long = 8246714829545688274\n\n   override fun equals(other: Any?): Boolean = other is Map<*, *> && other.isEmpty()\n   override fun hashCode(): Int = 0\n   override fun toString(): String = \"{}\"\n\n   override val size: Int get() = 0\n   override fun isEmpty(): Boolean = true\n\n   override fun containsKey(key: Any?): Boolean = false\n   override fun containsValue(value: Nothing): Boolean = false\n   override fun get(key: Any?): Nothing? = null\n   override val entries: Set<Map.Entry<Any?, Nothing>> get() = EmptySet\n   override val keys: Set<Any?> get() = EmptySet\n   override val values: Collection<Nothing> get() = EmptyList\n\n   private fun readResolve(): Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of specified type.\n *\n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\npublic fun <K, V> emptyMap(): Map<K, V> = @Suppress(\"UNCHECKED_CAST\") (EmptyMap as Map<K, V>)\n\n/**\n * Returns a new read-only map with the specified contents, given as a list of pairs\n * where the first value is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * The returned map is serializable (JVM).\n *\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\npublic fun <K, V> mapOf(vararg pairs: Pair<K, V>): Map<K, V> =\n   if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else emptyMap()\n\n/**\n * Returns an empty read-only map.\n *\n * The returned map is serializable (JVM).\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n *\n * The returned map preserves the entry iteration order.\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf(): MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * @sample samples.collections.Maps.Instantiation.mutableMapFromPairs\n * @sample samples.collections.Maps.Instantiation.emptyMutableMap\n */\npublic fun <K, V> mutableMapOf(vararg pairs: Pair<K, V>): MutableMap<K, V> =\n   LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [HashMap].\n *\n * @sample samples.collections.Maps.Instantiation.emptyHashMap\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> hashMapOf(): HashMap<K, V> = HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * @sample samples.collections.Maps.Instantiation.hashMapFromPairs\n */\npublic fun <K, V> hashMapOf(vararg pairs: Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs) }\n\n/**\n * Returns an empty new [LinkedHashMap].\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> linkedMapOf(): LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n\n/**\n * Returns a new [LinkedHashMap] with the specified contents, given as a list of pairs\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * @sample samples.collections.Maps.Instantiation.linkedMapFromPairs\n */\npublic fun <K, V> linkedMapOf(vararg pairs: Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only map with the same key-value pairs.\n *\n * The map passed as a receiver to the [builderAction] is valid only inside

that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * Entries of the map are iterated in the order they were added by the [builderAction].\n *\n * @sample samples.collections.Builders.Maps.buildMapSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> buildMap(@BuilderInference builderAction: MutableMap<K, V>.() -> Unit): Map<K, V> {\n contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildMapInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>.() -> Unit): Map<K, V>\n\n/**\n * Builds a new read-only [Map] by populating a [MutableMap] using the given [builderAction]\n * and returning a read-only map with the same key-value pairs.\n *\n * The map passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * [capacity] is used to hint the expected number of pairs added in the [builderAction].\n *\n * Entries of the map are iterated in the order they were added by the [builderAction].\n *\n * @throws IllegalArgumentException if the given [capacity] is negative.\n *\n * @sample samples.collections.Builders.Maps.buildMapSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> buildMap(capacity: Int, @BuilderInference builderAction: MutableMap<K, V>.() -> Unit): Map<K, V> {\n contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n return buildMapInternal(capacity, builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>.() -> Unit): Map<K, V>\n\n/**\n * Calculate the initial capacity of a map.\n */\n@PublishedApi\ninternal expect fun mapCapacity(expectedSize: Int): Int\n\n/**\n * Returns `true` if this map is not empty.\n * @sample samples.collections.Maps.Usage.mapIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable map is either null or empty.\n * @sample samples.collections.Maps.Usage.mapIsNullOrEmpty\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>?.isNullOrEmpty(): Boolean {\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n\n return this == null || isEmpty()\n}\n\n/**\n * Returns the [Map] if its not `null`, or the empty [Map] otherwise.\n *\n * @sample samples.collections.Maps.Usage.mapOrEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<K, V>?.orEmpty(): Map<K, V> = this ?: emptyMap()\n\n/**\n * Returns this map if it's not empty\n * or the result of calling [defaultValue] function if the map is empty.\n *\n * @sample samples.collections.Maps.Usage.mapIfEmpty\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R =\n if (isEmpty()) defaultValue() else this\n\n/**\n * Checks if the map contains the given key.\n *\n * This method allows to use the `x in map` syntax for checking whether an object is contained in the map.\n *\n * @sample samples.collections.Maps.Usage.containsKey\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.contains(key: K): Boolean = containsKey(key)\n\n/**\n * Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.get(key: K): V? =\n @Suppress(\"UNCHECKED_CAST\") (this as Map<K, V>).get(key)\n\n/**\n * Allows to use the index operator for storing values in a mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit {\n put(key, value)\n}\n\n/**\n * Returns `true` if the map contains the specified [key].\n *\n * Allows to overcome type-safety restriction of `containsKey` that requires to pass a key of type `K`.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes K> Map<out K, *>.containsKey(key: K): Boolean =\n @Suppress(\"UNCHECKED_CAST\") (this as Map<K, *>).containsKey(key)\n\n/**\n * Returns `true` if the map maps one or more keys to the specified [value].\n *\n * Allows to overcome type-safety restriction of `containsValue` that requires to pass a value of type `V`.\n *\n * @sample

samples.collections.Maps.Usage.containsValue\n */\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\") // false warning, extension takes precedence in some cases\n@kotlin.internal.InlineOnly\npublic inline fun <K, @kotlin.internal.OnlyInputTypes V> Map<K, V>.containsValue(value: V): Boolean = this.containsValue(value)\n\n\n/**\n * Removes the specified key and its corresponding value from this map.\n *\n * @return the previous value associated with the key, or `null` if the key was not present in the map.\n\n * Allows to overcome type-safety restriction of `remove` that requires to pass a key of type `K`.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes K, V> MutableMap<out K, V>.remove(key: K): V? =\n   @Suppress(\"UNCHECKED_CAST\") (this as MutableMap<K, V>).remove(key)\n\n/**\n * Returns the key component of the map entry.\n *\n * This method allows to use destructuring declarations when working with maps, for example:\n * ```\n * for ((key, value) in map) {\n *   // do something with the key and the value\n * }\n * ```\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map.Entry<K, V>.component1(): K = key\n\n/**\n * Returns the value component of the map entry.\n *\n * This method allows to use destructuring declarations when working with maps, for example:\n * ```\n * for ((key, value) in map) {\n *   // do something with the key and the value\n * }\n * ```\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map.Entry<K, V>.component2(): V = value\n\n/**\n * Converts entry to [Pair] with key being first component and value being second.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key, value)\n\n/**\n * Returns the value for the given key, or the result of the [defaultValue] function if there was no entry for the given key.\n *\n * @sample samples.collections.Maps.Usage.getOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<K, V>.getOrElse(key: K, defaultValue: () -> V): V = get(key) ?: defaultValue()\n\n\ninternal inline fun <K, V> Map<K, V>.getOrElseNullable(key: K, defaultValue: () -> V): V {\n   val value = get(key)\n   if (value == null && !containsKey(key)) {\n   return defaultValue()\n   } else {\n   @Suppress(\"UNCHECKED_CAST\")\n   return value as V\n   }\n}\n\n/**\n * Returns the value for the given [key] or throws an exception if there is no such key in the map.\n *\n * If the map was created by [withDefault], resorts to its `defaultValue` provider function\n * instead of throwing an exception.\n *\n * @throws NoSuchElementException when the map doesn't contain a value for the specified key and\n * no implicit default value was provided for that map.\n */\n@SinceKotlin(\"1.1\")\npublic fun <K, V> Map<K, V>.getValue(key: K): V = getOrImplicitDefault(key)\n\n/**\n * Returns the value for the given key. If the key is not found in the map, calls the [defaultValue] function,\n * puts its result into the map under the given key and returns it.\n *\n * Note that the operation is not guaranteed to be atomic if the map is being modified concurrently.\n *\n * @sample samples.collections.Maps.Usage.getOrPut\n */\npublic inline fun <K, V> MutableMap<K, V>.getOrPut(key: K, defaultValue: () -> V): V {\n   val value = get(key)\n   return if (value == null) {\n   val answer = defaultValue()\n   put(key, answer)\n   answer\n   } else {\n   value\n   }\n}\n\n/**\n * Returns an [Iterator] over the entries in the [Map].\n *\n * @sample samples.collections.Maps.Usage.forOverEntries\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map<out K, V>.iterator(): Iterator<Map.Entry<K, V>> = entries.iterator()\n\n/**\n * Returns a [MutableIterator] over the mutable entries in the [MutableMap].\n *\n */\n@kotlin.jvm.JvmName(\"mutableIterator\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> = entries.iterator()\n\n/**\n * Populates the given [destination] map with entries having the keys of this map and the values obtained\n * by applying the [transform] function to each entry in this [Map].\n */\npublic inline fun <K, V, R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {\n   return entries.associateByTo(destination, { it.key }, transform)\n}\n\n/**\n * Populates the given [destination] map with entries having the keys obtained\n * by applying the [transform] function to each entry in this [Map] and the values of this map.\n *\n * In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n * the value associated with the former one.\n */\npublic inline fun <K, V, R, M : MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M {\n   return entries.associateByTo(destination, transform, { it.value })\n}\n\n/**\n * Puts all the given [pairs] into this [MutableMap] with the first component in the pair being the key and the second the value.\n */\npublic fun <K,

V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/**\n * Puts all the elements of the given collection into this [MutableMap] with the first component in the pair being the key and the second the value.\n */\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/**\n * Puts all the elements of the given sequence into this [MutableMap] with the first component in the pair being the key and the second the value.\n */\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs: Sequence<Pair<K, V>>): Unit {\n for ((key, value) in pairs) {\n put(key, value)\n }\n}\n\n/**\n * Returns a new map with entries having the keys of this map and the values obtained by applying the [transform]\n * function to each entry in this [Map].\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n * @sample samples.collections.Maps.Transformations.mapValues\n */\npublic inline fun <K, V, R> Map<out K, V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {\n return mapValuesTo(LinkedHashMap<K, R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/**\n * Returns a new Map with entries having the keys obtained by applying the [transform] function to each entry in this\n * [Map] and the values of this map.\n *\n * In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n * the value associated with the former one.\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n * @sample samples.collections.Maps.Transformations.mapKeys\n */\npublic inline fun <K, V, R> Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {\n return mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/**\n * Returns a map containing all key-value pairs with keys matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n * @sample samples.collections.Maps.Filtering.filterKeys\n */\npublic inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {\n val result = LinkedHashMap<K, V>()\n for (entry in this) {\n if (predicate(entry.key)) {\n result.put(entry.key, entry.value)\n }\n }\n return result\n}\n\n/**\n * Returns a map containing all key-value pairs with values matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n * @sample samples.collections.Maps.Filtering.filterValues\n */\npublic inline fun <K, V> Map<out K, V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {\n val result = LinkedHashMap<K, V>()\n for (entry in this) {\n if (predicate(entry.value)) {\n result.put(entry.key, entry.value)\n }\n }\n return result\n}\n\n\n/**\n * Appends all entries matching the given [predicate] into the mutable map given as [destination] parameter.\n *\n * @return the destination map.\n * @sample samples.collections.Maps.Filtering.filterTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n for (element in this) {\n if (predicate(element)) {\n destination.put(element.key, element.value)\n }\n }\n return destination\n}\n\n/**\n * Returns a new map containing all key-value pairs matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n * @sample samples.collections.Maps.Filtering.filter\n */\npublic inline fun <K, V> Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n return filterTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/**\n * Appends all entries not matching the given [predicate] into the given [destination].\n *\n * @return the destination map.\n * @sample samples.collections.Maps.Filtering.filterNotTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {\n for (element in this) {\n if (!predicate(element)) {\n destination.put(element.key, element.value)\n }\n }\n return destination\n}\n\n/**\n * Returns a new map containing all key-value pairs not matching the given [predicate].\n *\n * The returned map preserves the entry iteration order of the original map.\n * @sample samples.collections.Maps.Filtering.filterNot\n */\npublic inline fun <K, V> Map<out K, V>.filterNot(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {\n return filterNotTo(LinkedHashMap<K, V>(), predicate)\n}\n\n/**\n * Returns a new map containing all key-value pairs from the given collection of pairs.\n *\n * The returned map preserves the entry iteration order of the original collection.\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptyMap()\n 1 -> mapOf(if (this is

List) this[0] else iterator().next())\n else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n }\n }\n return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given collection of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given array of pairs.\n *\n * The returned map preserves the entry iteration order of the original array.\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K, V> = when (size) {\n 0 -> emptyMap()\n 1 -> mapOf(this[0])\n else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given array of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K, V>>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new map containing all key-value pairs from the given sequence of pairs.\n *\n * The returned map preserves the entry iteration order of the original sequence.\n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> = toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.\n */\npublic fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Returns a new read-only map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic fun <K, V> Map<out K, V>.toMap(): Map<K, V> = when (size) {\n 0 -> emptyMap()\n 1 -> toSingletonMap()\n else -> toMutableMap()\n}\n\n/**\n * Returns a new mutable map containing all key-value pairs from the original map.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic fun <K, V> Map<out K, V>.toMutableMap(): MutableMap<K, V> = LinkedHashMap(this)\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs from the given map.\n */\n@SinceKotlin(\"1.1\")\npublic fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.toMap(destination: M): M =\n destination.apply { putAll(this@toMap) }\n\n/**\n * Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].\n *\n * The returned map preserves the entry iteration order of the original map.\n * The [pair] is iterated in the end if it has a unique key.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> =\n if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply { put(pair.first, pair.second) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> =\n if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> =\n if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.\n */\npublic operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K, V> =\n LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()\n\n/**\n * Creates a new read-only map by replacing or adding entries to this map from another [map].\n *\n * The returned map preserves the entry iteration order of the original map.\n * Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].\n */\npublic operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>): Map<K, V> =\n LinkedHashMap(this).apply { putAll(map) }\n\n\n/**\n * Appends or replaces the given [pair] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pair: Pair<K, V>) {\n put(pair.first, pair.second)\n}\n\n/**\n * Appends or

replaces all pairs from the given collection of [pairs] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all pairs from the given array of [pairs] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Array<out Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all pairs from the given sequence of [pairs] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) {\n putAll(pairs)\n}\n\n/**\n * Appends or replaces all entries from the given [map] in this mutable map.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(map: Map<K, V>) {\n putAll(map)\n}\n\n/**\n * Returns a map containing all entries of the original map except the entry with the given [key].\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic operator fun <K, V> Map<out K, V>.minus(key: K): Map<K, V> =\n this.toMutableMap().apply { minusAssign(key) }.optimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] collection.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic operator fun <K, V> Map<out K, V>.minus(keys: Iterable<K>): Map<K, V> =\n this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] array.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic operator fun <K, V> Map<out K, V>.minus(keys: Array<out K>): Map<K, V> =\n this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] sequence.\n *\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin(\"1.1\")\npublic operator fun <K, V> Map<out K, V>.minus(keys: Sequence<K>): Map<K, V> =\n this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()\n\n/**\n * Removes the entry with the given [key] from this mutable map.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(key: K) {\n remove(key)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] collection from this mutable map.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Iterable<K>) {\n this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] array from this mutable map.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Array<out K>) {\n this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries from the keys of which are contained in the given [keys] sequence from this mutable map.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Sequence<K>) {\n this.keys.removeAll(keys)\n}\n\n\n// do not expose for now @PublishedApi\ninternal fun <K, V> Map<K, V>.optimizeReadOnlyMap() = when (size) {\n 0 -> emptyMap()\n 1 -> toSingletonMapOrSelf()\n else -> this\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SetsKt\")\n@file:OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n\npackage kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object EmptySet : Set<Nothing>, Serializable {\n private const val serialVersionUID: Long = 3406603774387020532\n\n override fun equals(other: Any?): Boolean = other is Set<*> && other.isEmpty()\n override fun hashCode(): Int = 0\n override fun toString(): String = \"[]\"\n\n override val size: Int get() = 0\n override fun isEmpty(): Boolean = true\n override fun contains(element: Nothing): Boolean = false\n override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n\n private fun readResolve(): Any = EmptySet\n}\n\n/**\n * Returns an

empty read-only set. The returned set is serializable (JVM).\n * @sample samples.collections.Collections.Sets.emptyReadOnlySet\n */\npublic fun <T> emptySet(): Set<T> = EmptySet\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the order they were specified.\n * The returned set is serializable (JVM).\n * @sample samples.collections.Collections.Sets.readOnlySet\n */\npublic fun <T> setOf(vararg elements: T): Set<T> = if (elements.size > 0) elements.toSet() else emptySet()\n\n/**\n * Returns an empty read-only set. The returned set is serializable (JVM).\n * @sample samples.collections.Collections.Sets.emptyReadOnlySet\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> setOf(): Set<T> = emptySet()\n\n/**\n * Returns an empty new [MutableSet].\n *\n * The returned set preserves the element iteration order.\n * @sample samples.collections.Collections.Sets.emptyMutableSet\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableSetOf(): MutableSet<T> = LinkedHashSet()\n\n/**\n * Returns a new [MutableSet] with the given elements.\n * Elements of the set are iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.mutableSet\n */\npublic fun <T> mutableSetOf(vararg elements: T): MutableSet<T> = elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n\n/** Returns an empty new [HashSet]. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> hashSetOf(): HashSet<T> = HashSet()\n\n/** Returns a new [HashSet] with the given elements. */\npublic fun <T> hashSetOf(vararg elements: T): HashSet<T> = elements.toCollection(HashSet(mapCapacity(elements.size)))\n\n/**\n * Returns an empty new [LinkedHashSet].\n * @sample samples.collections.Collections.Sets.emptyLinkedHashSet\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> linkedSetOf(): LinkedHashSet<T> = LinkedHashSet()\n\n/**\n * Returns a new [LinkedHashSet] with the given elements.\n * Elements of the set are iterated in the order they were specified.\n * @sample samples.collections.Collections.Sets.linkedHashSet\n */\npublic fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> = elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n\n/**\n * Returns a new read-only set either with single given element, if it is not null, or empty set if the element is null.\n * The returned set is serializable (JVM).\n * @sample samples.collections.Collections.Sets.setOfNotNull\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Any> setOfNotNull(element: T?): Set<T> = if (element != null) setOf(element) else emptySet()\n\n/**\n * Returns a new read-only set only with those given elements, that are not null.\n * Elements of the set are iterated in the order they were specified.\n * The returned set is serializable (JVM).\n * @sample samples.collections.Collections.Sets.setOfNotNull\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Any> setOfNotNull(vararg elements: T?): Set<T> {\n   return elements.filterNotNullTo(LinkedHashSet())\n}\n\n/**\n * Builds a new read-only [Set] by populating a [MutableSet] using the given [builderAction]\n * and returning a read-only set with the same elements.\n *\n * The set passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * Elements of the set are iterated in the order they were added by the [builderAction].\n *\n * @sample samples.collections.Builders.Sets.buildSetSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E> buildSet(@BuilderInference builderAction: MutableSet<E>.() -> Unit): Set<E> {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return buildSetInternal(builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildSetInternal(builderAction: MutableSet<E>.() -> Unit): Set<E>\n\n/**\n * Builds a new read-only [Set] by populating a [MutableSet] using the given [builderAction]\n * and returning a read-only set with the same elements.\n *\n * The set passed as a receiver to the [builderAction] is valid only inside that function.\n * Using it outside of the function produces an unspecified behavior.\n *\n * [capacity] is used to hint the expected number of elements added in the [builderAction].\n *\n * Elements of the set are iterated in the order they were added by the [builderAction].\n *\n * @throws IllegalArgumentException if the given [capacity] is negative.\n *\n * @sample samples.collections.Builders.Sets.buildSetSample\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic inline fun <E>

buildSet(capacity: Int, @BuilderInference builderAction: MutableSet<E>.() -> Unit): Set<E> {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return buildSetInternal(capacity, builderAction)\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal expect inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>.() -> Unit): Set<E>\n\n\n/** Returns this Set if it's not `null` and the empty set otherwise.
/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>?.orEmpty(): Set<T> = this ?: emptySet()\n\ninternal fun <T> Set<T>.optimizeReadOnlySet() = when (size) {\n   0 -> emptySet()\n   1 -> setOf(iterator().next())\n   else -> this\n}\n","/\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n@file:Suppress(\"PLATFORM_CLASS_MAPPED_TO_KOTLIN\")\n\npackage kotlin.text\n\n/**\n * Parses the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toByteOrNull(): Byte? = toByteOrNull(radix = 10)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toByteOrNull(radix: Int): Byte? {\n   val int = this.toIntOrNull(radix) ?: return null\n   if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null\n   return int.toByte()\n}\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toShortOrNull(): Short? = toShortOrNull(radix = 10)\n\n/**\n * Parses the string as a [Short] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toShortOrNull(radix: Int): Short? {\n   val int = this.toIntOrNull(radix) ?: return null\n   if (int < Short.MIN_VALUE || int > Short.MAX_VALUE) return null\n   return int.toShort()\n}\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [Int] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toIntOrNull(radix: Int): Int? {\n   checkRadix(radix)\n\n   val length = this.length\n   if (length == 0) return null\n\n   val start: Int\n   val isNegative: Boolean\n   val limit: Int\n\n   val firstChar = this[0]\n   if (firstChar < '0') { // Possible leading sign\n   if (length == 1) return null // non-digit (possible sign) only, no digits after\n\n   start = 1\n\n   if (firstChar == '-') {\n   isNegative = true\n   limit = Int.MIN_VALUE\n   } else if (firstChar == '+') {\n   isNegative = false\n   limit = -Int.MAX_VALUE\n   } else\n   return null\n   } else {\n   start = 0\n   isNegative = false\n   limit = -Int.MAX_VALUE\n   }\n\n\n   val limitForMaxRadix = (-Int.MAX_VALUE) / 36\n\n   var limitBeforeMul = limitForMaxRadix\n   var result = 0\n   for (i in start until length) {\n   val digit = digitOf(this[i], radix)\n\n   if (digit < 0) return null\n   if (result < limitBeforeMul) {\n   if (limitBeforeMul == limitForMaxRadix) {\n   limitBeforeMul = limit / radix\n\n   if (result < limitBeforeMul) {\n   return null\n   }\n   } else {\n   return null\n   }\n   }\n\n   result *= radix\n\n   if (result < limit + digit) return null\n\n   result -= digit\n   }\n\n   return if (isNegative) result else -result\n}\n\n/**\n * Parses the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toLongOrNull(): Long? = toLongOrNull(radix = 10)\n\n/**\n * Parses the string as a [Long] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.1\")\npublic fun String.toLongOrNull(radix: Int): Long? {\n   checkRadix(radix)\n\n   val length = this.length\n   if (length == 0) return null\n\n   val start: Int\n   val isNegative: Boolean\n   val limit: Long\n\n   val firstChar = this[0]\n   if (firstChar < '0') { // Possible leading sign\n   if (length == 1) return null // non-digit (possible sign) only, no digits after\n\n   start = 1\n\n   if (firstChar == '-')

{\n isNegative = true\n limit = Long.MIN_VALUE\n } else if (firstChar == '+') {\n isNegative = false\n limit = -Long.MAX_VALUE\n } else\n return null\n } else {\n start = 0\n isNegative = false\n limit = -Long.MAX_VALUE\n }\n\n\n val limitForMaxRadix = (-Long.MAX_VALUE) / 36\n\n var limitBeforeMul = limitForMaxRadix\n var result = 0L\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n if (result < limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / radix\n\n if (result < limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n\n result *= radix\n\n if (result < limit + digit) return null\n\n result -= digit\n }\n\n return if (isNegative) result else -result\n}\n\n\ninternal fun numberFormatError(input: String): Nothing = throw NumberFormatException(\"Invalid number format: '$input'\")\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n@file:kotlin.jvm.JvmName(\"UnsignedKt\")\n@file:OptIn(ExperimentalUnsignedTypes::class)\npackage kotlin\n\n@PublishedApi\ninternal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)\n@PublishedApi\ninternal fun ulongCompare(v1: Long, v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE)\n\n@PublishedApi\ninternal fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() / v2.toLong()).toUInt()\n@PublishedApi\ninternal fun uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt()\n\n// Division and remainder are based on Guava's UnsignedLongs implementation\n// Copyright 2011 The Guava Authors\n\n@PublishedApi\ninternal fun ulongDivide(v1: ULong, v2: ULong): ULong {\n val dividend = v1.toLong()\n val divisor = v2.toLong()\n if (divisor < 0) { // i.e., divisor >= 2^63:\n return if (v1 < v2) ULong(0) else ULong(1)\n }\n\n // Optimization - use signed division if both dividend and divisor < 2^63\n if (dividend >= 0) {\n return ULong(dividend / divisor)\n }\n\n // Otherwise, approximate the quotient, check, and correct if necessary.\n val quotient = ((dividend ushr 1) / divisor) shl 1\n val rem = dividend - quotient * divisor\n return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else 0)\n\n}\n\n@PublishedApi\ninternal fun ulongRemainder(v1: ULong, v2: ULong): ULong {\n val dividend = v1.toLong()\n val divisor = v2.toLong()\n if (divisor < 0) { // i.e., divisor >= 2^63:\n return if (v1 < v2) {\n v1 // dividend < divisor\n } else {\n v1 - v2 // dividend >= divisor\n }\n }\n\n // Optimization - use signed modulus if both dividend and divisor < 2^63\n if (dividend >= 0) {\n return ULong(dividend % divisor)\n }\n\n // Otherwise, approximate the quotient, check, and correct if necessary.\n val quotient = ((dividend ushr 1) / divisor) shl 1\n val rem = dividend - quotient * divisor\n return ULong(rem - if (ULong(rem) >= ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n v.isNaN() -> 0u\n v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n v >= UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n v <= Int.MAX_VALUE -> v.toInt().toUInt()\n else -> (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt() // Int.MAX_VALUE < v < UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n v.isNaN() -> 0u\n v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n v >= ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n v < Long.MAX_VALUE -> v.toLong().toULong()\n\n // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not representable in Double, so don't handle them.\n else -> (v - 9223372036854775808.0).toLong().toULong() + 9223372036854775808uL // Long.MAX_VALUE + 1 < v < ULong.MAX_VALUE\n}\n\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n@PublishedApi\ninternal fun ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n\ninternal fun ulongToString(v: Long): String = ulongToString(v, 10)\n\ninternal fun ulongToString(v: Long, base: Int): String {\n if (v >= 0) return v.toString(base)\n\n var quotient = ((v ushr 1) / base) shl 1\n var rem = v - quotient * base\n if (rem >= base) {\n rem -= base\n quotient += 1\n }\n return quotient.toString(base) + rem.toString(base)\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language

contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage kotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T> = object : Iterable<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * A wrapper over another [Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing iterator.\n */\ninternal class IndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {\n override fun iterator(): Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())\n}\n\n\n/**\n * Returns the size of this iterable if it is known, or `null` otherwise.\n */\n@PublishedApi\ninternal fun <T> Iterable<T>.collectionSizeOrNull(): Int? = if (this is Collection<*>) this.size else null\n\n/**\n * Returns the size of this iterable if it is known, or the specified [default] value otherwise.\n */\n@PublishedApi\ninternal fun <T> Iterable<T>.collectionSizeOrDefault(default: Int): Int = if (this is Collection<*>) this.size else default\n\n/** Returns true when it's safe to convert this collection to a set without changing contains method behavior. */\nprivate fun <T> Collection<T>.safeToConvertToSet() = size > 2 && this is ArrayList\n\n/** Converts this collection to a set, when it's worth so and it doesn't change contains method behavior. */\ninternal fun <T> Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n when (this) {\n is Set -> this\n is Collection ->\n when {\n source is Collection && source.size < 2 -> this\n else -> if (this.safeToConvertToSet()) toHashSet() else this\n }\n else -> toHashSet()\n }\n\n/** Converts this collection to a set, when it's worth so and it doesn't change contains method behavior. */\ninternal fun <T> Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is Set -> this\n is Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n else -> toHashSet()\n }\n\n\n/**\n * Returns a single list of all elements from all collections in the given collection.\n * @sample samples.collections.Iterables.Operations.flattenIterable\n */\npublic fun <T> Iterable<Iterable<T>>.flatten(): List<T> {\n val result = ArrayList<T>()\n for (element in this) {\n result.addAll(element)\n }\n return result\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this collection,\n * *second* list is built from the second values of each pair from this collection.\n * @sample samples.collections.Iterables.Operations.unzipIterable\n */\npublic fun <T, R> Iterable<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val expectedSize = collectionSizeOrDefault(10)\n val listT = ArrayList<T>(expectedSize)\n val listR = ArrayList<R>(expectedSize)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SequencesKt\")\n\npackage kotlin.sequences\n\nimport kotlin.random.Random\n\n/**\n * Given an [iterator] function constructs a [Sequence] that returns values through the [Iterator]\n * provided by that function.\n * The values are evaluated lazily, and the sequence is potentially infinite.\n *\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>): Sequence<T> = object : Sequence<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * Creates a sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.\n *\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n */\npublic fun <T> Iterator<T>.asSequence(): Sequence<T> = Sequence { this }.constrainOnce()\n\n/**\n * Creates a sequence that returns the specified values.\n *\n * @sample samples.collections.Sequences.Building.sequenceOfValues\n */\npublic fun <T> sequenceOf(vararg elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else elements.asSequence()\n\n/**\n * Returns an empty sequence.\n */\npublic fun <T> emptySequence(): Sequence<T> = EmptySequence\n\nprivate object EmptySequence : Sequence<Nothing>, DropTakeSequence<Nothing> {\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n override fun

drop(n: Int) = EmptySequence\n   override fun take(n: Int) = EmptySequence\n}\n\n/**\n * Returns this sequence if it's not `null` and the empty sequence otherwise.\n * @sample samples.collections.Sequences.Usage.sequenceOrEmpty\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>?.orEmpty(): Sequence<T> = this ?: emptySequence()\n\n\n/**\n * Returns a sequence that iterates through the elements either of this sequence\n * or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.\n *\n * @sample samples.collections.Sequences.Usage.sequenceIfEmpty\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {\n   val iterator = this@ifEmpty.iterator()\n   if (iterator.hasNext()) {\n   yieldAll(iterator)\n   } else {\n   yieldAll(defaultValue())\n   }\n}\n\n/**\n * Returns a sequence of all elements from all sequences in this sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Sequences.Transformations.flattenSequenceOfSequences\n */\npublic fun <T> Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }\n\n/**\n * Returns a sequence of all elements from all iterables in this sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Sequences.Transformations.flattenSequenceOfLists\n */\n@kotlin.jvm.JvmName(\"flattenSequenceOfIterable\")\npublic fun <T> Sequence<Iterable<T>>.flatten(): Sequence<T> = flatten { it.iterator() }\n\nprivate fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>): Sequence<R> {\n   if (this is TransformingSequence<*, *>) {\n   return (this as TransformingSequence<*, T>).flatten(iterator)\n   }\n   return FlatteningSequence(this, { it }, iterator)\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this sequence,\n * *second* list is built from the second values of each pair from this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample samples.collections.Sequences.Transformations.unzip\n */\npublic fun <T, R> Sequence<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n   val listT = ArrayList<T>()\n   val listR = ArrayList<R>()\n   for (pair in this) {\n   listT.add(pair.first)\n   listR.add(pair.second)\n   }\n   return listT to listR\n}\n\n/**\n * Returns a sequence that yields elements of this sequence randomly shuffled.\n *\n * Note that every iteration of the sequence returns elements in a different order.\n *\n * The operation is _intermediate_ and _stateful_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Sequence<T>.shuffled(): Sequence<T> = shuffled(Random)\n\n/**\n * Returns a sequence that yields elements of this sequence randomly shuffled\n * using the specified [random] instance as the source of randomness.\n *\n * Note that every iteration of the sequence returns elements in a different order.\n *\n * The operation is _intermediate_ and _stateful_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Sequence<T>.shuffled(random: Random): Sequence<T> = sequence<T> {\n   val buffer = toMutableList()\n   while (buffer.isNotEmpty()) {\n   val j = random.nextInt(buffer.size)\n   val last = @OptIn(ExperimentalStdlibApi::class) buffer.removeLast()\n   val value = if (j < buffer.size) buffer.set(j, last) else last\n   yield(value)\n   }\n}\n\n\n/**\n * A sequence that returns the values from the underlying [sequence] that either match or do not match\n * the specified [predicate].\n *\n * @param sendWhen If `true`, values for which the predicate returns `true` are returned. Otherwise,\n * values for which the predicate returns `false` are returned\n */\ninternal class FilteringSequence<T>(\n   private val sequence: Sequence<T>,\n   private val sendWhen: Boolean = true,\n   private val predicate: (T) -> Boolean\n) : Sequence<T> {\n\n   override fun iterator(): Iterator<T> = object : Iterator<T> {\n   val iterator = sequence.iterator()\n   var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n   var nextItem: T? = null\n\n   private fun calcNext() {\n   while (iterator.hasNext()) {\n   val item = iterator.next()\n   if (predicate(item) == sendWhen) {\n   nextItem = item\n   nextState = 1\n   return\n   }\n   }\n   nextState = 0\n   }\n\n   override fun next(): T {\n   if (nextState == -1)\n   calcNext()\n   if (nextState == 0)\n   throw NoSuchElementException()\n   val result = nextItem\n   nextItem = null\n   nextState = -1\n   @Suppress(\"UNCHECKED_CAST\")\n   return result as T\n   }\n\n   override fun hasNext(): Boolean {\n   if (nextState == -1)\n   calcNext()\n   return nextState == 1\n   }\n   }\n}\n\n/**\n * A sequence which returns the results of applying the given [transformer] function to the values\n * in the underlying [sequence].\n */\n\ninternal class TransformingSequence<T, R>\nconstructor(private val

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sequence: Sequence<T>, private val transformer: (T) -> R) : Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R> {\n        val iterator = sequence.iterator()\n        override fun next(): R {\n            return transformer(iterator.next())\n        }\n\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n\n    internal fun <E> flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n        return FlatteningSequence<T, R, E>(sequence, transformer, iterator)\n    }\n}\n\n/**\n * A sequence which returns the results of applying the given [transformer] function to the values\n * in the underlying [sequence], where the transformer function takes the index of the value in the underlying\n * sequence along with the value itself.\n */\ninternal class TransformingIndexedSequence<T, R>\nconstructor(private val sequence: Sequence<T>, private val transformer: (Int, T) -> R) : Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R> {\n        val iterator = sequence.iterator()\n        var index = 0\n        override fun next(): R {\n            return transformer(checkIndexOverflow(index++), iterator.next())\n        }\n\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence which combines values from the underlying [sequence] with their indices and returns them as\n * [IndexedValue] objects.\n */\ninternal class IndexingSequence<T>\nconstructor(private val sequence: Sequence<T>) : Sequence<IndexedValue<T>> {\n    override fun iterator(): Iterator<IndexedValue<T>> = object : Iterator<IndexedValue<T>> {\n        val iterator = sequence.iterator()\n        var index = 0\n        override fun next(): IndexedValue<T> {\n            return IndexedValue(checkIndexOverflow(index++), iterator.next())\n        }\n\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence which takes the values from two parallel underlying sequences, passes them to the given\n * [transform] function and returns the values returned by that function. The sequence stops returning\n * values as soon as one of the underlying sequences stops returning values.\n */\ninternal class MergingSequence<T1, T2, V>\nconstructor(\n    private val sequence1: Sequence<T1>,\n    private val sequence2: Sequence<T2>,\n    private val transform: (T1, T2) -> V\n) : Sequence<V> {\n    override fun iterator(): Iterator<V> = object : Iterator<V> {\n        val iterator1 = sequence1.iterator()\n        val iterator2 = sequence2.iterator()\n        override fun next(): V {\n            return transform(iterator1.next(), iterator2.next())\n        }\n\n        override fun hasNext(): Boolean {\n            return iterator1.hasNext() && iterator2.hasNext()\n        }\n    }\n}\n\ninternal class FlatteningSequence<T, R, E>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val transformer: (T) -> R,\n    private val iterator: (R) -> Iterator<E>\n) : Sequence<E> {\n    override fun iterator(): Iterator<E> = object : Iterator<E> {\n        val iterator = sequence.iterator()\n        var itemIterator: Iterator<E>? = null\n\n        override fun next(): E {\n            if (!ensureItemIterator())\n                throw NoSuchElementException()\n            return itemIterator!!.next()\n        }\n\n        override fun hasNext(): Boolean {\n            return ensureItemIterator()\n        }\n\n        private fun ensureItemIterator(): Boolean {\n            if (itemIterator?.hasNext() == false)\n                itemIterator = null\n\n            while (itemIterator == null) {\n                if (!iterator.hasNext()) {\n                    return false\n                } else {\n                    val element = iterator.next()\n                    val nextItemIterator = iterator(transformer(element))\n                    if (nextItemIterator.hasNext()) {\n                        itemIterator = nextItemIterator\n                        return true\n                    }\n                }\n            }\n            return true\n        }\n    }\n}\n\ninternal fun <T, C, R> flatMapIndexed(source: Sequence<T>, transform: (Int, T) -> C, iterator: (C) -> Iterator<R>): Sequence<R> =\n    sequence {\n        var index = 0\n        for (element in source) {\n            val result = transform(checkIndexOverflow(index++), element)\n            yieldAll(iterator(result))\n        }\n    }\n\n/**\n * A sequence that supports drop(n) and take(n) operations\n */\ninternal interface DropTakeSequence<T> : Sequence<T> {\n    fun drop(n: Int): Sequence<T>\n    fun take(n: Int): Sequence<T>\n}\n\n/**\n * A sequence that skips [startIndex] values from the underlying [sequence]\n * and stops returning values right before [endIndex], i.e. stops at `endIndex - 1`\n */\ninternal class SubSequence<T>(\n    private val sequence: Sequence<T>,\n    private val startIndex: Int,\n    private val endIndex: Int\n) : Sequence<T>, DropTakeSequence<T> {\n\n    init {\n        require(startIndex >= 0) { \"startIndex should be non-negative, but is $startIndex\" }\n        require(endIndex >= 0) { \"endIndex should be non-negative, but is $endIndex\" }\n        require(endIndex >= startIndex) { \"endIndex should be not less than startIndex, but was $endIndex < $startIndex\" }\n    }\n\n    private val count: Int get() = endIndex - startIndex\n\n    override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, startIndex + n, endIndex)\n    override fun take(n: Int):
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Sequence<T> = if (n >= count) this else SubSequence(sequence, startIndex, startIndex + n)\n\n    override fun iterator() = object : Iterator<T> {\n\n        val iterator = sequence.iterator()\n        var position = 0\n\n        // Shouldn't be called from constructor to avoid premature iteration\n        private fun drop() {\n            while (position < startIndex && iterator.hasNext()) {\n                iterator.next()\n                position++\n            }\n        }\n\n        override fun hasNext(): Boolean {\n            drop()\n            return (position < endIndex) && iterator.hasNext()\n        }\n\n        override fun next(): T {\n            drop()\n            if (position >= endIndex)\n                throw NoSuchElementException()\n            position++\n            return iterator.next()\n        }\n    }\n}\n\n/**\n * A sequence that returns at most [count] values from the underlying [sequence], and stops returning values\n * as soon as that count is reached.\n */\ninternal class TakeSequence<T>(\n    private val sequence: Sequence<T>,\n    private val count: Int\n) : Sequence<T>, DropTakeSequence<T> {\n\n    init {\n        require(count >= 0) { \"count must be non-negative, but was $count.\" }\n    }\n\n    override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, n, count)\n    override fun take(n: Int): Sequence<T> = if (n >= count) this else TakeSequence(sequence, n)\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        var left = count\n        val iterator = sequence.iterator()\n\n        override fun next(): T {\n            if (left == 0)\n                throw NoSuchElementException()\n            left--\n            return iterator.next()\n        }\n\n        override fun hasNext(): Boolean {\n            return left > 0 && iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence that returns values from the underlying [sequence] while the [predicate] function returns\n * `true`, and stops returning values once the function returns `false` for the next element.\n */\ninternal class TakeWhileSequence<T>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val predicate: (T) -> Boolean\n) : Sequence<T> {\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator = sequence.iterator()\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var nextItem: T? = null\n\n        private fun calcNext() {\n            if (iterator.hasNext()) {\n                val item = iterator.next()\n                if (predicate(item)) {\n                    nextState = 1\n                    nextItem = item\n                    return\n                }\n            }\n            nextState = 0\n        }\n\n        override fun next(): T {\n            if (nextState == -1)\n                calcNext() // will change nextState\n            if (nextState == 0)\n                throw NoSuchElementException()\n            @Suppress(\"UNCHECKED_CAST\")\n            val result = nextItem as T\n\n            // Clean next to avoid keeping reference on yielded instance\n            nextItem = null\n            nextState = -1\n            return result\n        }\n\n        override fun hasNext(): Boolean {\n            if (nextState == -1)\n                calcNext() // will change nextState\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * A sequence that skips the specified number of values from the underlying [sequence] and returns\n * all values after that.\n */\ninternal class DropSequence<T>(\n    private val sequence: Sequence<T>,\n    private val count: Int\n) : Sequence<T>, DropTakeSequence<T> {\n    init {\n        require(count >= 0) { \"count must be non-negative, but was $count.\" }\n    }\n\n    override fun drop(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) DropSequence(this, n) else DropSequence(sequence, n1) }\n    override fun take(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) TakeSequence(this, n) else SubSequence(sequence, count, n1) }\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator = sequence.iterator()\n        var left = count\n\n        // Shouldn't be called from constructor to avoid premature iteration\n        private fun drop() {\n            while (left > 0 && iterator.hasNext()) {\n                iterator.next()\n                left--\n            }\n        }\n\n        override fun next(): T {\n            drop()\n            return iterator.next()\n        }\n\n        override fun hasNext(): Boolean {\n            drop()\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence that skips the values from the underlying [sequence] while the given [predicate] returns `true` and returns\n * all values after that.\n */\ninternal class DropWhileSequence<T>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val predicate: (T) -> Boolean\n) : Sequence<T> {\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator = sequence.iterator()\n        var dropState: Int = -1 // -1 for not dropping, 1 for nextItem, 0 for normal iteration\n        var nextItem: T? = null\n\n        private fun drop() {\n            while (iterator.hasNext()) {\n                val item = iterator.next()\n                if (!predicate(item)) {\n                    nextItem = item\n                    dropState = 1\n                    return\n                }\n            }\n            dropState = 0\n        }\n\n        override fun next(): T {\n            if (dropState == -1)\n                drop()\n\n            if (dropState == 1) {\n
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@Suppress(\"UNCHECKED_CAST\")\n val result = nextItem as T\n nextItem = null\n dropState = 0\n return result\n }\n return iterator.next()\n }\n\n override fun hasNext(): Boolean {\n if (dropState == -1)\n drop()\n return dropState == 1 || iterator.hasNext()\n }\n }\n}\n\ninternal class DistinctSequence<T, K>(private val source: Sequence<T>, private val keySelector: (T) -> K) : Sequence<T> {\n override fun iterator(): Iterator<T> = DistinctIterator(source.iterator(), keySelector)\n}\n\nprivate class DistinctIterator<T, K>(private val source: Iterator<T>, private val keySelector: (T) -> K) : AbstractIterator<T>() {\n private val observed = HashSet<K>()\n\n override fun computeNext() {\n while (source.hasNext()) {\n val next = source.next()\n val key = keySelector(next)\n\n if (observed.add(key)) {\n setNext(next)\n return\n }\n }\n\n done()\n }\n}\n\n\nprivate class GeneratorSequence<T : Any>(private val getInitialValue: () -> T?, private val getNextValue: (T) -> T?) : Sequence<T> {\n override fun iterator(): Iterator<T> = object : Iterator<T> {\n var nextItem: T? = null\n var nextState: Int = -2 // -2 for initial unknown, -1 for next unknown, 0 for done, 1 for continue\n\n private fun calcNext() {\n nextItem = if (nextState == -2) getInitialValue() else getNextValue(nextItem!!)\n nextState = if (nextItem == null) 0 else 1\n }\n\n override fun next(): T {\n if (nextState < 0)\n calcNext()\n\n if (nextState == 0)\n throw NoSuchElementException()\n val result = nextItem as T\n // Do not clean nextItem (to avoid keeping reference on yielded instance) -- need to keep state for getNextValue\n nextState = -1\n return result\n }\n\n override fun hasNext(): Boolean {\n if (nextState < 0)\n calcNext()\n return nextState == 1\n }\n }\n}\n\n/**\n * Returns a wrapper sequence that provides values of this sequence, but ensures it can be iterated only one time.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * [IllegalStateException] is thrown on iterating the returned sequence from the second time.\n *\n */\npublic fun <T> Sequence<T>.constrainOnce(): Sequence<T> {\n // as? does not work in js\n //return this as? ConstrainedOnceSequence<T> ?: ConstrainedOnceSequence(this)\n return if (this is ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)\n}\n\n\n/**\n * Returns a sequence which invokes the function to calculate the next value on each iteration until the function returns `null`.\n *\n * The returned sequence is constrained to be iterated only once.\n *\n * @see constrainOnce\n * @see kotlin.sequences.sequence\n *\n * @sample samples.collections.Sequences.Building.generateSequence\n */\npublic fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {\n return GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()\n}\n\n/**\n * Returns a sequence defined by the starting value [seed] and the function [nextFunction],\n * which is invoked to calculate the next value based on the previous one on each iteration.\n *\n * The sequence produces values until it encounters first `null` value.\n * If [seed] is `null`, an empty sequence is produced.\n *\n * The sequence can be iterated multiple times, each time starting with [seed].\n *\n * @see kotlin.sequences.sequence\n *\n * @sample samples.collections.Sequences.Building.generateSequenceWithSeed\n */\n@kotlin.internal.LowPriorityInOverloadResolution\npublic fun <T : Any> generateSequence(seed: T?, nextFunction: (T) -> T?): Sequence<T> =\n if (seed == null)\n EmptySequence\n else\n GeneratorSequence({ seed }, nextFunction)\n\n/**\n * Returns a sequence defined by the function [seedFunction], which is invoked to produce the starting value,\n * and the [nextFunction], which is invoked to calculate the next value based on the previous one on each iteration.\n *\n * The sequence produces values until it encounters first `null` value.\n * If [seedFunction] returns `null`, an empty sequence is produced.\n *\n * The sequence can be iterated multiple times.\n *\n * @see kotlin.sequences.sequence\n *\n * @sample samples.collections.Sequences.Building.generateSequenceWithLazySeed\n */\npublic fun <T : Any> generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n GeneratorSequence(seedFunction, nextFunction)\n\n\",\"/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"PreconditionsKt\")\n\npackage kotlin\n\nimport kotlin.contracts.contract\n\n/**\n * Throws an [IllegalArgumentException] if the [value] is false.\n

*\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun require(value: Boolean): Unit {\n   contract {\n   returns() implies value\n   }\n   require(value) { \"Failed requirement.\" }\n}\n\n/**\n * Throws an [IllegalArgumentException] with the result of calling [lazyMessage] if the [value] is false.\n *\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun require(value: Boolean, lazyMessage: () -> Any): Unit {\n   contract {\n   returns() implies value\n   }\n   if (!value) {\n   val message = lazyMessage()\n   throw IllegalArgumentException(message.toString())\n   }\n}\n\n/**\n * Throws an [IllegalArgumentException] if the [value] is null. Otherwise returns the not null value.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any> requireNotNull(value: T?): T {\n   contract {\n   returns() implies (value != null)\n   }\n   return requireNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalArgumentException] with the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n *\n * @sample samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {\n   contract {\n   returns() implies (value != null)\n   }\n\n   if (value == null) {\n   val message = lazyMessage()\n   throw IllegalArgumentException(message.toString())\n   } else {\n   return value\n   }\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is false.\n *\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun check(value: Boolean): Unit {\n   contract {\n   returns() implies value\n   }\n   check(value) { \"Check failed.\" }\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n *\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n   contract {\n   returns() implies value\n   }\n   if (!value) {\n   val message = lazyMessage()\n   throw IllegalStateException(message.toString())\n   }\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n *\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any> checkNotNull(value: T?): T {\n   contract {\n   returns() implies (value != null)\n   }\n   return checkNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n *\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n   contract {\n   returns() implies (value != null)\n   }\n\n   if (value == null) {\n   val message = lazyMessage()\n   throw IllegalStateException(message.toString())\n   } else {\n   return value\n   }\n}\n\n/**\n * Throws an [IllegalStateException] with the given [message].\n *\n * @sample samples.misc.Preconditions.failWithError\n */\n@kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw IllegalStateException(message.toString())\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.js.*\nimport primitiveArrayConcat\nimport withType\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun <T> Array<out T>.elementAt(index: Int): T {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun ByteArray.elementAt(index: Int): Byte {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun ShortArray.elementAt(index: Int): Short

{\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun IntArray.elementAt(index: Int): Int {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun LongArray.elementAt(index: Int): Long {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun FloatArray.elementAt(index: Int): Float {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun DoubleArray.elementAt(index: Int): Double {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun BooleanArray.elementAt(index: Int): Boolean {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun CharArray.elementAt(index: Int): Char {\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic actual fun <T> Array<out T>.asList(): List<T> {\n   return ArrayList<T>(this.unsafeCast<Array<Any?>>())\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun ByteArray.asList(): List<Byte> {\n return this.unsafeCast<Array<Byte>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun ShortArray.asList(): List<Short> {\n   return this.unsafeCast<Array<Short>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun IntArray.asList(): List<Int> {\n   return this.unsafeCast<Array<Int>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun LongArray.asList(): List<Long> {\n   return this.unsafeCast<Array<Long>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun FloatArray.asList(): List<Float> {\n   return this.unsafeCast<Array<Float>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun DoubleArray.asList(): List<Double> {\n   return this.unsafeCast<Array<Double>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun BooleanArray.asList(): List<Boolean> {\n   return this.unsafeCast<Array<Boolean>>().asList()\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic actual fun CharArray.asList(): List<Char> {\n   return object : AbstractList<Char>(), RandomAccess {\n   override val size: Int get() = this@asList.size\n   override fun isEmpty(): Boolean = this@asList.isEmpty()\n   override fun contains(element: Char): Boolean = this@asList.contains(element)\n   override fun get(index: Int): Char {\n   AbstractList.checkElementIndex(index, size)\n   return this@asList[index]\n   }\n   override fun indexOf(element: Char): Int {\n   if ((element as Any?) !is Char) return -1\n   return this@asList.indexOf(element)\n   }\n   override fun lastIndexOf(element: Char): Int {\n   if ((element as Any?) !is Char) return -1\n   return this@asList.lastIndexOf(element)\n   }\n   }\n}\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of

other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual infix fun <T> Array<out T>.contentDeepEquals(other: Array<out T>): Boolean {\n   return this.contentDeepEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The specified arrays are also considered deeply equal if both are `null`.\n * \n * If two corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayDeepEquals\")\npublic actual infix fun <T> Array<out T>?.contentDeepEquals(other: Array<out T>?): Boolean {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out T>.contentDeepHashCode(): Int {\n   return this.contentDeepHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayDeepHashCode\")\npublic actual fun <T> Array<out T>?.contentDeepHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `\"[...]\"` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.LowPriorityInOverloadResolution\npublic actual fun <T> Array<out T>.contentDeepToString(): String {\n   return this.contentDeepToString()\n}\n\n/**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `\"[...]\"` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayDeepToString\")\npublic actual fun <T> Array<out T>?.contentDeepToString(): String {\n   definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun ByteArray.contentEquals(other: ByteArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun ShortArray.contentEquals(other: ShortArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the

same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun IntArray.contentEquals(other: IntArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun LongArray.contentEquals(other: LongArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun FloatArray.contentEquals(other: FloatArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual infix fun CharArray.contentEquals(other: CharArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun <T> Array<out T>?.contentEquals(other: Array<out T>?): Boolean {\n   definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun ByteArray?.contentEquals(other: ByteArray?): Boolean {\n   definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n

*/\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun ShortArray?.contentEquals(other: ShortArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun IntArray?.contentEquals(other: IntArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun LongArray?.contentEquals(other: LongArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun FloatArray?.contentEquals(other: FloatArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun DoubleArray?.contentEquals(other: DoubleArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun BooleanArray?.contentEquals(other: BooleanArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayEquals\")\npublic actual infix fun CharArray?.contentEquals(other: CharArray?): Boolean {\n definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun <T> Array<out T>.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun ByteArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun ShortArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun IntArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun LongArray.contentHashCode(): Int {\n return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation

warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun FloatArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun DoubleArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun BooleanArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun CharArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun <T> Array<out T>?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun ByteArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun ShortArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun IntArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun LongArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun FloatArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun DoubleArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun BooleanArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayHashCode\")\npublic actual fun CharArray?.contentHashCode(): Int {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun <T> Array<out T>.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun ByteArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun ShortArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun IntArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic

actual fun LongArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun FloatArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun DoubleArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun BooleanArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.1\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\npublic actual fun CharArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun <T> Array<out T>?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun ByteArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun ShortArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun IntArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun LongArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun FloatArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun DoubleArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun BooleanArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@library(\"arrayToString\")\npublic actual fun CharArray?.contentToString(): String {\n   definedExternally\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of

the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n   arrayCopy(this, destination, destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray {\n   arrayCopy(this.unsafeCast<Array<Byte>>(), destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n   arrayCopy(this.unsafeCast<Array<Short>>(), destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray {\n   arrayCopy(this.unsafeCast<Array<Int>>(),

destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray {\n   arrayCopy(this.unsafeCast<Array<Long>>(), destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray {\n   arrayCopy(this.unsafeCast<Array<Float>>(), destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n   arrayCopy(this.unsafeCast<Array<Double>>(), destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is

out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray {\n arrayCopy(this.unsafeCast<Array<Char>>(), destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\", \"NOTHING_TO_INLINE\")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun ByteArray.copyOf(): ByteArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun ShortArray.copyOf(): ShortArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun IntArray.copyOf(): IntArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic actual fun LongArray.copyOf(): LongArray {\n return withType(\"LongArray\", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun FloatArray.copyOf(): FloatArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun DoubleArray.copyOf(): DoubleArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic actual fun BooleanArray.copyOf(): BooleanArray {\n return withType(\"BooleanArray\", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\npublic actual fun CharArray.copyOf(): CharArray {\n return withType(\"CharArray\", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample

samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun ByteArray.copyOf(newSize: Int): ByteArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun ShortArray.copyOf(newSize: Int): ShortArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun IntArray.copyOf(newSize: Int): IntArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun LongArray.copyOf(newSize: Int): LongArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return withType(\"LongArray\", arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun FloatArray.copyOf(newSize: Int): FloatArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun DoubleArray.copyOf(newSize: Int): DoubleArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun BooleanArray.copyOf(newSize: Int): BooleanArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return withType(\"BooleanArray\", arrayCopyResize(this, newSize, false))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char (`\\u0000`) values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\npublic actual fun CharArray.copyOf(newSize: Int): CharArray {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\"

}\n   return withType(\"CharArray\", fillFrom(this, CharArray(newSize)))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOf(newSize: Int): Array<T?> {\n   require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n   return arrayCopyResize(this, newSize, null)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual fun <T> Array<out T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return withType(\"LongArray\", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero

or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return this.asDynamic().slice(fromIndex, toIndex)\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType(\"BooleanArray\", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\npublic actual fun CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n return withType(\"CharArray\", this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun <T> Array<T>.fill(element: T, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun ByteArray.fill(element: Byte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun ShortArray.fill(element: Short, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun IntArray.fill(element: Int, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param

fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun LongArray.fill(element: Long, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun FloatArray.fill(element: Float, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun DoubleArray.fill(element: Double, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun BooleanArray.fill(element: Boolean, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n
*/\n@SinceKotlin(\"1.3\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun CharArray.fill(element: Char, fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   this.asDynamic().fill(element, fromIndex, toIndex);\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n
*/\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\", \"NOTHING_TO_INLINE\")\npublic actual inline operator fun <T> Array<out T>.plus(element: T): Array<T> {\n   return this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun ByteArray.plus(element: Byte): ByteArray {\n   return plus(byteArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n
*/\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun ShortArray.plus(element: Short): ShortArray {\n   return plus(shortArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the

original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun IntArray.plus(element: Int): IntArray {\n   return plus(intArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun LongArray.plus(element: Long): LongArray {\n   return plus(longArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun FloatArray.plus(element: Float): FloatArray {\n   return plus(floatArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun DoubleArray.plus(element: Double): DoubleArray {\n   return plus(doubleArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n   return plus(booleanArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun CharArray.plus(element: Char): CharArray {\n   return plus(charArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\")\npublic actual operator fun <T> Array<out T>.plus(elements: Collection<T>): Array<T> {\n   return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun LongArray.plus(elements: Collection<Long>): LongArray {\n   return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray {\n   return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic actual operator fun CharArray.plus(elements: Collection<Char>): CharArray {\n   return fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\", \"NOTHING_TO_INLINE\")\npublic actual inline operator fun <T> Array<out T>.plus(elements: Array<out T>): Array<T> {\n   return this.asDynamic().concat(elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun ByteArray.plus(elements: ByteArray): ByteArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n

*/\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun ShortArray.plus(elements: ShortArray): ShortArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun IntArray.plus(elements: IntArray): IntArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun LongArray.plus(elements: LongArray): LongArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun FloatArray.plus(elements: FloatArray): FloatArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline operator fun CharArray.plus(elements: CharArray): CharArray {\n   return primitiveArrayConcat(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress(\"ACTUAL_WITHOUT_EXPECT\", \"NOTHING_TO_INLINE\")\npublic actual inline fun <T> Array<out T>.plusElement(element: T): Array<T> {\n   return this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun IntArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\npublic actual fun LongArray.sort(): Unit {\n   if (size > 1) sort { a: Long, b: Long -> a.compareTo(b) }\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun ByteArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun ShortArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun DoubleArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun FloatArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@library(\"primitiveArraySort\")\npublic actual fun CharArray.sort(): Unit {\n   definedExternally\n}\n\n/**\n * Sorts the array in-place according to the natural order of its elements.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @sample samples.collections.Arrays.Sorting.sortArrayOfComparable\n */\npublic actual fun <T : Comparable<T>> Array<out T>.sort(): Unit {\n   if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n   if (size > 1) sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n *

@throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArrayOfComparable\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun <T : Comparable<T>> Array<out T>.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n sortArrayWith(this, fromIndex, toIndex, naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun ByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ByteArray>()\n subarray.sort()\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun ShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<ShortArray>()\n subarray.sort()\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun IntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<IntArray>()\n subarray.sort()\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun LongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n sortArrayWith(this.unsafeCast<Array<Long>>(), fromIndex, toIndex, naturalOrder())\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun FloatArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n val subarray =

this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<FloatArray>()\n   subarray.sort()\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun DoubleArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<DoubleArray>()\n   subarray.sort()\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun CharArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   val subarray = this.asDynamic().subarray(fromIndex, toIndex).unsafeCast<CharArray>()\n   subarray.sort()\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sort(noinline comparison: (a: Long, b: Long) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sort(noinline comparison: (a: Double, b: Double) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n   asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit {\n   if (size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n * Sorts a range in the array in-place with the given [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArrayWith(this, fromIndex, toIndex,

comparator)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun ByteArray.toTypedArray(): Array<Byte> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun ShortArray.toTypedArray(): Array<Short> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun IntArray.toTypedArray(): Array<Int> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun LongArray.toTypedArray(): Array<Long> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun FloatArray.toTypedArray(): Array<Float> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun DoubleArray.toTypedArray(): Array<Double> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun BooleanArray.toTypedArray(): Array<Boolean> {\n   return js(\"[]\").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\npublic actual fun CharArray.toTypedArray(): Array<Char> {\n   return Array(size) { index -> this[index] }\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n@file:kotlin.jvm.JvmName(\"ComparisonsKt\")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin.comparisons\n\n/**\n * Compares two values using the specified functions [selectors] to calculate the result of the comparison.\n * The functions are called sequentially, receive the given values [a] and [b] and return [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do not\n * compare as equal, the result of that comparison is returned.\n *\n * @sample samples.comparisons.Comparisons.compareValuesByWithSelectors\n */\npublic fun <T> compareValuesBy(a: T, b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n   require(selectors.size > 0)\n   return compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T> compareValuesByImpl(a: T, b: T, selectors: Array<out (T) -> Comparable<*>?>): Int {\n   for (fn in selectors) {\n   val v1 = fn(a)\n   val v2 = fn(b)\n   val diff = compareValues(v1, v2)\n   if (diff != 0) return diff\n   }\n   return 0\n}\n\n/**\n * Compares two values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return [Comparable] objects.\n * The result of comparison of these [Comparable] instances is returned.\n *\n * @sample samples.comparisons.Comparisons.compareValuesByWithSingleSelector\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) -> Comparable<*>?): Int {\n   return compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the given values [a] and [b] and return objects of type K which are then being\n * compared with the given [comparator].\n *\n * @sample samples.comparisons.Comparisons.compareValuesByWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in K>, selector: (T) -> K): Int {\n   return comparator.compare(selector(a), selector(b))\n}\n\n//// Not so useful without type inference for receiver of expression\n//// compareValuesWith(v1, v2, compareBy { it.prop1 } thenByDescending { it.prop2 })\n///**\n// * Compares two values using the specified [comparator].\n// */\n//@Suppress(\"NOTHING_TO_INLINE\")\n//public inline fun <T> compareValuesWith(a: T, b: T, comparator: Comparator<T>): Int = comparator.compare(a, b)\n//\n\n\n/**\n * Compares two nullable [Comparable] values. Null is considered less than any value.\n *\n * @sample samples.comparisons.Comparisons.compareValues\n */\npublic fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int {\n   if (a === b) return 0\n   if (a == null) return -1\n   if (b == null) return 1\n\n   @Suppress(\"UNCHECKED_CAST\")\n   return (a as Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do

not\n * compare as equal, the result of that comparison is returned from the [Comparator].\n *\n * @sample samples.comparisons.Comparisons.compareByWithSelectors\n */\npublic fun <T> compareBy(vararg selectors: (T) -> Comparable<*>?): Comparator<T> {\n   require(selectors.size > 0)\n   return Comparator { a, b -> compareValuesByImpl(a, b, selectors) }\n}\n\n\n/**\n * Creates a comparator using the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample samples.comparisons.Comparisons.compareByWithSingleSelector\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n   Comparator { a, b -> compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator using the [selector] function to transform values being compared and then applying\n * the specified [comparator] to compare transformed values.\n *\n * @sample samples.comparisons.Comparisons.compareByWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }\n\n/**\n * Creates a descending comparator using the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n   Comparator { a, b -> compareValuesBy(b, a, selector) }\n\n/**\n * Creates a descending comparator using the [selector] function to transform values being compared and then applying\n * the specified [comparator] to compare transformed values.\n *\n * Note that an order of [comparator] is reversed by this wrapper.\n *\n * @sample samples.comparisons.Comparisons.compareByDescendingWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareByDescending(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n   Comparator { a, b -> compareValuesBy(b, a, comparator, selector) }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It uses\n * the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample samples.comparisons.Comparisons.thenBy\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Comparator<T>.thenBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n   Comparator { a, b ->\n   val previousCompare = this@thenBy.compare(a, b)\n   if (previousCompare != 0) previousCompare else compareValuesBy(a, b, selector)\n   }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It uses\n * the [selector] function to transform values and then compares them with the given [comparator].\n *\n * @sample samples.comparisons.Comparisons.thenByWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> Comparator<T>.thenBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n   Comparator { a, b ->\n   val previousCompare = this@thenBy.compare(a, b)\n   if (previousCompare != 0) previousCompare else compareValuesBy(a, b, comparator, selector)\n   }\n\n/**\n * Creates a descending comparator using the primary comparator and\n * the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample samples.comparisons.Comparisons.thenByDescending\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Comparator<T>.thenByDescending(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n Comparator { a, b ->\n   val previousCompare = this@thenByDescending.compare(a, b)\n   if (previousCompare != 0) previousCompare else compareValuesBy(b, a, selector)\n   }\n\n/**\n * Creates a descending comparator comparing values after the primary comparator defined them equal. It uses\n * the [selector] function to transform values and then compares them with the given [comparator].\n *\n * @sample samples.comparisons.Comparisons.thenByDescendingWithComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> Comparator<T>.thenByDescending(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n   Comparator { a, b ->\n   val previousCompare = this@thenByDescending.compare(a, b)\n   if (previousCompare != 0) previousCompare else compareValuesBy(b, a, comparator, selector)\n   }\n\n\n/**\n * Creates a comparator using the primary comparator and function to calculate a result of comparison.\n *\n * @sample samples.comparisons.Comparisons.thenComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Comparator<T>.thenComparator(crossinline comparison: (a: T, b: T) -> Int): Comparator<T> =\n

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Comparator { a, b ->\n        val previousCompare = this@thenComparator.compare(a, b)\n        if (previousCompare != 0) previousCompare else comparison(a, b)\n    }\n\n/**\n * Combines this comparator and the given [comparator] such that the latter is applied only\n * when the former considered values equal.\n *\n * @sample samples.comparisons.Comparisons.then\n */\npublic infix fun <T> Comparator<T>.then(comparator: Comparator<in T>): Comparator<T> =\n    Comparator { a, b ->\n        val previousCompare = this@then.compare(a, b)\n        if (previousCompare != 0) previousCompare else comparator.compare(a, b)\n    }\n\n/**\n * Combines this comparator and the given [comparator] such that the latter is applied only\n * when the former considered values equal.\n *\n * @sample samples.comparisons.Comparisons.thenDescending\n */\npublic infix fun <T> Comparator<T>.thenDescending(comparator: Comparator<in T>): Comparator<T> =\n    Comparator<T> { a, b ->\n        val previousCompare = this@thenDescending.compare(a, b)\n        if (previousCompare != 0) previousCompare else comparator.compare(b, a)\n    }\n\n// Not so useful without type inference for receiver of expression\n/**\n * Extends the given [comparator] of non-nullable values to a comparator of nullable values\n * considering `null` value less than any other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n */\npublic fun <T : Any> nullsFirst(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a === b -> 0\n            a == null -> -1\n            b == null -> 1\n            else -> comparator.compare(a, b)\n        }\n    }\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value less than any other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsFirst(): Comparator<T?> = nullsFirst(naturalOrder())\n\n/**\n * Extends the given [comparator] of non-nullable values to a comparator of nullable values\n * considering `null` value greater than any other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n */\npublic fun <T : Any> nullsLast(comparator: Comparator<in T>): Comparator<T?> =\n    Comparator { a, b ->\n        when {\n            a === b -> 0\n            a == null -> 1\n            b == null -> -1\n            else -> comparator.compare(a, b)\n        }\n    }\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value greater than any other value.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> = nullsLast(naturalOrder())\n\n/**\n * Returns a comparator that compares [Comparable] objects in natural order.\n *\n * @sample samples.comparisons.Comparisons.naturalOrderComparator\n */\npublic fun <T : Comparable<T>> naturalOrder(): Comparator<T> = @Suppress(\"UNCHECKED_CAST\") (NaturalOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that compares [Comparable] objects in reversed natural order.\n *\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n */\npublic fun <T : Comparable<T>> reverseOrder(): Comparator<T> = @Suppress(\"UNCHECKED_CAST\") (ReverseOrderComparator as Comparator<T>)\n\n/**\n *  Returns a comparator that imposes the reverse ordering of this comparator.\n *\n *  @sample samples.comparisons.Comparisons.reversed\n */\npublic fun <T> Comparator<T>.reversed(): Comparator<T> = when (this) {\n    is ReversedComparator -> this.comparator\n    NaturalOrderComparator -> @Suppress(\"UNCHECKED_CAST\") (ReverseOrderComparator as Comparator<T>)\n    ReverseOrderComparator -> @Suppress(\"UNCHECKED_CAST\") (NaturalOrderComparator as Comparator<T>)\n    else -> ReversedComparator(this)\n}\n\n\nprivate class ReversedComparator<T>(public val comparator: Comparator<T>) : Comparator<T> {\n    override fun compare(a: T, b: T): Int = comparator.compare(b, a)\n    @Suppress(\"VIRTUAL_MEMBER_HIDDEN\")\n    fun reversed(): Comparator<T> = comparator\n}\n\nprivate object NaturalOrderComparator : Comparator<Comparable<Any>> {\n  override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n    @Suppress(\"VIRTUAL_MEMBER_HIDDEN\")\n    fun reversed(): Comparator<Comparable<Any>> = ReverseOrderComparator\n}\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n  override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n    @Suppress(\"VIRTUAL_MEMBER_HIDDEN\")\n    fun reversed(): Comparator<Comparable<Any>> = NaturalOrderComparator\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language
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contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StandardKt\")\npackage kotlin\n\nimport kotlin.contracts.*\n\n/**\n * An exception is thrown to indicate that a method body remains to be implemented.\n */\npublic class NotImplementedError(message: String = \"An operation is not implemented.\") : Error(message)\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n *\n * @param reason a string explaining why the implementation is missing.\n */\n@kotlin.internal.InlineOnly\npublic inline fun TODO(reason: String): Nothing = throw NotImplementedError(\"An operation is not implemented: $reason\")\n\n\n\n/**\n * Calls the specified function [block] and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <R> run(block: () -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return block()\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#run).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return block()\n}\n\n/**\n * Calls the specified function [block] with the given [receiver] as its receiver and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#with).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return receiver.block()\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns `this` value.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#apply).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n block()\n return this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns `this` value.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#also).\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin(\"1.1\")\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n block(this)\n return this\n}\n\n/**\n * Calls the specified function [block] with `this` value as its argument and returns its result.\n *\n * For detailed usage information see the documentation for [scope functions](https://kotlinlang.org/docs/reference/scope-functions.html#let).\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.let(block: (T) -> R): R {\n contract {\n callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n }\n return block(this)\n}\n\n/**\n * Returns `this` value if it satisfies the given [predicate] or `null`, if it doesn't.\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin(\"1.1\")\npublic inline fun <T> T.takeIf(predicate: (T) -> Boolean): T? {\n contract {\n callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n }\n return if (predicate(this)) this else null\n}\n\n/**\n * Returns `this` value if it _does not_ satisfy the given [predicate] or `null`, if it does.\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin(\"1.1\")\npublic inline fun <T> T.takeUnless(predicate: (T) -> Boolean): T? {\n contract {\n callsInPlace(predicate, InvocationKind.EXACTLY_ONCE)\n }\n return if (!predicate(this)) this else null\n}\n\n/**\n * Executes the given function [action] specified number of [times].\n *\n * A zero-based index of current iteration is passed as a parameter to [action].\n *\n * @sample samples.misc.ControlFlow.repeat\n */\n@kotlin.internal.InlineOnly\npublic inline fun repeat(times: Int, action: (Int) -> Unit) {\n contract { callsInPlace(action) }\n\n for (index in 0 until times) {\n action(index)\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

/\n\npackage kotlin.comparisons\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.js.\n\n/**\n * Returns the greater of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T): T {\n   return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Byte, b: Byte): Byte {\n   return Math.max(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Short, b: Short): Short {\n   return Math.max(a.toInt(), b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Int, b: Int): Int {\n   return Math.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@Suppress(\"DEPRECATION_ERROR\", \"NOTHING_TO_INLINE\")\npublic actual inline fun maxOf(a: Long, b: Long): Long {\n   return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Float, b: Float): Float {\n   return Math.max(a, b)\n}\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Double, b: Double): Double {\n   return Math.max(a, b)\n}\n\n/**\n * Returns the greater of three values.\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic actual fun <T : Comparable<T>> maxOf(a: T, b: T, c: T): T {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte {\n   return Math.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Short, b: Short, c: Short): Short {\n   return Math.max(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Int, b: Int, c: Int): Int {\n   return Math.max(a, b, c)\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic actual inline fun maxOf(a: Long, b: Long, c: Long): Long {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Float, b: Float, c: Float): Float {\n   return Math.max(a, b, c)\n}\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun maxOf(a: Double, b: Double, c: Double): Double {\n   return Math.max(a, b, c)\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun <T : Comparable<T>> maxOf(a: T, vararg other: T): T {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Byte, vararg other: Byte): Byte {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Short, vararg other: Short): Short {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Int, vararg other: Int): Int {\n   var max = a\n   for (e in

other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Long, vararg other: Long): Long {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Float, vararg other: Float): Float {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun maxOf(a: Double, vararg other: Double): Double {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic actual fun <T : Comparable<T>> minOf(a: T, b: T): T {\n   return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Byte, b: Byte): Byte {\n   return Math.min(a.toInt(), b.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Short, b: Short): Short {\n   return Math.min(a.toInt(), b.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Int, b: Int): Int {\n   return Math.min(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@Suppress(\"DEPRECATION_ERROR\", \"NOTHING_TO_INLINE\")\npublic actual inline fun minOf(a: Long, b: Long): Long {\n   return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Float, b: Float): Float {\n   return Math.min(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Double, b: Double): Double {\n   return Math.min(a, b)\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {\n   return Math.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Byte>()\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Short, b: Short, c: Short): Short {\n   return Math.min(a.toInt(), b.toInt(), c.toInt()).unsafeCast<Short>()\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Int, b: Int, c: Int): Int {\n   return Math.min(a, b, c)\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic actual inline fun minOf(a: Long, b: Long, c: Long): Long {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Float, b: Float, c: Float): Float {\n   return Math.min(a, b, c)\n}\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\n@Suppress(\"DEPRECATION_ERROR\")\npublic actual inline fun minOf(a: Double, b: Double, c: Double): Double {\n   return Math.min(a, b, c)\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun <T : Comparable<T>> minOf(a: T, vararg other: T): T {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n

*/\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Byte, vararg other: Byte): Byte {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Short, vararg other: Short): Short {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Int, vararg other: Int): Int {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Long, vararg other: Long): Long {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Float, vararg other: Float): Float {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun minOf(a: Double, vararg other: Double): Double {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\nimport kotlin.experimental.*\n\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class ULong @PublishedApi internal constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {\n\n   companion object {\n   /**\n   * A constant holding the minimum value an instance of ULong can have.\n   */\n   public const val MIN_VALUE: ULong = ULong(0)\n\n   /**\n   * A constant holding the maximum value an instance of ULong can have.\n   */\n   public const val MAX_VALUE: ULong = ULong(-1)\n\n   /**\n   * The number of bytes used to represent an instance of ULong in a binary form.\n   */\n   public const val SIZE_BYTES: Int = 8\n\n   /**\n   * The number of bits used to represent an instance of ULong in a binary form.\n   */\n   public const val SIZE_BITS: Int = 64\n   }\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toULong())\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toULong())\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   public inline operator fun compareTo(other: UInt): Int = this.compareTo(other.toULong())\n\n   /**\n   * Compares this value with the specified value for order.\n   * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n   * or a positive number if it's greater than other.\n   */\n   @kotlin.internal.InlineOnly\n   @Suppress(\"OVERRIDE_BY_INLINE\")\n   public override inline operator fun compareTo(other: ULong): Int = ulongCompare(this.data, other.data)\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UByte): ULong = this.plus(other.toULong())\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UShort): ULong = this.plus(other.toULong())\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: UInt): ULong = this.plus(other.toULong())\n\n   /** Adds the other value to this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun plus(other: ULong): ULong = ULong(this.data.plus(other.data))\n\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UByte): ULong = this.minus(other.toULong())\n\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())\n\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun minus(other: UInt): ULong =

this.minus(other.toULong())\n   /** Subtracts the other value from this value. */\n   @kotlin.internal.InlineOnly\n public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))\n\n   /** Multiplies this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun times(other: UByte): ULong = this.times(other.toULong())\n   /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun times(other: UShort): ULong = this.times(other.toULong())\n   /** Multiplies this value by the other value. */\n   @kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): ULong = this.times(other.toULong())\n   /** Multiplies this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun times(other: ULong): ULong = ULong(this.data.times(other.data))\n\n   /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun div(other: UByte): ULong = this.div(other.toULong())\n /** Divides this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun div(other: UShort): ULong = this.div(other.toULong())\n   /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun div(other: UInt): ULong = this.div(other.toULong())\n /** Divides this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun div(other: ULong): ULong = ulongDivide(this, other)\n\n   /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UByte): ULong = this.rem(other.toULong())\n   /** Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UShort): ULong = this.rem(other.toULong())\n /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: UInt): ULong = this.rem(other.toULong())\n   /** Calculates the remainder of dividing this value by the other value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rem(other: ULong): ULong = ulongRemainder(this, other)\n\n   /** Increments this value. */\n   @kotlin.internal.InlineOnly\n public inline operator fun inc(): ULong = ULong(data.inc())\n   /** Decrements this value. */\n @kotlin.internal.InlineOnly\n   public inline operator fun dec(): ULong = ULong(data.dec())\n\n   /** Creates a range from this value to the specified [other] value. */\n   @kotlin.internal.InlineOnly\n   public inline operator fun rangeTo(other: ULong): ULongRange = ULongRange(this, other)\n\n   /** Shifts this value left by the [bitCount] number of bits. */\n   @kotlin.internal.InlineOnly\n   public inline infix fun shl(bitCount: Int): ULong = ULong(data shl bitCount)\n   /** Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros. */\n   @kotlin.internal.InlineOnly\n   public inline infix fun shr(bitCount: Int): ULong = ULong(data ushr bitCount)\n   /** Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n   public inline infix fun and(other: ULong): ULong = ULong(this.data and other.data)\n   /** Performs a bitwise OR operation between the two values. */\n   @kotlin.internal.InlineOnly\n public inline infix fun or(other: ULong): ULong = ULong(this.data or other.data)\n   /** Performs a bitwise XOR operation between the two values. */\n   @kotlin.internal.InlineOnly\n   public inline infix fun xor(other: ULong): ULong = ULong(this.data xor other.data)\n   /** Inverts the bits in this value. */\n   @kotlin.internal.InlineOnly\n public inline fun inv(): ULong = ULong(data.inv())\n\n   /**\n   * Converts this [ULong] value to [Byte].\n   *\n   * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n   * the same numerical value as this `ULong`.\n   *\n   * The resulting `Byte` value is represented by the least significant 8 bits of this `ULong` value.\n   * Note that the resulting `Byte` value may be negative.\n   */\n @kotlin.internal.InlineOnly\n   public inline fun toByte(): Byte = data.toByte()\n   /**\n   * Converts this [ULong] value to [Short].\n   *\n   * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n   * the same numerical value as this `ULong`.\n   *\n   * The resulting `Short` value is represented by the least significant 16 bits of this `ULong` value.\n   * Note that the resulting `Short` value may be negative.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toShort(): Short = data.toShort()\n   /**\n   * Converts this [ULong] value to [Int].\n   *\n   * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int` value represents\n   * the same numerical value as this `ULong`.\n   *\n   * The resulting `Int` value is represented by the least significant 32 bits of this `ULong` value.\n   * Note that the resulting `Int` value may be negative.\n   */\n   @kotlin.internal.InlineOnly\n   public inline fun toInt(): Int = data.toInt()\n   /**\n   *

Converts this [ULong] value to [Long].\n *\n * If this value is less than or equals to [Long.MAX_VALUE], the resulting `Long` value represents\n * the same numerical value as this `ULong`. Otherwise the result is negative.\n *\n * The resulting `Long` value has the same binary representation as this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data\n\n /**\n * Converts this [ULong] value to [UByte].\n *\n * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same numerical value as this `ULong`.\n *\n * The resulting `UByte` value is represented by the least significant 8 bits of this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n /**\n * Converts this [ULong] value to [UShort].\n *\n * If this value is less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same numerical value as this `ULong`.\n *\n * The resulting `UShort` value is represented by the least significant 16 bits of this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = data.toUShort()\n /**\n * Converts this [ULong] value to [UInt].\n *\n * If this value is less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n * the same numerical value as this `ULong`.\n *\n * The resulting `UInt` value is represented by the least significant 32 bits of this `ULong` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = data.toUInt()\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = this\n\n /**\n * Converts this [ULong] value to [Float].\n *\n * The resulting value is the closest `Float` to this `ULong` value.\n * In case when this `ULong` value is exactly between two `Float`s,\n * the one with zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toDouble().toFloat()\n /**\n * Converts this [ULong] value to [Double].\n *\n * The resulting value is the closest `Double` to this `ULong` value.\n * In case when this `ULong` value is exactly between two `Double`s,\n * the one with zero at least significant bit of mantissa is selected.\n */\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double = ulongToDouble(data)\n\n public override fun toString(): String = ulongToString(data)\n\n}\n\n/**\n * Converts this [Byte] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Byte`.\n *\n * The least significant 8 bits of the resulting `ULong` value are the same as the bits of this `Byte` value,\n * whereas the most significant 56 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Byte.toULong(): ULong = ULong(this.toLong())\n/**\n * Converts this [Short] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Short`.\n *\n * The least significant 16 bits of the resulting `ULong` value are the same as the bits of this `Short` value,\n * whereas the most significant 48 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Short.toULong(): ULong = ULong(this.toLong())\n/**\n * Converts this [Int] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Int`.\n *\n * The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `Int` value,\n * whereas the most significant 32 bits are filled with the sign bit of this value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Int.toULong(): ULong = ULong(this.toLong())\n/**\n * Converts this [Long] value to [ULong].\n *\n * If this value is positive, the resulting `ULong` value represents the same numerical value as this `Long`.\n *\n * The resulting `ULong` value has the same binary representation as this `Long` value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Long.toULong(): ULong = ULong(this)\n\n/**\n * Converts this [Float] value to [ULong].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Float` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Float.toULong(): ULong = doubleToULong(this.toDouble())\n/**\n * Converts this [Double] value to [ULong].\n *\n * The fractional part, if any, is rounded down towards zero.\n * Returns zero if this `Double` value is negative or `NaN`, [ULong.MAX_VALUE] if it's bigger than `ULong.MAX_VALUE`.\n

/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun Double.toULong(): ULong = doubleToULong(this)\n","/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 1.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component1(): T {\n   return get(0)\n}\n\n/**\n * Returns 2nd *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 2.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component2(): T {\n   return get(1)\n}\n\n/**\n * Returns 3rd *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 3.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component3(): T {\n   return get(2)\n}\n\n/**\n * Returns 4th *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 4.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component4(): T {\n   return get(3)\n}\n\n/**\n * Returns 5th *element* from the list.\n * \n * Throws an [IndexOutOfBoundsException] if the size of this list is less than 5.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component5(): T {\n   return get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the collection.\n */\npublic operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T): Boolean {\n   if (this is Collection)\n   return contains(element)\n   return indexOf(element) >= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic fun <T> Iterable<T>.elementAt(index: Int): T {\n   if (this is List)\n   return get(index)\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"Collection doesn't contain element at index $index.\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAt(index: Int): T {\n   return get(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\npublic fun <T> Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n   if (this is List)\n   return this.getOrElse(index, defaultValue)\n   if (index < 0)\n   return defaultValue(index)\n   val iterator = iterator()\n   var count = 0\n   while (iterator.hasNext()) {\n   val element = iterator.next()\n   if (index == count++)\n   return element\n   }\n   return defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\npublic fun <T> Iterable<T>.elementAtOrNull(index: Int): T? {\n   if (this is List)\n   return this.getOrNull(index)\n   if (index < 0)\n   return null\n   val iterator = iterator()\n   var count = 0\n   while (iterator.hasNext()) {\n   val element = iterator.next()\n   if (index == count++)\n   return element\n   }\n   return null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAtOrNull(index: Int): T? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns the first

element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find(predicate: (T) -> Boolean): T? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.findLast(predicate: (T) -> Boolean): T? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.findLast(predicate: (T) -> Boolean): T? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the collection is empty.\n */\npublic fun <T> Iterable<T>.first(): T {\n when (this) {\n is List -> return this.first()\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException(\"Collection is empty.\")\n return iterator.next()\n }\n }\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the list is empty.\n */\npublic fun <T> List<T>.first(): T {\n if (isEmpty())\n throw NoSuchElementException(\"List is empty.\")\n return this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Iterable<T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException(\"Collection contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element, or `null` if the collection is empty.\n */\npublic fun <T> Iterable<T>.firstOrNull(): T? {\n when (this) {\n is List -> {\n if (isEmpty())\n return null\n else\n return this[0]\n }\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n return iterator.next()\n }\n }\n}\n\n/**\n * Returns the first element, or `null` if the list is empty.\n */\npublic fun <T> List<T>.firstOrNull(): T? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.getOrElse(index: Int, defaultValue: (Int) -> T): T {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun <T> List<T>.getOrNull(index: Int): T? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the collection does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {\n if (this is List) return this.indexOf(element)\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the list does not contain element.\n */\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\") // false warning, extension takes precedence in some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.indexOf(element: T): Int {\n return indexOf(element)\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the collection does not contain such element.\n */\npublic inline fun <T> Iterable<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the list does not contain such element.\n */\npublic inline fun <T> List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n var index = 0\n for (item in this) {\n if (predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the collection does not contain such element.\n */\npublic inline fun <T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns index of the last element matching

the given [predicate], or -1 if the list does not contain such element.\n */\npublic inline fun <T> List<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n val iterator = this.listIterator(size)\n while (iterator.hasPrevious()) {\n if (predicate(iterator.previous())) {\n return iterator.nextIndex()\n }\n }\n return -1\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the collection is empty.\n */\npublic fun <T> Iterable<T>.last(): T {\n when (this) {\n is List -> return this.last()\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException(\"Collection is empty.\")\n var last = iterator.next()\n while (iterator.hasNext())\n last = iterator.next()\n return last\n }\n }\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the list is empty.\n */\npublic fun <T> List<T>.last(): T {\n if (isEmpty())\n throw NoSuchElementException(\"List is empty.\")\n return this[lastIndex]\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> Iterable<T>.last(predicate: (T) -> Boolean): T {\n var last: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n last = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Collection contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return last as T\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun <T> List<T>.last(predicate: (T) -> Boolean): T {\n val iterator = this.listIterator(size)\n while (iterator.hasPrevious()) {\n val element = iterator.previous()\n if (predicate(element)) return element\n }\n throw NoSuchElementException(\"List contains no element matching the predicate.\")\n}\n\n/**\n * Returns last index of [element], or -1 if the collection does not contain element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {\n if (this is List) return this.lastIndexOf(element)\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns last index of [element], or -1 if the list does not contain element.\n */\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\") // false warning, extension takes precedence in some cases\npublic fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {\n return lastIndexOf(element)\n}\n\n/**\n * Returns the last element, or `null` if the collection is empty.\n */\npublic fun <T> Iterable<T>.lastOrNull(): T? {\n when (this) {\n is List -> return if (isEmpty()) null else this[size - 1]\n else -> {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n var last = iterator.next()\n while (iterator.hasNext())\n last = iterator.next()\n return last\n }\n }\n}\n\n/**\n * Returns the last element, or `null` if the list is empty.\n */\npublic fun <T> List<T>.lastOrNull(): T? {\n return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun <T> Iterable<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n var last: T? = null\n for (element in this) {\n if (predicate(element)) {\n last = element\n }\n }\n return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n */\npublic inline fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n val iterator = this.listIterator(size)\n while (iterator.hasPrevious()) {\n val element = iterator.previous()\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a random element from this collection.\n * \n * @throws NoSuchElementException if this collection is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.random(): T {\n return random(Random)\n}\n\n/**\n * Returns a random element from this collection using the specified source of randomness.\n * \n * @throws NoSuchElementException if this collection is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> Collection<T>.random(random: Random): T {\n if (isEmpty())\n throw NoSuchElementException(\"Collection is empty.\")\n return elementAt(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this collection, or `null` if this collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.randomOrNull(): T? {\n return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this collection using the specified source of randomness, or `null` if this collection is empty.\n

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*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> Collection<T>.randomOrNull(random: Random): T? {\n    if (isEmpty())\n        return null\n    return elementAt(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the collection is empty or has more than one element.\n */\npublic fun <T> Iterable<T>.single(): T {\n    when (this) {\n        is List -> return this.single()\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                throw NoSuchElementException(\"Collection is empty.\")\n            val single = iterator.next()\n            if (iterator.hasNext())\n                throw IllegalArgumentException(\"Collection has more than one element.\")\n            return single\n        }\n    }\n}\n\n/**\n * Returns the single element, or throws an exception if the list is empty or has more than one element.\n */\npublic fun <T> List<T>.single(): T {\n    return when (size) {\n        0 -> throw NoSuchElementException(\"List is empty.\")\n        1 -> this[0]\n        else -> throw IllegalArgumentException(\"List has more than one element.\")\n    }\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\npublic inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException(\"Collection contains more than one matching element.\")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException(\"Collection contains no element matching the predicate.\")\n    @Suppress(\"UNCHECKED_CAST\")\n    return single as T\n}\n\n/**\n * Returns single element, or `null` if the collection is empty or has more than one element.\n */\npublic fun <T> Iterable<T>.singleOrNull(): T? {\n    when (this) {\n        is List -> return if (size == 1) this[0] else null\n        else -> {\n            val iterator = iterator()\n            if (!iterator.hasNext())\n                return null\n            val single = iterator.next()\n            if (iterator.hasNext())\n                return null\n            return single\n        }\n    }\n}\n\n/**\n * Returns single element, or `null` if the list is empty or has more than one element.\n */\npublic fun <T> List<T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic inline fun <T> Iterable<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Iterable<T>.drop(n: Int): List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return toList()\n    val list: ArrayList<T>\n    if (this is Collection<*>) {\n        val resultSize = size - n\n        if (resultSize <= 0)\n            return emptyList()\n        if (resultSize == 1)\n            return listOf(last())\n        list = ArrayList<T>(resultSize)\n        if (this is List<T>) {\n            if (this is RandomAccess) {\n                for (index in n until size)\n                    list.add(this[index])\n            } else {\n                for (item in listIterator(n))\n                    list.add(item)\n            }\n            return list\n        }\n    }\n    else {\n        list = ArrayList<T>()\n    }\n    var count = 0\n    for (item in this) {\n        if (count >= n) list.add(item) else ++count\n    }\n    return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> List<T>.dropLast(n: Int): List<T> {\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n    if (!isEmpty()) {\n        val iterator = listIterator(size)\n        while (iterator.hasPrevious()) {\n            if (!predicate(iterator.previous())) {\n                return take(iterator.nextIndex() + 1)\n            }\n        }\n    }\n    return emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun <T> Iterable<T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n    var yielding = false\n    val list = ArrayList<T>()\n    for (item in this)\n        if (yielding)\n            list.add(item)\n        else if (!predicate(item)) {\n            list.add(item)\n            yielding = true\n
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}\n   return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filter(predicate: (T) -> Boolean): List<T> {\n   return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun <T> Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {\n   return filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a list containing all elements that are instances of specified type parameter R.\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstance\n */\npublic inline fun <reified R> Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {\n   return filterIsInstanceTo(ArrayList<R>())\n}\n\n/**\n * Appends all elements that are instances of specified type parameter R to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C {\n   for (element in this) if (element is R) destination.add(element)\n   return destination\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic inline fun <T> Iterable<T>.filterNot(predicate: (T) -> Boolean): List<T> {\n   return filterNotTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing all elements that are not `null`.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Iterable<T?>.filterNotNull(): List<T> {\n   return filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C : MutableCollection<in T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {\n   for (element in this) if (element != null) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n   for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n   for (element in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic fun <T> List<T>.slice(indices: IntRange): List<T> {\n   if (indices.isEmpty()) return listOf()\n   return this.subList(indices.start, indices.endInclusive + 1).toList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun <T> List<T>.slice(indices: Iterable<Int>): List<T> {\n   val size = indices.collectionSizeOrDefault(10)\n   if (size == 0) return emptyList()\n   val list = ArrayList<T>(size)\n   for (index in indices) {\n   list.add(get(index))\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Iterable<T>.take(n: Int): List<T> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (this is Collection<T>) {\n   if (n >= size) return toList()\n   if (n == 1) return listOf(first())\n   }\n   var count = 0\n   val list = ArrayList<T>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list.optimizeReadOnlyList()\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample

samples.collections.Collections.Transformations.take\n */\npublic fun <T> List<T>.takeLast(n: Int): List<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(last())\n val list = ArrayList<T>(n)\n if (this is RandomAccess) {\n for (index in size - n until size)\n list.add(this[index])\n } else {\n for (item in listIterator(size - n))\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> List<T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n if (isEmpty())\n return emptyList()\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) {\n if (!predicate(iterator.previous())) {\n iterator.next()\n val expectedSize = size - iterator.nextIndex()\n if (expectedSize == 0) return emptyList()\n return ArrayList<T>(expectedSize).apply {\n while (iterator.hasNext())\n add(iterator.next())\n }\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Iterable<T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n val list = ArrayList<T>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Reverses elements in the list in-place.\n */\npublic expect fun <T> MutableList<T>.reverse(): Unit\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun <T> Iterable<T>.reversed(): List<T> {\n if (this is Collection && size <= 1) return toList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Randomly shuffles elements in this list in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n this[j] = this.set(i, this[j])\n }\n}\n\n/**\n * Sorts elements in the list in-place according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> MutableList<T>.sortBy(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortWith(compareBy(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> MutableList<T>.sortByDescending(crossinline selector: (T) -> R?): Unit {\n if (size > 1) sortWith(compareByDescending(selector))\n}\n\n/**\n * Sorts elements in the list in-place descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> MutableList<T>.sortDescending(): Unit {\n sortWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sorted(): List<T> {\n if (this is Collection) {\n if (size <= 1) return this.toList()\n @Suppress(\"UNCHECKED_CAST\")\n return (toTypedArray<Comparable<T>>() as Array<T>).apply { sort() }.asList()\n }\n return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R : Comparable<R>> Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>

{\n   return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n   if (this is Collection) {\n   if (size <= 1) return this.toList()\n   @Suppress(\"UNCHECKED_CAST\")\n   return (toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n   }\n   return toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n   val result = BooleanArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun Collection<Byte>.toByteArray(): ByteArray {\n   val result = ByteArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Char containing all of the elements of this collection.\n */\npublic fun Collection<Char>.toCharArray(): CharArray {\n   val result = CharArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n */\npublic fun Collection<Double>.toDoubleArray(): DoubleArray {\n   val result = DoubleArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Float containing all of the elements of this collection.\n */\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n   val result = FloatArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n */\npublic fun Collection<Int>.toIntArray(): IntArray {\n   val result = IntArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Long containing all of the elements of this collection.\n */\npublic fun Collection<Long>.toLongArray(): LongArray {\n   val result = LongArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n */\npublic fun Collection<Short>.toShortArray(): ShortArray {\n   val result = ShortArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associate\n */\npublic inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given collection indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K> Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n   val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V> Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n   val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given collection\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by

[keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M : MutableMap<in K, in T>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given collection.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample samples.collections.Collections.Transformations.associateTo\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Returns a [Map] where keys are elements from the given collection and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <K, V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result = LinkedHashMap<K, V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given collection,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <K, V, M : MutableMap<in K, in V>> Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <T, C : MutableCollection<in T>> Iterable<T>.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n */\npublic fun <T> Iterable<T>.toHashSet(): HashSet<T> {\n return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun <T> Iterable<T>.toList(): List<T> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptyList()\n 1 -> listOf(if (this is List) get(0) else iterator().next())\n else -> this.toMutableList()\n }\n }\n return this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n if (this is Collection<T>)\n return this.toMutableList()\n return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n return ArrayList(this)\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(if (this is List) this[0] else iterator().next())\n else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n }\n }\n return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <T, R> Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(),

transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequence\")\npublic inline fun <T, R> Iterable<T>.flatMap(transform: (T) -> Sequence<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequence\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(checkIndexOverflow(index++), element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original collection, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequenceTo\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(checkIndexOverflow(index++), element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original collection, to the given [destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original collection, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequenceTo\")\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K> Iterable<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n   return

groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V> Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original collection by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K, M : MutableMap<in K, MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<T>() }\n   list.add(element)\n   }\n   return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original collection\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<V>() }\n   list.add(valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Creates a [Grouping] source from a collection to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K> Iterable<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n   return object : Grouping<T, K> {\n   override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n   override fun keyOf(element: T): K = keySelector(element)\n   }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic inline fun <T, R> Iterable<T>.map(transform: (T) -> R): List<R> {\n   return mapTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R> Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n   return mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each element and its index in the original collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any> Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n   return mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original collection\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n   forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n   return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original collection\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T, R, C :

MutableCollection<in R>> Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each element in the original collection.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <T, R : Any> Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each element in the original collection\n * and appends only the non-null results to the given [destination].\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Iterable<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original collection\n * and appends the results to the given [destination].\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original collection\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\npublic fun <T> Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a list containing only distinct elements from the given collection.\n * \n * Among equal elements of the given collection, only the first one will be present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source collection.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Iterable<T>.distinct(): List<T> {\n return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only elements from the given collection\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the given collection with equal keys, only the first one will be present in the resulting list.\n * The elements in the resulting list are in the same order as they were in the source collection.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic inline fun <T, K> Iterable<T>.distinctBy(selector: (T) -> K): List<T> {\n val set = HashSet<K>()\n val list = ArrayList<T>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this collection and the specified collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n * \n * To get a set containing all elements that are contained at least in one of these collections use [union].\n */\npublic infix fun <T> Iterable<T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by this collection and not contained by the specified collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic infix fun <T> Iterable<T>.subtract(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return set\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given collection.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {\n return when (this) {\n is Collection<T> -> LinkedHashSet(this)\n else -> toCollection(LinkedHashSet<T>())\n }\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the original collection.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n * \n * To get a set containing all elements that are contained in both collections use [intersect].\n */\npublic infix fun <T> Iterable<T>.union(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.addAll(other)\n return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T> Iterable<T>.all(predicate: (T) -> Boolean): Boolean {\n if (this is Collection && isEmpty()) return true\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if collection has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T> Iterable<T>.any(): Boolean {\n if (this is Collection) return !isEmpty()\n return iterator().hasNext()\n}\n\n/**\n

* Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T> Iterable<T>.any(predicate: (T) -> Boolean): Boolean {\n if (this is Collection && isEmpty()) return false\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns the number of elements in this collection.\n */\npublic fun <T> Iterable<T>.count(): Int {\n if (this is Collection) return size\n var count = 0\n for (element in this) checkCountOverflow(++count)\n return count\n}\n\n/**\n * Returns the number of elements in this collection.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.count(): Int {\n return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T> Iterable<T>.count(predicate: (T) -> Boolean): Int {\n if (this is Collection && isEmpty()) return 0\n var count = 0\n for (element in this) if (predicate(element)) checkCountOverflow(++count)\n return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns the specified [initial] value if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n var accumulator = initial\n if (!isEmpty()) {\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) {\n accumulator = operation(iterator.previous(), accumulator)\n }\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original list and current accumulator value.\n * \n * Returns the specified [initial] value if the list is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int, T, acc: R) -> R): R {\n var accumulator = initial\n if (!isEmpty()) {\n val iterator = listIterator(size)\n while (iterator.hasPrevious()) {\n val index = iterator.previousIndex()\n accumulator = operation(index, iterator.previous(), accumulator)\n }\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\n@kotlin.internal.HidesMembers\npublic inline fun <T> Iterable<T>.forEach(action: (T) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\npublic inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n var index = 0\n for (item in this) action(checkIndexOverflow(index++), item)\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Iterable<Double>.max(): Double? {\n return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Iterable<Float>.max(): Float? {\n return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Iterable<T>.max(): T? {\n return maxOrNull()\n}\n\n@Deprecated(\"Use maxByOrNull

instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R): T? {\n return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.maxByOrNull(selector: (T) -> R): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxElem = iterator.next()\n if (!iterator.hasNext()) return maxElem\n var maxValue = selector(maxElem)\n do {\n val e = iterator.next()\n val v = selector(e)\n if (maxValue < v) {\n maxElem = e\n maxValue = v\n }\n } while (iterator.hasNext())\n return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOf(selector: (T) -> Double): Double {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOf(selector: (T) -> Float): Float {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Iterable<T>.maxOf(selector: (T) -> R): R {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOfOrNull(selector: (T) -> Double): Double? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.maxOfOrNull(selector: (T) -> Float): Float? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var maxValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Iterable<T>.maxOfOrNull(selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the collection.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the collection or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Iterable<Double>.maxOrNull(): Double? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Iterable<Float>.maxOrNull(): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Iterable<T>.maxOrNull(): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   if (max < e) max = e\n   }\n   return max\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {\n   return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Iterable<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Iterable<Double>.min(): Double? {\n   return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Iterable<Float>.min(): Float? {\n   return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Iterable<T>.min(): T? {\n   return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic

inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R): T? {\n   return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minByOrNull(selector: (T) -> R): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minElem = iterator.next()\n   if (!iterator.hasNext()) return minElem\n   var minValue = selector(minElem)\n   do {\n   val e = iterator.next()\n   val v = selector(e)\n   if (minValue > v) {\n   minElem = e\n   minValue = v\n   }\n   } while (iterator.hasNext())\n   return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) -> Double): Double {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOf(selector: (T) -> Float): Float {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minOf(selector: (T) -> R): R {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T) -> Double): Double? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minOfOrNull(selector: (T) -> Float): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the collection or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minOfOrNull(selector: (T) -> R): R? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the collection.\n * \n * @throws NoSuchElementException if the collection is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the collection or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Iterable<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (comparator.compare(minValue, v) > 0) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Iterable<Double>.minOrNull(): Double? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic fun Iterable<Float>.minOrNull(): Float? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n min = minOf(min, e)\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Iterable<T>.minOrNull(): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (min > e) min = e\n }\n return min\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Iterable<T>.minWith(comparator: Comparator<in T>): T? {\n return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Iterable<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the collection has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Iterable<T>.none(): Boolean {\n if (this is Collection) return isEmpty()\n return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T> Iterable<T>.none(predicate: (T) -> Boolean): Boolean {\n if (this is Collection && isEmpty()) return true\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/**\n * Performs the given [action] on each element and returns the collection itself afterwards.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, C : Iterable<T>> C.onEach(action: (T) -> Unit): C {\n return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the collection itself afterwards.\n * @param [action] function that takes the index of an element and the

element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, C : Iterable<T>> C.onEachIndexed(action: (index: Int, T) -> Unit): C {\n return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this collection is empty. If the collection can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Iterable<T>.reduce(operation: (acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw UnsupportedOperationException(\"Empty collection can't be reduced.\")\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Throws an exception if this collection is empty. If the collection can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Iterable<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw UnsupportedOperationException(\"Empty collection can't be reduced.\")\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original collection.\n * \n * Returns `null` if the collection is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <S, T : S> Iterable<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return null\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the collection is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Iterable<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return null\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun <S, T : S> List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n val iterator = listIterator(size)\n if (!iterator.hasPrevious())\n throw UnsupportedOperationException(\"Empty list can't be reduced.\")\n var accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n accumulator = operation(iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with its index in the original list and current accumulator value.\n * \n * Throws an exception if this list is empty. If the list can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n

* @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun <S, T : S> List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n val iterator = listIterator(size)\n if (!iterator.hasPrevious())\n throw UnsupportedOperationException(\"Empty list can't be reduced.\")\n var accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n val index = iterator.previousIndex()\n accumulator = operation(index, iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element with its index in the original list and current accumulator value.\n * \n * Returns `null` if the list is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <S, T : S> List<T>.reduceRightIndexedOrNull(operation: (index: Int, T, acc: S) -> S): S? {\n val iterator = listIterator(size)\n if (!iterator.hasPrevious())\n return null\n var accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n val index = iterator.previousIndex()\n accumulator = operation(index, iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last element and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns `null` if the list is empty.\n * \n * @param [operation] function that takes an element and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> List<T>.reduceRightOrNull(operation: (T, acc: S) -> S): S? {\n val iterator = listIterator(size)\n if (!iterator.hasPrevious())\n return null\n var accumulator: S = iterator.previous()\n while (iterator.hasPrevious()) {\n accumulator = operation(iterator.previous(), accumulator)\n }\n return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R> Iterable<T>.runningFold(initial: R, operation: (acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R> Iterable<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n val estimatedSize = collectionSizeOrDefault(9)\n if (estimatedSize == 0) return listOf(initial)\n val result = ArrayList<R>(estimatedSize + 1).apply { add(initial) }\n var index = 0\n var accumulator = initial\n for (element in this) {\n accumulator = operation(index++, accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with the first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator

value and the element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S> Iterable<T>.runningReduce(operation: (acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with the first element of this collection.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <S, T : S> Iterable<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return emptyList()\n var accumulator: S = iterator.next()\n val result = ArrayList<S>(collectionSizeOrDefault(10)).apply { add(accumulator) }\n var index = 1\n while (iterator.hasNext()) {\n accumulator = operation(index++, accumulator, iterator.next())\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R> Iterable<T>.scan(initial: R, operation: (acc: R, T) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original collection and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <T, R> Iterable<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): List<R> {\n return runningFoldIndexed(initial, operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Iterable<T>.scanReduce(operation: (acc: S, T) -> S): List<S> {\n return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <S, T : S> Iterable<T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): List<S> {\n return runningReduceIndexed(operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\npublic inline fun <T> Iterable<T>.sumBy(selector: (T) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\npublic inline fun <T> Iterable<T>.sumByDouble(selector: (T) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> UInt): UInt {\n var sum: UInt = 0.toUInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.sumOf(selector: (T) -> ULong): ULong {\n var sum: ULong = 0.toULong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any> Iterable<T?>.requireNoNulls(): Iterable<T> {\n for (element in this) {\n if (element == null) {\n throw IllegalArgumentException(\"null element found in $this.\")\n }\n }\n @Suppress(\"UNCHECKED_CAST\")\n return this as Iterable<T>\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any> List<T?>.requireNoNulls(): List<T> {\n for (element in this) {\n if (element == null) {\n throw IllegalArgumentException(\"null element found in $this.\")\n }\n }\n @Suppress(\"UNCHECKED_CAST\")\n return this as List<T>\n}\n\n/**\n * Splits this collection into a list of lists each not exceeding the given [size].\n * \n * The last list in the resulting list may have less elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Iterable<T>.chunked(size: Int): List<List<T>> {\n return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this collection into several lists each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return list of results of the [transform] applied to an each list.\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last list may have less elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this collection.\n * \n * @sample samples.text.Strings.chunkedTransform\n */\n@SinceKotlin(\"1.2\")\npublic fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R> {\n return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a list containing all elements of the original collection without the first occurrence of the given [element].\n */\npublic operator fun <T> Iterable<T>.minus(element: T): List<T> {\n val result = ArrayList<T>(collectionSizeOrDefault(10))\n var removed = false\n return this.filterTo(result) { if (!removed

&& it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] array.\n * \n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Iterable<T>.minus(elements: Array<out T>): List<T> {\n if (elements.isEmpty()) return this.toList()\n val other = elements.toHashSet()\n return this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] collection.\n * \n * The [elements] collection may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Iterable<T>.minus(elements: Iterable<T>): List<T> {\n val other = elements.convertToSetForSetOperationWith(this)\n if (other.isEmpty())\n return this.toList()\n return this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection except the elements contained in the given [elements] sequence.\n * \n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Iterable<T>.minus(elements: Sequence<T>): List<T> {\n val other = elements.toHashSet()\n if (other.isEmpty())\n return this.toList()\n return this.filterNot { it in other }\n}\n\n/**\n * Returns a list containing all elements of the original collection without the first occurrence of the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.minusElement(element: T): List<T> {\n return minus(element)\n}\n\n/**\n * Splits the original collection into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * @sample samples.collections.Iterables.Operations.partition\n */\npublic inline fun <T> Iterable<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first = ArrayList<T>()\n val second = ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Returns a list containing all elements of the original collection and then the given [element].\n */\npublic operator fun <T> Iterable<T>.plus(element: T): List<T> {\n if (this is Collection) return this.plus(element)\n val result = ArrayList<T>()\n result.addAll(this)\n result.add(element)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then the given [element].\n */\npublic operator fun <T> Collection<T>.plus(element: T): List<T> {\n val result = ArrayList<T>(size + 1)\n result.addAll(this)\n result.add(element)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given [elements] array.\n */\npublic operator fun <T> Iterable<T>.plus(elements: Array<out T>): List<T> {\n if (this is Collection) return this.plus(elements)\n val result = ArrayList<T>()\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given [elements] array.\n */\npublic operator fun <T> Collection<T>.plus(elements: Array<out T>): List<T> {\n val result = ArrayList<T>(this.size + elements.size)\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given [elements] collection.\n */\npublic operator fun <T> Iterable<T>.plus(elements: Iterable<T>): List<T> {\n if (this is Collection) return this.plus(elements)\n val result = ArrayList<T>()\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given [elements] collection.\n */\npublic operator fun <T> Collection<T>.plus(elements: Iterable<T>): List<T> {\n if (elements is Collection) {\n val result = ArrayList<T>(this.size + elements.size)\n result.addAll(this)\n result.addAll(elements)\n return result\n } else {\n val result = ArrayList<T>(this)\n result.addAll(elements)\n return result\n }\n}\n\n/**\n * Returns a list containing all elements of the original collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T> Iterable<T>.plus(elements: Sequence<T>): List<T> {\n val result = ArrayList<T>()\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original

collection and then all elements of the given [elements] sequence.\n */\npublic operator fun <T> Collection<T>.plus(elements: Sequence<T>): List<T> {\n val result = ArrayList<T>(this.size + 10)\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a list containing all elements of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.plusElement(element: T): List<T> {\n return plus(element)\n}\n\n/**\n * Returns a list containing all elements of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.plusElement(element: T): List<T> {\n return plus(element)\n}\n\n/**\n * Returns a list of snapshots of the window of the given [size]\n * sliding along this collection with the given [step], where each\n * snapshot is a list.\n * \n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this collection.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n checkWindowSizeStep(size, step)\n if (this is RandomAccess && this is List) {\n val thisSize = this.size\n val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n val result = ArrayList<List<T>>(resultCapacity)\n var index = 0\n while (index in 0 until thisSize) {\n val windowSize = size.coerceAtMost(thisSize - index)\n if (windowSize < size && !partialWindows) break\n result.add(List(windowSize) { this[it + index] })\n index += step\n }\n return result\n }\n val result = ArrayList<List<T>>()\n windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = false).forEach {\n result.add(it)\n }\n return result\n}\n\n/**\n * Returns a list of results of applying the given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this collection.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <T, R> Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R): List<R> {\n checkWindowSizeStep(size, step)\n if (this is RandomAccess && this is List) {\n val thisSize = this.size\n val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n val result = ArrayList<R>(resultCapacity)\n val window = MovingSubList(this)\n var index = 0\n while (index in 0 until thisSize) {\n val windowSize = size.coerceAtMost(thisSize - index)\n if (!partialWindows && windowSize < size) break\n window.move(index, index + windowSize)\n result.add(transform(window))\n index += step\n }\n return result\n }\n val result = ArrayList<R>()\n windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {\n result.add(transform(it))\n }\n return result\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Iterable<T>.zip(other: Array<out R>): List<Pair<T, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n val arraySize = other.size\n val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in this) {\n if

(i >= arraySize) break\n list.add(transform(element, other[i++]))\n }\n return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V> Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n val first = iterator()\n val second = other.iterator()\n val list = ArrayList<V>(minOf(collectionSizeOrDefault(10), other.collectionSizeOrDefault(10)))\n while (first.hasNext() && second.hasNext()) {\n list.add(transform(first.next(), second.next()))\n }\n return list\n}\n\n/**\n * Returns a list of pairs of each two adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains less than two elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Iterable<T>.zipWithNext(): List<Pair<T, T>> {\n return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to an each pair of two adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains less than two elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n */\n@SinceKotlin(\"1.2\")\npublic inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {\n val iterator = iterator()\n if (!iterator.hasNext()) return emptyList()\n val result = mutableListOf<R>()\n var current = iterator.next()\n while (iterator.hasNext()) {\n val next = iterator.next()\n result.add(transform(current, next))\n current = next\n }\n return result\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <T, A : Appendable> Iterable<T>.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): A {\n buffer.append(prefix)\n var count = 0\n for (element in this) {\n if (++count > 1) buffer.append(separator)\n if (limit < 0 || count <= limit) {\n buffer.appendElement(element, transform)\n } else break\n }\n if (limit >= 0 && count > limit) buffer.append(truncated)\n buffer.append(postfix)\n return buffer\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T> Iterable<T>.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Returns this collection as an [Iterable].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.asIterable(): Iterable<T> {\n return this\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original collection returning its elements when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromCollection\n */\npublic fun <T> Iterable<T>.asSequence(): Sequence<T> {\n return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfByte\")\npublic fun Iterable<Byte>.average(): Double {\n var sum: Double = 0.0\n var count: Int = 0\n for (element in this) {\n sum += element\n checkCountOverflow(++count)\n }\n return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfShort\")\npublic fun

Iterable<Short>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   checkCountOverflow(++count)\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfInt\")\npublic fun Iterable<Int>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   checkCountOverflow(++count)\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfLong\")\npublic fun Iterable<Long>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   checkCountOverflow(++count)\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfFloat\")\npublic fun Iterable<Float>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   checkCountOverflow(++count)\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName(\"averageOfDouble\")\npublic fun Iterable<Double>.average(): Double {\n   var sum: Double = 0.0\n   var count: Int = 0\n   for (element in this) {\n   sum += element\n   checkCountOverflow(++count)\n   }\n   return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfByte\")\npublic fun Iterable<Byte>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfShort\")\npublic fun Iterable<Short>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfInt\")\npublic fun Iterable<Int>.sum(): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfLong\")\npublic fun Iterable<Long>.sum(): Long {\n   var sum: Long = 0L\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfFloat\")\npublic fun Iterable<Float>.sum(): Float {\n   var sum: Float = 0.0f\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfDouble\")\npublic fun Iterable<Double>.sum(): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport kotlin.comparisons.naturalOrder\nimport kotlin.random.Random\n\n/** Returns the array if it's not `null`, or an empty array otherwise. */\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Array<out T>?.orEmpty(): Array<out T> = this ?: emptyArray<T>()\n\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Collection<T>.toTypedArray(): Array<T> = copyToArray(this)\n\n@JsName(\"copyToArray\")\n@PublishedApi\ninternal fun <T> copyToArray(collection: Collection<T>): Array<T> {\n   return if (collection.asDynamic().toArray !== undefined)\n   collection.asDynamic().toArray().unsafeCast<Array<T>>()\n   else\n   copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n@JsName(\"copyToArrayImpl\")\ninternal actual fun copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n   val array = emptyArray<Any?>()\n   val iterator = collection.iterator()\n   while (iterator.hasNext())\n   array.asDynamic().push(iterator.next())\n   return array\n}\n\n@JsName(\"copyToExistingArrayImpl\")\ninternal actual fun <T> copyToArrayImpl(collection: Collection<*>, array: Array<T>): Array<T> {\n   if (array.size < collection.size)\n   return copyToArrayImpl(collection).unsafeCast<Array<T>>()\n\n   val iterator = collection.iterator()\n   var index = 0\n   while (iterator.hasNext()) {\n   array[index++] = iterator.next().unsafeCast<T>()\n   }\n   if (index < array.size) {\n   array[index] = null.unsafeCast<T>()\n   }\n   return array\n}\n\n\n/**\n * Returns an immutable list containing only the specified object [element].\n */\npublic fun <T> listOf(element: T): List<T> =

arrayListOf(element)\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildListInternal(builderAction: MutableList<E>.() -> Unit): List<E> {\n return ArrayList<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildListInternal(capacity: Int, builderAction: MutableList<E>.() -> Unit): List<E> {\n checkBuilderCapacity(capacity)\n return ArrayList<E>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Returns an immutable set containing only the specified object [element].\n */\npublic fun <T> setOf(element: T): Set<T> = hashSetOf(element)\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildSetInternal(builderAction: MutableSet<E>.() -> Unit): Set<E> {\n return LinkedHashSet<E>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <E> buildSetInternal(capacity: Int, builderAction: MutableSet<E>.() -> Unit): Set<E> {\n return LinkedHashSet<E>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Returns an immutable map, mapping only the specified key to the\n * specified value.\n */\npublic fun <K, V> mapOf(pair: Pair<K, V>): Map<K, V> = hashMapOf(pair)\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <K, V> buildMapInternal(builderAction: MutableMap<K, V>.() -> Unit): Map<K, V> {\n return LinkedHashMap<K, V>().apply(builderAction).build()\n}\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\ninternal actual inline fun <K, V> buildMapInternal(capacity: Int, builderAction: MutableMap<K, V>.() -> Unit): Map<K, V> {\n return LinkedHashMap<K, V>(capacity).apply(builderAction).build()\n}\n\n\n/**\n * Fills the list with the provided [value].\n *\n * Each element in the list gets replaced with the [value].\n */\n@SinceKotlin(\"1.2\")\npublic actual fun <T> MutableList<T>.fill(value: T): Unit {\n for (index in 0..lastIndex) {\n this[index] = value\n }\n}\n\n/**\n * Randomly shuffles elements in this list.\n *\n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n */\n@SinceKotlin(\"1.2\")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n * Returns a new list with the elements of this list randomly shuffled.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun <T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-place according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit {\n collectionsSort(this, naturalOrder())\n}\n\n/**\n * Sorts elements in the list in-place according to the order specified with [comparator].\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic actual fun <T> MutableList<T>.sortWith(comparator: Comparator<in T>): Unit {\n collectionsSort(this, comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>, comparator: Comparator<in T>) {\n if (list.size <= 1) return\n\n val array = copyToArray(list)\n sortArrayWith(array, comparator)\n\n for (i in 0 until array.size) {\n list[i] = array[i]\n }\n}\n\ninternal actual fun <T> arrayOfNulls(reference: Array<T>, size: Int): Array<T> {\n return arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin(\"1.3\")\n@PublishedApi\n@JsName(\"arrayCopy\")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int, startIndex: Int, endIndex: Int) {\n AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n val rangeSize = endIndex - startIndex\n AbstractList.checkRangeIndexes(destinationOffset, destinationOffset + rangeSize, destination.size)\n\n if (js(\"ArrayBuffer\").isView(destination) && js(\"ArrayBuffer\").isView(source)) {\n val subrange = source.asDynamic().subarray(startIndex, endIndex)\n destination.asDynamic().set(subrange, destinationOffset)\n } else {\n if (source !== destination || destinationOffset <= startIndex) {\n for (index in 0 until rangeSize) {\n destination[destinationOffset + index] = source[startIndex + index]\n }\n } else {\n for (index in

rangeSize - 1 downTo 0) {\n destination[destinationOffset + index] = source[startIndex + index]\n }\n }\n }\n}\n\n// no singleton map implementation in js, return map as is\n@Suppress(\"NOTHING_TO_INLINE\")\ninternal actual inline fun <K, V> Map<K, V>.toSingletonMapOrSelf(): Map<K, V> = this\n\n@Suppress(\"NOTHING_TO_INLINE\")\ninternal actual inline fun <K, V> Map<out K, V>.toSingletonMap(): Map<K, V> = this.toMutableMap()\n\n\n@Suppress(\"NOTHING_TO_INLINE\")\ninternal actual inline fun <T> Array<out T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n if (isVarargs)\n // no need to copy vararg array in JS\n this\n else\n this.copyOf()\n\n\n\n@PublishedApi\ninternal actual fun checkIndexOverflow(index: Int): Int {\n if (index < 0) {\n throwIndexOverflow()\n }\n return index\n}\n\n@PublishedApi\ninternal actual fun checkCountOverflow(count: Int): Int {\n if (count < 0) {\n throwCountOverflow()\n }\n return count\n}\n\n\n/**\n * JS map and set implementations do not make use of capacities or load factors.\n */\n@PublishedApi\ninternal actual fun mapCapacity(expectedSize: Int) = expectedSize\n\n/**\n * Checks a collection builder function capacity argument.\n * In JS no validation is made in Map/Set constructor yet.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@PublishedApi\ninternal fun checkBuilderCapacity(capacity: Int) {\n require(capacity >= 0) { \"capacity must be non-negative.\" }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage kotlin.collections\n\n\n/**\n * Returns the given iterator itself. This allows to use an instance of iterator in a `for` loop.\n * @sample samples.collections.Iterators.iterator\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Iterator<T>.iterator(): Iterator<T> = this\n\n/**\n * Returns an [Iterator] that wraps each element produced by the original iterator\n * into an [IndexedValue] containing the index of that element and the element itself.\n *\n * @sample samples.collections.Iterators.withIndexIterator\n */\npublic fun <T> Iterator<T>.withIndex(): Iterator<IndexedValue<T>> = IndexingIterator(this)\n\n/**\n * Performs the given [operation] on each element of this [Iterator].\n * @sample samples.collections.Iterators.forEachIterator\n */\npublic inline fun <T> Iterator<T>.forEach(operation: (T) -> Unit): Unit {\n for (element in this) operation(element)\n}\n\n/**\n * Iterator transforming original `iterator` into iterator of [IndexedValue], counting index from zero.\n */\ninternal class IndexingIterator<out T>(private val iterator: Iterator<T>) : Iterator<IndexedValue<T>> {\n private var index = 0\n final override fun hasNext(): Boolean = iterator.hasNext()\n final override fun next(): IndexedValue<T> = IndexedValue(checkIndexOverflow(index++), iterator.next())\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"ComparisonsKt\")\n\npackage kotlin.comparisons\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns the greater of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T : Comparable<T>> maxOf(a: T, b: T): T\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short): Short\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int): Int\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float): Float\n\n/**\n * Returns the greater of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double): Double\n\n/**\n * Returns the greater of three values.\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T : Comparable<T>> maxOf(a: T, b: T, c: T):

T\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte, c: Byte): Byte\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c: Short): Short\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int): Int\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float, c: Float): Float\n\n/**\n * Returns the greater of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double, c: Double): Double\n\n/**\n * Returns the greater of three values according to the order specified by the given [comparator].\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n   return maxOf(a, maxOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the greater of two values according to the order specified by the given [comparator].\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n   return if (comparator.compare(a, b) >= 0) a else b\n}\n\n/**\n * Returns the greater of the given values.\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T : Comparable<T>> maxOf(a: T, vararg other: T): T\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Byte, vararg other: Byte): Byte\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Short, vararg other: Short): Short\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Int, vararg other: Int): Int\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Long, vararg other: Long): Long\n\n/**\n * Returns the greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Float, vararg other: Float): Float\n\n/**\n * Returns the greater of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun maxOf(a: Double, vararg other: Double): Double\n\n/**\n * Returns the greater of the given values according to the order specified by the given [comparator].\n * \n * If there are multiple equal maximal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> maxOf(a: T, vararg other: T, comparator: Comparator<in T>): T {\n   var max = a\n   for (e in other) if (comparator.compare(max, e) < 0) max = e\n   return max\n}\n\n/**\n * Returns the smaller of two values.\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T): T\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short): Short\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long): Long\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float): Float\n\n/**\n * Returns the smaller of two values.\n * \n * If either value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double): Double\n\n/**\n * Returns the smaller of three values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte, c: Byte): Byte\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c:

Short): Short\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int): Int\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float, c: Float): Float\n\n/**\n * Returns the smaller of three values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double, c: Double): Double\n\n/**\n * Returns the smaller of three values according to the order specified by the given [comparator].\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.1\")\npublic fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>): T {\n   return minOf(a, minOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the smaller of two values according to the order specified by the given [comparator].\n * \n * If values are equal, returns the first one.\n */\n@SinceKotlin(\"1.1\")\npublic fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T {\n   return if (comparator.compare(a, b) <= 0) a else b\n}\n\n/**\n * Returns the smaller of the given values.\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun <T : Comparable<T>> minOf(a: T, vararg other: T): T\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Byte, vararg other: Byte): Byte\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Short, vararg other: Short): Short\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Int, vararg other: Int): Int\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Long, vararg other: Long): Long\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Float, vararg other: Float): Float\n\n/**\n * Returns the smaller of the given values.\n * \n * If any value is `NaN`, returns `NaN`.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun minOf(a: Double, vararg other: Double): Double\n\n/**\n * Returns the smaller of the given values according to the order specified by the given [comparator].\n * \n * If there are multiple equal minimal values, returns the first of them.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> minOf(a: T, vararg other: T, comparator: Comparator<in T>): T {\n   var min = a\n   for (e in other) if (comparator.compare(min, e) > 0) min = e\n   return min\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"MapsKt\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns a [List] containing all key-value pairs.\n */\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n   if (size == 0)\n   return emptyList()\n   val iterator = entries.iterator()\n   if (!iterator.hasNext())\n   return emptyList()\n   val first = iterator.next()\n   if (!iterator.hasNext())\n   return listOf(first.toPair())\n   val result = ArrayList<Pair<K, V>>(size)\n   result.add(first.toPair())\n   do {\n   result.add(iterator.next().toPair())\n   } while (iterator.hasNext())\n   return result\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map.\n * \n * @sample samples.collections.Maps.Transformations.flatMap\n */\npublic inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each entry of original map.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequence\")\npublic inline fun <K, V, R> Map<out K, V>.flatMap(transform: (Map.Entry<K, V>) -> Sequence<R>): List<R> {\n   return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each

entry of original map, to the given [destination].\n */\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each entry of original map, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapSequenceTo\")\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Sequence<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each entry in the original map.\n * \n * @sample samples.collections.Maps.Transformations.mapToList\n */\npublic inline fun <K, V, R> Map<out K, V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each entry in the original map.\n * \n * @sample samples.collections.Maps.Transformations.mapNotNull\n */\npublic inline fun <K, V, R : Any> Map<out K, V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each entry in the original map\n * and appends only the non-null results to the given [destination].\n */\npublic inline fun <K, V, R : Any, C : MutableCollection<in R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each entry of the original map\n * and appends the results to the given [destination].\n */\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K, V>.mapTo(destination: C, transform: (Map.Entry<K, V>) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns `true` if all entries match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <K, V> Map<out K, V>.all(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n if (isEmpty()) return true\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if map has at least one entry.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <K, V> Map<out K, V>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one entry matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <K, V> Map<out K, V>.any(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n if (isEmpty()) return false\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns the number of entries in this map.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.count(): Int {\n return size\n}\n\n/**\n * Returns the number of entries matching the given [predicate].\n */\npublic inline fun <K, V> Map<out K, V>.count(predicate: (Map.Entry<K, V>) -> Boolean): Int {\n if (isEmpty()) return 0\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Performs the given [action] on each entry.\n */\n@kotlin.internal.HidesMembers\npublic inline fun <K, V> Map<out K, V>.forEach(action: (Map.Entry<K, V>) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return maxByOrNull(selector)\n}\n\n/**\n * Returns the first entry yielding the largest value of the given function or `null` if there are no entries.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return entries.maxByOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the

returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Double): Double {\n   return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> Float): Float {\n   return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOf(selector: (Map.Entry<K, V>) -> R): R {\n   return entries.maxOf(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n   return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n   return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.maxOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n   return entries.maxOfOrNull(selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n   return entries.maxOfWith(comparator, selector)\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map or `null` if there are no entries.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n   return entries.maxOfWithOrNull(comparator, selector)\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.maxWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n   return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry having the largest value according to the provided [comparator] or `null` if there are no entries.\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,

V>.maxWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n   return entries.maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minBy(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n return minByOrNull(selector)\n}\n\n/**\n * Returns the first entry yielding the smallest value of the given function or `null` if there are no entries.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minByOrNull(selector: (Map.Entry<K, V>) -> R): Map.Entry<K, V>? {\n   return entries.minByOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector: (Map.Entry<K, V>) -> Double): Double {\n   return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOf(selector: (Map.Entry<K, V>) -> Float): Float {\n   return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minOf(selector: (Map.Entry<K, V>) -> R): R {\n   return entries.minOf(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOfOrNull(selector: (Map.Entry<K, V>) -> Double): Double? {\n   return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K, V>.minOfOrNull(selector: (Map.Entry<K, V>) -> Float): Float? {\n   return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each entry in the map or `null` if there are no entries.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R : Comparable<R>> Map<out K, V>.minOfOrNull(selector: (Map.Entry<K, V>) -> R): R? {\n   return entries.minOfOrNull(selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map.\n * \n * @throws NoSuchElementException if the map is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K, V>.minOfWith(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R {\n   return entries.minOfWith(comparator, selector)\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each entry in the map or `null` if there

are no entries.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, R> Map<out K,
V>.minOfWithOrNull(comparator: Comparator<in R>, selector: (Map.Entry<K, V>) -> R): R? {\n   return
entries.minOfWithOrNull(comparator, selector)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\",
ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <K,
V> Map<out K, V>.minWith(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n   return
minWithOrNull(comparator)\n}\n\n/**\n * Returns the first entry having the smallest value according to the
provided [comparator] or `null` if there are no entries.\n
*/\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.minWithOrNull(comparator: Comparator<in Map.Entry<K, V>>): Map.Entry<K, V>? {\n   return
entries.minWithOrNull(comparator)\n}\n\n/**\n * Returns `true` if the map has no entries.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun <K, V> Map<out K, V>.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if no entries match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <K, V> Map<out K,
V>.none(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n   if (isEmpty()) return true\n   for (element in
this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Performs the given [action] on each entry and
returns the map itself afterwards.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <K, V, M : Map<out K, V>>
M.onEach(action: (Map.Entry<K, V>) -> Unit): M {\n   return apply { for (element in this) action(element)
}\n}\n\n/**\n * Performs the given [action] on each entry, providing sequential index with the entry,\n * and returns
the map itself afterwards.\n * @param [action] function that takes the index of an entry and the entry itself\n * and
performs the action on the entry.\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <K, V, M : Map<out K, V>>
M.onEachIndexed(action: (index: Int, Map.Entry<K, V>) -> Unit): M {\n   return apply {
entries.forEachIndexed(action) }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original map returning
its entries when being iterated.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> Map<out K,
V>.asIterable(): Iterable<Map.Entry<K, V>> {\n   return entries\n}\n\n/**\n * Creates a [Sequence] instance that
wraps the original map returning its entries when being iterated.\n */\npublic fun <K, V> Map<out K,
V>.asSequence(): Sequence<Map.Entry<K, V>> {\n   return entries.asSequence()\n}\n\n","/*\n * Copyright 2010-
2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SequencesKt\")\n\npackage
kotlin.sequences\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns
`true` if [element] is found in the sequence.\n *\n * The operation is _terminal_.\n */\npublic operator fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.contains(element: T): Boolean {\n   return indexOf(element)
>= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic fun <T> Sequence<T>.elementAt(index: Int): T
{\n   return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"Sequence doesn't contain element at
index $index.\") }\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\npublic fun <T>
Sequence<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n   if (index < 0)\n   return
defaultValue(index)\n   val iterator = iterator()\n   var count = 0\n   while (iterator.hasNext()) {\n   val element
= iterator.next()\n   if (index == count++)\n   return element\n   }\n   return
defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this sequence.\n *\n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n */\npublic fun <T>

Sequence<T>.elementAtOrNull(index: Int): T? {\n if (index < 0)\n return null\n val iterator = iterator()\n var count = 0\n while (iterator.hasNext()) {\n val element = iterator.next()\n if (index == count++)\n return element\n }\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) -> Boolean): T? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the sequence is empty.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.first(): T {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException(\"Sequence is empty.\")\n return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException(\"Sequence contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element, or `null` if the sequence is empty.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.firstOrNull(): T? {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n return iterator.next()\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns first index of [element], or -1 if the sequence does not contain element.\n *\n * The operation is _terminal_.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.indexOf(element: T): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the sequence does not contain such element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n return index\n index++\n }\n return -1\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the sequence does not contain such element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (predicate(item))\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the sequence is empty.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.last(): T {\n val iterator = iterator()\n if (!iterator.hasNext())\n throw NoSuchElementException(\"Sequence is empty.\")\n var last = iterator.next()\n while (iterator.hasNext())\n last = iterator.next()\n return last\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.last(predicate: (T) -> Boolean): T {\n var last: T? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n last = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Sequence contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return last as T\n}\n\n/**\n * Returns last index of [element], or -1 if the sequence does not contain element.\n *\n * The operation is _terminal_.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {\n var lastIndex = -1\n var index = 0\n for (item in this) {\n checkIndexOverflow(index)\n if (element == item)\n lastIndex = index\n index++\n }\n return lastIndex\n}\n\n/**\n * Returns the last element, or `null` if the sequence is empty.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.lastOrNull(): T? {\n val iterator = iterator()\n if (!iterator.hasNext())\n return null\n var last = iterator.next()\n while (iterator.hasNext())\n

last = iterator.next()\n   return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n   var last: T? = null\n   for (element in this) {\n   if (predicate(element)) {\n   last = element\n   }\n   }\n   return last\n}\n\n/**\n * Returns the single element, or throws an exception if the sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.single(): T {\n   val iterator = iterator()\n   if (!iterator.hasNext())\n   throw NoSuchElementException(\"Sequence is empty.\")\n   val single = iterator.next()\n   if (iterator.hasNext())\n   throw IllegalArgumentException(\"Sequence has more than one element.\")\n   return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.single(predicate: (T) -> Boolean): T {\n   var single: T? = null\n   var found = false\n   for (element in this) {\n   if (predicate(element)) {\n   if (found) throw IllegalArgumentException(\"Sequence contains more than one matching element.\")\n   single = element\n   found = true\n   }\n   }\n   if (!found) throw NoSuchElementException(\"Sequence contains no element matching the predicate.\")\n   @Suppress(\"UNCHECKED_CAST\")\n   return single as T\n}\n\n/**\n * Returns single element, or `null` if the sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.singleOrNull(): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext())\n   return null\n   val single = iterator.next()\n   if (iterator.hasNext())\n   return null\n   return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n   var single: T? = null\n   var found = false\n   for (element in this) {\n   if (predicate(element)) {\n   if (found) return null\n   single = element\n   found = true\n   }\n   }\n   if (!found) return null\n   return single\n}\n\n/**\n * Returns a sequence containing all elements except first [n] elements.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.drop(n: Int): Sequence<T> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   return when {\n   n == 0 -> this\n   this is DropTakeSequence -> this.drop(n)\n   else -> DropSequence(this, n)\n   }\n}\n\n/**\n * Returns a sequence containing all elements except first elements that satisfy the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.dropWhile(predicate: (T) -> Boolean): Sequence<T> {\n   return DropWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic fun <T> Sequence<T>.filter(predicate: (T) -> Boolean): Sequence<T> {\n   return FilteringSequence(this, true, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic fun <T> Sequence<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): Sequence<T> {\n   // TODO: Rewrite with generalized MapFilterIndexingSequence\n   return TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), { it.value })\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a sequence containing all elements that are instances of specified type parameter R.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample

samples.collections.Collections.Filtering.filterIsInstance\n */\npublic inline fun <reified R> Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\n @Suppress(\"UNCHECKED_CAST\")\n return filter { it is R } as Sequence<R>\n}\n\n/**\n * Appends all elements that are instances of specified type parameter R to the given [destination].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Filtering.filterIsInstanceTo\n */\npublic inline fun <reified R, C : MutableCollection<in R>> Sequence<*>.filterIsInstanceTo(destination: C): C {\n for (element in this) if (element is R) destination.add(element)\n return destination\n}\n\n/**\n * Returns a sequence containing all elements not matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\npublic fun <T> Sequence<T>.filterNot(predicate: (T) -> Boolean): Sequence<T> {\n return FilteringSequence(this, false, predicate)\n}\n\n/**\n * Returns a sequence containing all elements that are not `null`.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNull\n */\npublic fun <T : Any> Sequence<T?>.filterNotNull(): Sequence<T> {\n @Suppress(\"UNCHECKED_CAST\")\n return filterNot { it == null } as Sequence<T>\n}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Filtering.filterNotNullTo\n */\npublic fun <C : MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\n for (element in this) if (element != null) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements not matching the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n for (element in this) if (!predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Returns a sequence containing first [n] elements.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Sequence<T>.take(n: Int): Sequence<T> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return when {\n n == 0 -> emptySequence()\n this is DropTakeSequence -> this.take(n)\n else -> TakeSequence(this, n)\n }\n}\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T> {\n return TakeWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic fun <T : Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n return object : Sequence<T> {\n override fun iterator(): Iterator<T> {\n val sortedList = this@sorted.toMutableList()\n sortedList.sort()\n return sortedList.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Sorting.sortedBy\n */\npublic inline fun <T, R : Comparable<R>> Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic inline fun <T, R : Comparable<R>> Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence

sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic fun <T : Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n   return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according to the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic fun <T> Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n   return object : Sequence<T> {\n override fun iterator(): Iterator<T> {\n   val sortedList = this@sortedWith.toMutableList()\n sortedList.sortWith(comparator)\n   return sortedList.iterator()\n   }\n   }\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to elements of the given sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associate\n */\npublic inline fun <T, K, V> Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n   return associateTo(LinkedHashMap<K, V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given sequence indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateBy\n */\npublic inline fun <T, K> Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n   return associateByTo(LinkedHashMap<K, T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given sequence.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateByWithValueTransform\n */\npublic inline fun <T, K, V> Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n   return associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given sequence\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateByTo\n */\npublic inline fun <T, K, M : MutableMap<in K, in T>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n   for (element in this) {\n   destination.put(keySelector(element), element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given sequence.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateByToWithValueTransform\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateTo\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Returns a [Map] where keys are elements from the given sequence and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to

the map.\n * \n * The returned map preserves the entry iteration order of the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result = LinkedHashMap<K, V>()\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given sequence,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <K, V, M : MutableMap<in K, in V>> Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n *\n * The operation is _terminal_.\n */\npublic fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return destination\n}\n\n/**\n * Returns a new [HashSet] of all elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.toHashSet(): HashSet<T> {\n return toCollection(HashSet<T>())\n}\n\n/**\n * Returns a [List] containing all elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.toList(): List<T> {\n return this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a new [MutableList] filled with all elements of this sequence.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.toMutableList(): MutableList<T> {\n return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original sequence.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.toSet(): Set<T> {\n return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIterable\")\npublic fun <T, R> Sequence<T>.flatMap(transform: (T) -> Iterable<R>): Sequence<R> {\n return FlatteningSequence(this, transform, Iterable<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic fun <T, R> Sequence<T>.flatMap(transform: (T) -> Sequence<R>): Sequence<R> {\n return FlatteningSequence(this, transform, Sequence<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\npublic fun <T, R> Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Iterable<R>): Sequence<R> {\n return flatMapIndexed(this, transform, Iterable<R>::iterator)\n}\n\n/**\n * Returns a single sequence of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequence\")\npublic fun <T, R> Sequence<T>.flatMapIndexed(transform: (index: Int, T) -> Sequence<R>): Sequence<R> {\n return flatMapIndexed(this, transform, Sequence<R>::iterator)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original sequence, to the given

[destination].\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(checkIndexOverflow(index++), element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedSequenceTo\")\n@kotlin.internal.InlineOnly\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapIndexedTo(destination: C, transform: (index: Int, T) -> Sequence<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(checkIndexOverflow(index++), element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIterableTo\")\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original sequence, to the given [destination].\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Groups elements of the original sequence by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K> Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original sequence\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original sequence.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V> Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original sequence by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K, M : MutableMap<in K, MutableList<T>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original sequence\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M :

MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Creates a [Grouping] source from a sequence to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to extract a key from each element.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K> Sequence<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n return object : Grouping<T, K> {\n override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n override fun keyOf(element: T): K = keySelector(element)\n }\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to each element in the original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\npublic fun <T, R> Sequence<T>.map(transform: (T) -> R): Sequence<R> {\n return TransformingSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to each element and its index in the original sequence.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T, R> Sequence<T>.mapIndexed(transform: (index: Int, T) -> R): Sequence<R> {\n return TransformingIndexedSequence(this, transform)\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element and its index in the original sequence.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T, R : Any> Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {\n return TransformingIndexedSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(checkIndexOverflow(index++), item))\n return destination\n}\n\n/**\n * Returns a sequence containing only the non-null results of applying the given [transform] function\n * to each element in the original sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic fun <T, R : Any> Sequence<T>.mapNotNull(transform: (T) -> R?): Sequence<R> {\n return TransformingSequence(this, transform).filterNotNull()\n}\n\n/**\n * Applies the given [transform] function to each element in the original sequence\n * and appends only the non-null results to the given [destination].\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original sequence\n * and appends the results to the given [destination].\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapTo(destination: C, transform: (T) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a sequence that wraps each element of the original sequence\n * into an [IndexedValue] containing the index of that element and the element itself.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.withIndex():

Sequence<IndexedValue<T>> {\n   return IndexingSequence(this)\n}\n\n/**\n * Returns a sequence containing only distinct elements from the given sequence.\n * \n * Among equal elements of the given sequence, only the first one will be present in the resulting sequence.\n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n *\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T> Sequence<T>.distinct(): Sequence<T> {\n   return this.distinctBy { it }\n}\n\n/**\n * Returns a sequence containing only elements from the given sequence\n * having distinct keys returned by the given [selector] function.\n * \n * Among elements of the given sequence with equal keys, only the first one will be present in the resulting sequence.\n * The elements in the resulting sequence are in the same order as they were in the source sequence.\n *\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Transformations.distinctAndDistinctBy\n */\npublic fun <T, K> Sequence<T>.distinctBy(selector: (T) -> K): Sequence<T> {\n   return DistinctSequence(this, selector)\n}\n\n/**\n * Returns a new [MutableSet] containing all distinct elements from the given sequence.\n * \n * The returned set preserves the element iteration order of the original sequence.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.toMutableSet(): MutableSet<T> {\n   val set = LinkedHashSet<T>()\n   for (item in this) set.add(item)\n   return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T> Sequence<T>.all(predicate: (T) -> Boolean): Boolean {\n   for (element in this) if (!predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if sequence has at least one element.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun <T> Sequence<T>.any(): Boolean {\n   return iterator().hasNext()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T> Sequence<T>.any(predicate: (T) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns the number of elements in this sequence.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.count(): Int {\n   var count = 0\n   for (element in this) checkCountOverflow(++count)\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.count(predicate: (T) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) checkCountOverflow(++count)\n   return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the sequence is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R> Sequence<T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original sequence.\n * \n * Returns the specified [initial] value if the sequence is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T, R> Sequence<T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(checkIndexOverflow(index++), accumulator, element)\n   return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.forEach(action: (T) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(checkIndexOverflow(index++), item)\n}\n\n@Deprecated(\"Use maxOrNull instead.\",

ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Sequence<Double>.max(): Double? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Sequence<Float>.max(): Float? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Sequence<T>.max(): T? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxBy(selector: (T) -> R): T? {\n   return maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxByOrNull(selector: (T) -> R): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxElem = iterator.next()\n   if (!iterator.hasNext()) return maxElem\n   var maxValue = selector(maxElem)\n   do {\n   val e = iterator.next()\n   val v = selector(e)\n   if (maxValue < v) {\n   maxElem = e\n   maxValue = v\n   }\n   } while (iterator.hasNext())\n   return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) -> Double): Double {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOf(selector: (T) -> Float): Float {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxOf(selector: (T) -> R): R {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Double): Double? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of

values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.maxOfOrNull(selector: (T) -> Float): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.maxOfOrNull(selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Sequence<T>.maxOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Sequence<T>.maxOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var maxValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun Sequence<Double>.maxOrNull(): Double? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun Sequence<Float>.maxOrNull(): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   max = maxOf(max, e)\n   }\n   return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Sequence<T>.maxOrNull(): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   if (max < e) max = e\n   }\n   return max\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Sequence<T>.maxWith(comparator: Comparator<in T>): T? {\n   return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Sequence<T>.maxWithOrNull(comparator: Comparator<in T>): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var max = iterator.next()\n   while

(iterator.hasNext()) {\n val e = iterator.next()\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Sequence<Double>.min(): Double? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.1\")\npublic fun Sequence<Float>.min(): Float? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T : Comparable<T>> Sequence<T>.min(): T? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.minBy(selector: (T) -> R): T? {\n return minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no elements.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <T, R : Comparable<R>> Sequence<T>.minByOrNull(selector: (T) -> R): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var minElem = iterator.next()\n if (!iterator.hasNext()) return minElem\n var minValue = selector(minElem)\n do {\n val e = iterator.next()\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n } while (iterator.hasNext())\n return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) -> Double): Double {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOf(selector: (T) -> Float): Float {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.minOf(selector: (T) -> R): R {\n val iterator = iterator()\n if (!iterator.hasNext()) throw NoSuchElementException()\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n if (minValue > v) {\n minValue = v\n }\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOfOrNull(selector: (T) -> Double): Double? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var minValue = selector(iterator.next())\n while (iterator.hasNext()) {\n val v = selector(iterator.next())\n minValue =

minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minOfOrNull(selector: (T) -> Float): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the sequence or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R : Comparable<R>> Sequence<T>.minOfOrNull(selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence.\n * \n * @throws NoSuchElementException if the sequence is empty.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Sequence<T>.minOfWith(comparator: Comparator<in R>, selector: (T) -> R): R {\n   val iterator = iterator()\n   if (!iterator.hasNext()) throw NoSuchElementException()\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the sequence or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> Sequence<T>.minOfWithOrNull(comparator: Comparator<in R>, selector: (T) -> R): R? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var minValue = selector(iterator.next())\n   while (iterator.hasNext()) {\n   val v = selector(iterator.next())\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun Sequence<Double>.minOrNull(): Double? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var min = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   min = minOf(min, e)\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun Sequence<Float>.minOrNull(): Float? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var min = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   min = minOf(min, e)\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T : Comparable<T>> Sequence<T>.minOrNull(): T? {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return null\n   var min = iterator.next()\n   while (iterator.hasNext()) {\n   val e = iterator.next()\n   if (min > e) min = e\n   }\n   return min\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun <T> Sequence<T>.minWith(comparator: Comparator<in T>): T? {\n   return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n *\n * The operation is _terminal_.\n

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*/\n@SinceKotlin(\"1.4\")\npublic fun <T> Sequence<T>.minWithOrNull(comparator: Comparator<in T>): T? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var min = iterator.next()\n while (iterator.hasNext()) {\n val e = iterator.next()\n if (comparator.compare(min, e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the sequence has no elements.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Sequence<T>.none(): Boolean {\n return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T> Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/**\n * Returns a sequence which performs the given [action] on each element of the original sequence as they pass through it.\n *\n * The operation is _intermediate_ and _stateless_.\n */\n@SinceKotlin(\"1.1\")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T> {\n return map {\n action(it)\n it\n }\n}\n\n/**\n * Returns a sequence which performs the given [action] on each element of the original sequence as they pass through it.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n *\n * The operation is _intermediate_ and _stateless_.\n */\n@SinceKotlin(\"1.4\")\npublic fun <T> Sequence<T>.onEachIndexed(action: (index: Int, T) -> Unit): Sequence<T> {\n return mapIndexed { index, element ->\n action(index, element)\n element\n }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this sequence is empty. If the sequence can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Sequence<T>.reduce(operation: (acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw UnsupportedOperationException(\"Empty sequence can't be reduced.\")\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original sequence.\n * \n * Throws an exception if this sequence is empty. If the sequence can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun <S, T : S> Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {\n val iterator = this.iterator()\n if (!iterator.hasNext()) throw UnsupportedOperationException(\"Empty sequence can't be reduced.\")\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original sequence.\n * \n * Returns `null` if the sequence is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <S, T : S> Sequence<T>.reduceIndexedOrNull(operation: (index: Int, acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if (!iterator.hasNext()) return null\n var index = 1\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns `null` if the sequence is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n *\n * The operation is _terminal_.\n * \n * @sample
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samples.collections.Collections.Aggregates.reduceOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <S, T : S>
Sequence<T>.reduceOrNull(operation: (acc: S, T) -> S): S? {\n val iterator = this.iterator()\n if
(!iterator.hasNext()) return null\n var accumulator: S = iterator.next()\n while (iterator.hasNext()) {\n
accumulator = operation(accumulator, iterator.next())\n }\n return accumulator\n}\n\n/**\n * Returns a sequence
containing successive accumulation values generated by applying [operation] from left to right\n * to each element
and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation]
function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The
[initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function
later because of sequence's lazy nature.\n * \n * @param [operation] function that takes current accumulator value
and an element, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and
stateless.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n
*/\n@SinceKotlin(\"1.4\")\npublic fun <T, R> Sequence<T>.runningFold(initial: R, operation: (acc: R, T) -> R):
Sequence<R> {\n return sequence {\n yield(initial)\n var accumulator = initial\n for (element in
this@runningFold) {\n accumulator = operation(accumulator, element)\n yield(accumulator)\n }\n
}\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation]
from left to right\n * to each element, its index in the original sequence and current accumulator value that starts
with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n *
otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable
(or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n
* \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n
* \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic fun
<T, R> Sequence<T>.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n
return sequence {\n yield(initial)\n var index = 0\n var accumulator = initial\n for (element in
this@runningFoldIndexed) {\n accumulator = operation(checkIndexOverflow(index++), accumulator,
element)\n yield(accumulator)\n }\n }\n}\n\n/**\n * Returns a sequence containing successive
accumulation values generated by applying [operation] from left to right\n * to each element and current
accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n
* \n * @param [operation] function that takes current accumulator value and the element, and calculates the next
accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Aggregates.runningReduce\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <S, T : S>
Sequence<T>.runningReduce(operation: (acc: S, T) -> S): Sequence<S> {\n return sequence {\n val iterator =
iterator()\n if (iterator.hasNext()) {\n var accumulator: S = iterator.next()\n yield(accumulator)\n
while (iterator.hasNext()) {\n accumulator = operation(accumulator, iterator.next())\n
yield(accumulator)\n }\n }\n }\n}\n\n/**\n * Returns a sequence containing successive accumulation
values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and
current accumulator value that starts with the first element of this sequence.\n * \n * Note that `acc` value passed to
[operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n
* \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the
element itself, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n
* \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\npublic fun
<S, T : S> Sequence<T>.runningReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {\n return
sequence {\n val iterator = iterator()\n if (iterator.hasNext()) {\n var accumulator: S =
iterator.next()\n yield(accumulator)\n var index = 1\n while (iterator.hasNext()) {\n
accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n

yield(accumulator)\n }\n }\n }\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R> Sequence<T>.scan(initial: R, operation: (acc: R, T) -> R): Sequence<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a sequence containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting sequence.\n * The [initial] value should also be immutable (or should not be mutated)\n * as it may be passed to [operation] function later because of sequence's lazy nature.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T, R> Sequence<T>.scanIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): Sequence<R> {\n return runningFoldIndexed(initial, operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun <S, T : S> Sequence<T>.scanReduce(operation: (acc: S, T) -> S): Sequence<S> {\n return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun <S, T : S> Sequence<T>.scanReduceIndexed(operation: (index: Int, acc: S, T) -> S): Sequence<S> {\n return runningReduceIndexed(operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.sumBy(selector: (T) -> Int): Int {\n var sum: Int = 0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.sumByDouble(selector: (T) -> Double): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun

<T> Sequence<T>.sumOf(selector: (T) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the sequence.\n *\n * The operation is _terminal_.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.sumOf(selector: (T) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T : Any> Sequence<T?>.requireNoNulls(): Sequence<T> {\n   return map { it ?: throw IllegalArgumentException(\"null element found in $this.\") }\n}\n\n/**\n * Splits this sequence into a sequence of lists each not exceeding the given [size].\n * \n * The last list in the resulting sequence may have less elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n *\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n   return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this sequence into several lists each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return sequence of results of the [transform] applied to an each list.\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last list may have less elements than the given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n *\n * The operation is _intermediate_ and _stateful_.\n * \n * @sample samples.text.Strings.chunkedTransform\n */\n@SinceKotlin(\"1.2\")\npublic fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R): Sequence<R> {\n   return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.minus(element: T): Sequence<T> {\n   return object: Sequence<T> {\n   override fun iterator(): Iterator<T> {\n   var removed = false\n   return this@minus.filter { if (!removed && it == element) { removed = true; false } else true }.iterator()\n   }\n   }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] array.\n * \n * Note that the source sequence and the array being subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * \n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Array<out T>): Sequence<T> {\n   if (elements.isEmpty()) return this\n   return object: Sequence<T> {\n   override fun iterator(): Iterator<T> {\n   val other = elements.toHashSet()\n   return this@minus.filterNot { it in other }.iterator()\n   }\n   }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] collection.\n * \n * Note that the source sequence and the collection being subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * \n * The [elements] collection may be converted to a [HashSet] to speed up the

operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * The operation is _intermediate_ and _stateful_.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Iterable<T>): Sequence<T> {\n return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other = elements.convertToSetForSetOperation()\n if (other.isEmpty())\n return this@minus.iterator()\n else\n return this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the elements contained in the given [elements] sequence.\n * \n * Note that the source sequence and the sequence being subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ for this sequence and _terminal_ and _stateful_ for the [elements] sequence.\n * \n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Sequence<T>.minus(elements: Sequence<T>): Sequence<T> {\n return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other = elements.toHashSet()\n if (other.isEmpty())\n return this@minus.iterator()\n else\n return this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence without the first occurrence of the given [element].\n *\n * The operation is _intermediate_ and _stateless_.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.minusElement(element: T): Sequence<T> {\n return minus(element)\n}\n\n/**\n * Splits the original sequence into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains elements for which [predicate] yielded `false`.\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Sequences.Transformations.partition\n */\npublic inline fun <T> Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first = ArrayList<T>()\n val second = ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence and then the given [element].\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.plus(element: T): Sequence<T> {\n return sequenceOf(this, sequenceOf(element)).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and then all elements of the given [elements] array.\n * \n * Note that the source sequence and the array being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T> {\n return this.plus(elements.asList())\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and then all elements of the given [elements] collection.\n * \n * Note that the source sequence and the collection being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {\n return sequenceOf(this, elements.asSequence()).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and then all elements of the given [elements] sequence.\n * \n * Note that the source sequence and the sequence being added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T> {\n return sequenceOf(this, elements).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence and then the given [element].\n *\n * The operation is _intermediate_ and _stateless_.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T> {\n return plus(element)\n}\n\n/**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding along this sequence with the given [step], where each\n * snapshot is a list.\n * \n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of

elements in this sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<List<T>> {\n   return windowedSequence(size, step, partialWindows, reuseBuffer = false)\n}\n\n/**\n * Returns a sequence of results of applying the given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding along this sequence with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <T, R> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R): Sequence<R> {\n   return windowedSequence(size, step, partialWindows, reuseBuffer = true).map(transform)\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Sequences.Transformations.zip\n */\npublic infix fun <T, R> Sequence<T>.zip(other: Sequence<R>): Sequence<Pair<T, R>> {\n   return MergingSequence(this, other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Sequences.Transformations.zipWithTransform\n */\npublic fun <T, R, V> Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {\n   return MergingSequence(this, other, transform)\n}\n\n/**\n * Returns a sequence of pairs of each two adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n@SinceKotlin(\"1.2\")\npublic fun <T> Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {\n   return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a sequence containing the results of applying the given [transform] function\n * to an each pair of two adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n *\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n */\n@SinceKotlin(\"1.2\")\npublic fun <T, R> Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {\n   return sequence result@ {\n   val iterator = iterator()\n   if (!iterator.hasNext()) return@result\n   var current = iterator.next()\n   while (iterator.hasNext()) {\n   val next = iterator.next()\n   yield(transform(current, next))\n   current = next\n   }\n   }\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n */\npublic fun <T, A : Appendable> Sequence<T>.joinTo(buffer: A, separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): A {\n   buffer.append(prefix)\n   var count = 0\n   for (element in this) {\n   if (++count > 1)

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buffer.append(separator)\n        if (limit < 0 || count <= limit) {\n            buffer.appendElement(element, transform)\n        } else break\n    }\n    if (limit >= 0 && count > limit) buffer.append(truncated)\n    buffer.append(postfix)\n    return buffer\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to \"...\").\n *\n * The operation is _terminal_.\n * \n * @sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T> Sequence<T>.joinToString(separator: CharSequence = \", \", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original sequence returning its elements when being iterated.\n */\npublic fun <T> Sequence<T>.asIterable(): Iterable<T> {\n    return Iterable { this.iterator() }\n}\n\n/**\n * Returns this sequence as a [Sequence].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.asSequence(): Sequence<T> {\n    return this\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfByte\")\npublic fun Sequence<Byte>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfShort\")\npublic fun Sequence<Short>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfInt\")\npublic fun Sequence<Int>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfLong\")\npublic fun Sequence<Long>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfFloat\")\npublic fun Sequence<Float>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"averageOfDouble\")\npublic fun Sequence<Double>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfByte\")\npublic fun Sequence<Byte>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfShort\")\npublic fun Sequence<Short>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfInt\")\npublic fun Sequence<Int>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfLong\")\npublic fun Sequence<Long>.sum(): Long {\n    var sum: Long = 0L\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfFloat\")\npublic fun Sequence<Float>.sum(): Float {\n    var sum: Float = 0.0f\n
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for (element in this) {\n sum += element\n }\n return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfDouble\")\npublic fun Sequence<Double>.sum(): Double {\n var sum: Double = 0.0\n for (element in this) {\n sum += element\n }\n return sum\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SetsKt\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n * \n * The returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T> Set<T>.minus(element: T): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(size))\n var removed = false\n return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] array.\n * \n * The returned set preserves the element iteration order of the original set.\n * \n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Set<T>.minus(elements: Array<out T>): Set<T> {\n val result = LinkedHashSet<T>(this)\n result.removeAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] collection.\n * \n * The returned set preserves the element iteration order of the original set.\n * \n * The [elements] collection may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Set<T>.minus(elements: Iterable<T>): Set<T> {\n val other = elements.convertToSetForSetOperationWith(this)\n if (other.isEmpty())\n return this.toSet()\n if (other is Set)\n return this.filterNotTo(LinkedHashSet<T>()) { it in other }\n val result = LinkedHashSet<T>(this)\n result.removeAll(other)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] sequence.\n * \n * The returned set preserves the element iteration order of the original set.\n * \n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n */\npublic operator fun <T> Set<T>.minus(elements: Sequence<T>): Set<T> {\n val result = LinkedHashSet<T>(this)\n result.removeAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n * \n * The returned set preserves the element iteration order of the original set.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>.minusElement(element: T): Set<T> {\n return minus(element)\n}\n\n/**\n * Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.\n * \n * The returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(element: T): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(size + 1))\n result.addAll(this)\n result.add(element)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] array,\n * which aren't already in this set.\n * \n * The returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(elements: Array<out T>): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(this.size + elements.size))\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] collection,\n * which aren't already in this set.\n * The returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size * 2))\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] sequence,\n * which aren't already in this set.\n * \n * The

returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(elements: Sequence<T>): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(this.size * 2))\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.\n * \n * The returned set preserves the element iteration order of the original set.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>.plusElement(element: T): Set<T> {\n return plus(element)\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns a character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun CharSequence.elementAt(index: Int): Char\n\n/**\n * Returns a character at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.elementAtOrNull(index: Int): Char? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the first character matching the given [predicate], or `null` if no such character was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.find(predicate: (Char) -> Boolean): Char? {\n return firstOrNull(predicate)\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no such character was found.\n * \n * @sample samples.collections.Collections.Elements.find\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.findLast(predicate: (Char) -> Boolean): Char? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first character.\n * @throws [NoSuchElementException] if the char sequence is empty.\n */\npublic fun CharSequence.first(): Char {\n if (isEmpty())\n throw NoSuchElementException(\"Char sequence is empty.\")\n return this[0]\n}\n\n/**\n * Returns the first character matching the given [predicate].\n * @throws [NoSuchElementException] if no such character is found.\n */\npublic inline fun CharSequence.first(predicate: (Char) -> Boolean): Char {\n for (element in this) if (predicate(element)) return element\n throw NoSuchElementException(\"Char sequence contains no character matching the predicate.\")\n}\n\n/**\n * Returns the first character, or `null` if the char sequence is empty.\n */\npublic fun CharSequence.firstOrNull(): Char? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first character matching the given [predicate], or `null` if character was not found.\n */\npublic inline fun CharSequence.firstOrNull(predicate: (Char) -> Boolean): Char? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns a character at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this char sequence.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\npublic fun CharSequence.getOrNull(index: Int): Char? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns index of the first character matching the given [predicate], or -1 if the char sequence does not contain such character.\n */\npublic inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {\n for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -1\n}\n\n/**\n * Returns index of the last character matching the given [predicate], or -1 if the char sequence does not contain such character.\n */\npublic inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {\n

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 for (index in indices.reversed()) {\n        if (predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns the last character.\n * @throws [NoSuchElementException] if the char sequence is empty.\n */\npublic fun CharSequence.last(): Char {\n    if (isEmpty())\n        throw NoSuchElementException(\"Char sequence is empty.\")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last character matching the given [predicate].\n * @throws [NoSuchElementException] if no such character is found.\n */\npublic inline fun CharSequence.last(predicate: (Char) -> Boolean): Char {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException(\"Char sequence contains no character matching the predicate.\")\n}\n\n/**\n * Returns the last character, or `null` if the char sequence is empty.\n */\npublic fun CharSequence.lastOrNull(): Char? {\n    return if (isEmpty()) null else this[length - 1]\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no such character was found.\n */\npublic inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {\n    for (index in this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n    return null\n}\n\n/**\n * Returns a random character from this char sequence.\n * \n * @throws NoSuchElementException if this char sequence is empty.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {\n    return random(Random)\n}\n\n/**\n * Returns a random character from this char sequence using the specified source of randomness.\n * \n * @throws NoSuchElementException if this char sequence is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun CharSequence.random(random: Random): Char {\n    if (isEmpty())\n        throw NoSuchElementException(\"Char sequence is empty.\")\n    return get(random.nextInt(length))\n}\n\n/**\n * Returns a random character from this char sequence, or `null` if this char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.randomOrNull(): Char? {\n    return randomOrNull(Random)\n}\n\n/**\n * Returns a random character from this char sequence using the specified source of randomness, or `null` if this char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun CharSequence.randomOrNull(random: Random): Char? {\n    if (isEmpty())\n        return null\n    return get(random.nextInt(length))\n}\n\n/**\n * Returns the single character, or throws an exception if the char sequence is empty or has more than one character.\n */\npublic fun CharSequence.single(): Char {\n    return when (length) {\n        0 -> throw NoSuchElementException(\"Char sequence is empty.\")\n        1 -> this[0]\n        else -> throw IllegalArgumentException(\"Char sequence has more than one element.\")\n    }\n}\n\n/**\n * Returns the single character matching the given [predicate], or throws exception if there is no or more than one matching character.\n */\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException(\"Char sequence contains more than one matching element.\")\n            single = element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException(\"Char sequence contains no character matching the predicate.\")\n    @Suppress(\"UNCHECKED_CAST\")\n    return single as Char\n}\n\n/**\n * Returns single character, or `null` if the char sequence is empty or has more than one character.\n */\npublic fun CharSequence.singleOrNull(): Char? {\n    return if (length == 1) this[0] else null\n}\n\n/**\n * Returns the single character matching the given [predicate], or `null` if character was not found or more than one character was found.\n */\npublic inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a subsequence of this char sequence with the first [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun CharSequence.drop(n: Int): CharSequence {\n    require(n >= 0) { \"Requested character count $n is less than zero.\" }\n    return subSequence(n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string with the first [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun String.drop(n: Int): String {\n    require(n >= 0) { \"Requested character count $n is less than zero.\" }\n    return substring(n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of
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this char sequence with the last [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun CharSequence.dropLast(n: Int): CharSequence {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n return take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun String.dropLast(n: Int): String {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n return take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a subsequence of this char sequence containing all characters except last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return subSequence(0, index + 1)\n return \"\"\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropLastWhile(predicate: (Char) -> Boolean): String {\n for (index in lastIndex downTo 0)\n if (!predicate(this[index]))\n return substring(0, index + 1)\n return \"\"\n}\n\n/**\n * Returns a subsequence of this char sequence containing all characters except first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in this.indices)\n if (!predicate(this[index]))\n return subSequence(index, length)\n return \"\"\n}\n\n/**\n * Returns a string containing all characters except first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate: (Char) -> Boolean): String {\n for (index in this.indices)\n if (!predicate(this[index]))\n return substring(index)\n return \"\"\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that match the given [predicate].\n * \n * @sample samples.text.Strings.filter\n */\npublic inline fun CharSequence.filter(predicate: (Char) -> Boolean): CharSequence {\n return filterTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that match the given [predicate].\n * \n * @sample samples.text.Strings.filter\n */\npublic inline fun String.filter(predicate: (Char) -> Boolean): String {\n return filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that match the given [predicate].\n * @param [predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun CharSequence.filterIndexed(predicate: (index: Int, Char) -> Boolean): CharSequence {\n return filterIndexedTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that match the given [predicate].\n * @param [predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\npublic inline fun String.filterIndexed(predicate: (index: Int, Char) -> Boolean): String {\n return filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate evaluation on the character.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\npublic inline fun <C : Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {\n forEachIndexed { index, element ->\n if (predicate(index, element)) destination.append(element)\n }\n return destination\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline fun CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n return filterNotTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that do not match the given [predicate].\n * \n * @sample samples.text.Strings.filterNot\n */\npublic inline fun String.filterNot(predicate: (Char) -> Boolean): String {\n return filterNotTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C :

Appendable> CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n for (element in this) if (!predicate(element)) destination.append(element)\n return destination\n}\n\n/**\n * Appends all characters matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\npublic inline fun <C : Appendable> CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n for (index in 0 until length) {\n val element = get(index)\n if (predicate(element)) destination.append(element)\n }\n return destination\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at the specified range of [indices].\n */\npublic fun CharSequence.slice(indices: IntRange): CharSequence {\n if (indices.isEmpty()) return \"\"\n return subSequence(indices)\n}\n\n/**\n * Returns a string containing characters of the original string at the specified range of [indices].\n */\npublic fun String.slice(indices: IntRange): String {\n if (indices.isEmpty()) return \"\"\n return substring(indices)\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at specified [indices].\n */\npublic fun CharSequence.slice(indices: Iterable<Int>): CharSequence {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return \"\"\n val result = StringBuilder(size)\n for (i in indices) {\n result.append(get(i))\n }\n return result\n}\n\n/**\n * Returns a string containing characters of the original string at specified [indices].\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.slice(indices: Iterable<Int>): String {\n return (this as CharSequence).slice(indices).toString()\n}\n\n/**\n * Returns a subsequence of this char sequence containing the first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun CharSequence.take(n: Int): CharSequence {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n return subSequence(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a string containing the first [n] characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun String.take(n: Int): String {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n return substring(0, n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence containing the last [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun CharSequence.takeLast(n: Int): CharSequence {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n val length = length\n return subSequence(length - n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string containing the last [n] characters from this string, or the entire string if this string is shorter.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.take\n */\npublic fun String.takeLast(n: Int): String {\n require(n >= 0) { \"Requested character count $n is less than zero.\" }\n val length = length\n return substring(length - n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of this char sequence containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return subSequence(index + 1, length)\n }\n }\n return subSequence(0, length)\n}\n\n/**\n * Returns a string containing last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return substring(index + 1)\n }\n }\n return this\n}\n\n/**\n * Returns a subsequence of this char sequence containing the first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun CharSequence.takeWhile(predicate: (Char) -> Boolean): CharSequence {\n for (index in 0 until length)\n if (!predicate(get(index))) {\n return subSequence(0, index)\n }\n return subSequence(0, length)\n}\n\n/**\n * Returns a string containing the first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.take\n */\npublic inline fun String.takeWhile(predicate: (Char) -> Boolean): String {\n for (index in 0 until length)\n if (!predicate(get(index))) {\n return substring(0, index)\n }\n return this\n}\n\n/**\n * Returns a char sequence with characters in reversed order.\n */\npublic fun CharSequence.reversed(): CharSequence {\n return

StringBuilder(this).reverse()\n}\n\n/**\n * Returns a string with characters in reversed order.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.reversed(): String {\n   return (this as CharSequence).reversed().toString()\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to characters of the given char sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associate\n */\npublic inline fun <K, V> CharSequence.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n   val capacity = mapCapacity(length).coerceAtLeast(16)\n   return associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the characters from the given char sequence indexed by the key\n * returned from [keySelector] function applied to each character.\n * \n * If any two characters would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateBy\n */\npublic inline fun <K> CharSequence.associateBy(keySelector: (Char) -> K): Map<K, Char> {\n   val capacity = mapCapacity(length).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, Char>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to characters of the given char sequence.\n * \n * If any two characters would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateByWithValueTransform\n */\npublic inline fun <K, V> CharSequence.associateBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, V> {\n   val capacity = mapCapacity(length).coerceAtLeast(16)\n   return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each character of the given char sequence\n * and value is the character itself.\n * \n * If any two characters would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateByTo\n */\npublic inline fun <K, M : MutableMap<in K, in Char>> CharSequence.associateByTo(destination: M, keySelector: (Char) -> K): M {\n   for (element in this) {\n   destination.put(keySelector(element), element)\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to characters of the given char sequence.\n * \n * If any two characters would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateByToWithValueTransform\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> CharSequence.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n   for (element in this) {\n   destination.put(keySelector(element), valueTransform(element))\n   }\n   return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each character of the given char sequence.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n * \n * @sample samples.text.Strings.associateTo\n */\npublic inline fun <K, V, M : MutableMap<in K, in V>> CharSequence.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {\n   for (element in this) {\n   destination += transform(element)\n   }\n   return destination\n}\n\n/**\n * Returns a [Map] where keys are characters from the given char sequence and values are\n * produced by the [valueSelector] function applied to each character.\n * \n * If any two characters are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original char sequence.\n * \n * @sample samples.text.Strings.associateWith\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <V> CharSequence.associateWith(valueSelector: (Char) -> V): Map<Char, V> {\n   val result = LinkedHashMap<Char, V>(mapCapacity(length.coerceAtMost(128)).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each character of the given char sequence,\n * where key is the character itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two characters are equal, the last one overwrites the

former value in the map.\n * \n * @sample samples.text.Strings.associateWithTo\n */\n@SinceKotlin(\"1.3\")\npublic inline fun <V, M : MutableMap<in Char, in V>> CharSequence.associateWithTo(destination: M, valueSelector: (Char) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Appends all characters to the given [destination] collection.\n */\npublic fun <C : MutableCollection<in Char>> CharSequence.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return destination\n}\n\n/**\n * Returns a new [HashSet] of all characters.\n */\npublic fun CharSequence.toHashSet(): HashSet<Char> {\n return toCollection(HashSet<Char>(mapCapacity(length.coerceAtMost(128))))\n}\n\n/**\n * Returns a [List] containing all characters.\n */\npublic fun CharSequence.toList(): List<Char> {\n return when (length) {\n 0 -> emptyList()\n 1 -> listOf(this[0])\n else -> this.toMutableList()\n }\n}\n\n/**\n * Returns a new [MutableList] filled with all characters of this char sequence.\n */\npublic fun CharSequence.toMutableList(): MutableList<Char> {\n return toCollection(ArrayList<Char>(length))\n}\n\n/**\n * Returns a [Set] of all characters.\n * \n * The returned set preserves the element iteration order of the original char sequence.\n */\npublic fun CharSequence.toSet(): Set<Char> {\n return when (length) {\n 0 -> emptySet()\n 1 -> setOf(this[0])\n else -> toCollection(LinkedHashSet<Char>(mapCapacity(length.coerceAtMost(128))))\n }\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each character of original char sequence.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\npublic inline fun <R> CharSequence.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each character\n * and its index in the original char sequence.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterable\")\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.flatMapIndexed(transform: (index: Int, Char) -> Iterable<R>): List<R> {\n return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each character\n * and its index in the original char sequence, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"flatMapIndexedIterableTo\")\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapIndexedTo(destination: C, transform: (index: Int, Char) -> Iterable<R>): C {\n var index = 0\n for (element in this) {\n val list = transform(index++, element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each character of original char sequence, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return destination\n}\n\n/**\n * Groups characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each character and returns a map where each group key is associated with a list of corresponding characters.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original char sequence.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K> CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n * by the key returned by the given [keySelector] function applied to the character\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original char sequence.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V>

CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups characters of the original char sequence by the key returned by the given [keySelector] function\n * applied to each character and puts to the [destination] map each group key associated with a list of corresponding characters.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n * by the key returned by the given [keySelector] function applied to the character\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K, valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Creates a [Grouping] source from a char sequence to be used later with one of group-and-fold operations\n * using the specified [keySelector] function to extract a key from each character.\n * \n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <K> CharSequence.groupingBy(crossinline keySelector: (Char) -> K): Grouping<Char, K> {\n return object : Grouping<Char, K> {\n override fun sourceIterator(): Iterator<Char> = this@groupingBy.iterator()\n override fun keyOf(element: Char): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each character in the original char sequence.\n * \n * @sample samples.text.Strings.map\n */\npublic inline fun <R> CharSequence.map(transform: (Char) -> R): List<R> {\n return mapTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each character and its index in the original char sequence.\n * @param [transform] function that takes the index of a character and the character itself\n * and returns the result of the transform applied to the character.\n */\npublic inline fun <R> CharSequence.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each character and its index in the original char sequence.\n * @param [transform] function that takes the index of a character and the character itself\n * and returns the result of the transform applied to the character.\n */\npublic inline fun <R : Any> CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> {\n return mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each character and its index in the original char sequence\n * and appends only the non-null results to the given [destination].\n * @param [transform] function that takes the index of a character and the character itself\n * and returns the result of the transform applied to the character.\n */\npublic inline fun <R : Any, C : MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) -> R?): C {\n forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each character and its index in the original char sequence\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of a character and the character itself\n * and returns the result of the transform applied to the character.\n */\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Returns a list containing only the non-null results of applying the given [transform] function\n * to each character in the original char sequence.\n * \n * @sample samples.collections.Collections.Transformations.mapNotNull\n */\npublic inline fun <R : Any> CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {\n return mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each character in the original char sequence\n *

and appends only the non-null results to the given [destination].\n */\npublic inline fun <R : Any, C : MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C {\n forEach { element -> transform(element)?.let { destination.add(it) } }\n return destination\n}\n\n/**\n * Applies the given [transform] function to each character of the original char sequence\n * and appends the results to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C, transform: (Char) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each character of the original char sequence\n * into an [IndexedValue] containing the index of that character and the character itself.\n */\npublic fun CharSequence.withIndex(): Iterable<IndexedValue<Char>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all characters match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun CharSequence.all(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if char sequence has at least one character.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic fun CharSequence.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one character matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharSequence.any(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns the length of this char sequence.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.count(): Int {\n return length\n}\n\n/**\n * Returns the number of characters matching the given [predicate].\n */\npublic inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {\n var count = 0\n for (element in this) if (predicate(element)) ++count\n return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each character.\n * \n * Returns the specified [initial] value if the char sequence is empty.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each character with its index in the original char sequence.\n * \n * Returns the specified [initial] value if the char sequence is empty.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each character and current accumulator value.\n * \n * Returns the specified [initial] value if the char sequence is empty.\n * \n * @param [operation] function that takes a character and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRight(initial: R, operation: (Char, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each character with its index in the original char sequence and current accumulator value.\n * \n * Returns the specified [initial] value if the char sequence is empty.\n * \n * @param [operation] function that takes the index of a character, the character itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each character.\n */\npublic inline fun CharSequence.forEach(action: (Char) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each character, providing sequential index with the character.\n * @param [action] function that takes the index of a character and the character itself\n * and performs

the action on the character.\n */\npublic inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharSequence.max(): Char? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxByOrNull instead.\", ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> CharSequence.maxBy(selector: (Char) -> R): Char? {\n   return maxByOrNull(selector)\n}\n\n/**\n * Returns the first character yielding the largest value of the given function or `null` if there are no characters.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> CharSequence.maxByOrNull(selector: (Char) -> R): Char? {\n   if (isEmpty()) return null\n   var maxElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return maxElem\n   var maxValue = selector(maxElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (maxValue < v) {\n   maxElem = e\n   maxValue = v\n   }\n   }\n   return maxElem\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) -> Double): Double {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOf(selector: (Char) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> CharSequence.maxOf(selector: (Char) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOfOrNull(selector: (Char) -> Double): Double? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.maxOfOrNull(selector: (Char) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no characters.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> CharSequence.maxOfOrNull(selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (maxValue < v) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.maxOfWith(comparator: Comparator<in R>, selector: (Char) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each character in the char sequence or `null` if there are no characters.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.maxOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest character or `null` if there are no characters.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharSequence.maxOrNull(): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharSequence.maxWith(comparator: Comparator<in Char>): Char? {\n return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first character having the largest value according to the provided [comparator] or `null` if there are no characters.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharSequence.maxWithOrNull(comparator: Comparator<in Char>): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n@Deprecated(\"Use minOrNull instead.\", ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharSequence.min(): Char? {\n return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\", ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun <R : Comparable<R>> CharSequence.minBy(selector: (Char) -> R): Char? {\n return minByOrNull(selector)\n}\n\n/**\n * Returns the first character yielding the smallest value of the given function or `null` if there are no characters.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R : Comparable<R>> CharSequence.minByOrNull(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOf(selector: (Char) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue = minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char sequence.\n * \n * If any of values produced by [selector] function is `NaN`, the returned

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result is `NaN`.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOf(selector: (Char) ->
Float): Float {\n    if (isEmpty()) throw NoSuchElementException()\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each character in the char sequence.\n * \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.minOf(selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
    minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value among all values
produced by [selector] function\n * applied to each character in the char sequence or `null` if there are no
characters.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOfOrNull(selector:
(Char) -> Double): Double? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in
1..lastIndex) {\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return
minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to
each character in the char sequence or `null` if there are no characters.\n * \n * If any of values produced by
[selector] function is `NaN`, the returned result is `NaN`.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.minOfOrNull(selector:
(Char) -> Float): Float? {\n    if (isEmpty()) return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex)
{\n        val v = selector(this[i])\n        minValue = minOf(minValue, v)\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value among all values produced by [selector] function\n * applied to each character in the char
sequence or `null` if there are no characters.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>>
CharSequence.minOfOrNull(selector: (Char) -> R): R? {\n    if (isEmpty()) return null\n    var minValue =
selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if (minValue > v) {\n
minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n * Returns the smallest value according to the provided
[comparator]\n * among all values produced by [selector] function applied to each character in the char sequence.\n
* \n * @throws NoSuchElementException if the char sequence is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R> CharSequence.minOfWith(comparator:
Comparator<in R>, selector: (Char) -> R): R {\n    if (isEmpty()) throw NoSuchElementException()\n    var
minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]
function applied to each character in the char sequence or `null` if there are no characters.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@kotlin.internal.InlineOnly\npublic inline fun <R>
CharSequence.minOfWithOrNull(comparator: Comparator<in R>, selector: (Char) -> R): R? {\n    if (isEmpty())
return null\n    var minValue = selector(this[0])\n    for (i in 1..lastIndex) {\n        val v = selector(this[i])\n        if
(comparator.compare(minValue, v) > 0) {\n            minValue = v\n        }\n    }\n    return minValue\n}\n\n/**\n *
Returns the smallest character or `null` if there are no characters.\n */\n@SinceKotlin(\"1.4\")\npublic fun
CharSequence.minOrNull(): Char? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n
```

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val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic fun CharSequence.minWith(comparator: Comparator<in Char>): Char? {\n    return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first character having the smallest value according to the provided [comparator] or `null` if there are no characters.\n */\n@SinceKotlin(\"1.4\")\npublic fun CharSequence.minWithOrNull(comparator: Comparator<in Char>): Char? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the char sequence has no characters.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun CharSequence.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no characters match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun CharSequence.none(predicate: (Char) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return false\n    return true\n}\n\n/**\n * Performs the given [action] on each character and returns the char sequence itself afterwards.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S {\n    return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each character, providing sequential index with the character,\n * and returns the char sequence itself afterwards.\n * @param [action] function that takes the index of a character and the character itself\n * and performs the action on the character.\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <S : CharSequence> S.onEachIndexed(action: (index: Int, Char) -> Unit): S {\n    return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first character and applying [operation] from left to right\n * to current accumulator value and each character.\n * \n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and a character,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw UnsupportedOperationException(\"Empty char sequence can't be reduced.\")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first character and applying [operation] from left to right\n * to current accumulator value and each character with its index in the original char sequence.\n * \n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of a character, current accumulator value and the character itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\npublic inline fun CharSequence.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw UnsupportedOperationException(\"Empty char sequence can't be reduced.\")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first character and applying [operation] from left to right\n * to current accumulator value and each character with its index in the original char sequence.\n * \n * Returns `null` if the char sequence is empty.\n * \n * @param [operation] function that takes the index of a character, current accumulator value and the character itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun CharSequence.reduceIndexedOrNull(operation: (index: Int, acc: Char, Char) -> Char): Char? {\n    if (isEmpty())\n        return null\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first character and applying [operation] from left to right\n * to current accumulator value and each character.\n * \n * Returns `null` if the char sequence is empty.\n * \n * @param [operation] function that takes current accumulator value and a character,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceOrNull\n
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*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun CharSequence.reduceOrNull(operation: (acc: Char, Char) -> Char): Char? {\n if (isEmpty())\n return null\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last character and applying [operation] from right to left\n * to each character and current accumulator value.\n * \n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n * please use [reduceRightOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes a character and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException(\"Empty char sequence can't be reduced.\")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last character and applying [operation] from right to left\n * to each character with its index in the original char sequence and current accumulator value.\n * \n * Throws an exception if this char sequence is empty. If the char sequence can be empty in an expected way,\n * please use [reduceRightIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of a character, the character itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRight\n */\npublic inline fun CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {\n var index = lastIndex\n if (index < 0) throw UnsupportedOperationException(\"Empty char sequence can't be reduced.\")\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last character and applying [operation] from right to left\n * to each character with its index in the original char sequence and current accumulator value.\n * \n * Returns `null` if the char sequence is empty.\n * \n * @param [operation] function that takes the index of a character, the character itself and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin(\"1.4\")\npublic inline fun CharSequence.reduceRightIndexedOrNull(operation: (index: Int, Char, acc: Char) -> Char): Char? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the last character and applying [operation] from right to left\n * to each character and current accumulator value.\n * \n * Returns `null` if the char sequence is empty.\n * \n * @param [operation] function that takes a character and current accumulator value,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduceRightOrNull\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun CharSequence.reduceRightOrNull(operation: (Char, acc: Char) -> Char): Char? {\n var index = lastIndex\n if (index < 0) return null\n var accumulator = get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R> CharSequence.runningFold(initial: R, operation: (acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (element in this) {\n accumulator = operation(accumulator, element)\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be

mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningFold\n */\n@SinceKotlin(\"1.4\")\npublic inline fun <R> CharSequence.runningFoldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n if (isEmpty()) return listOf(initial)\n val result = ArrayList<R>(length + 1).apply { add(initial) }\n var accumulator = initial\n for (index in indices) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character and current accumulator value that starts with the first character of this char sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\npublic inline fun CharSequence.runningReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that starts with the first character of this char sequence.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.runningReduce\n */\n@SinceKotlin(\"1.4\")\npublic inline fun CharSequence.runningReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n if (isEmpty()) return emptyList()\n var accumulator = this[0]\n val result = ArrayList<Char>(length).apply { add(accumulator) }\n for (index in 1 until length) {\n accumulator = operation(index, accumulator, this[index])\n result.add(accumulator)\n }\n return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes current accumulator value and a character, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R> CharSequence.scan(initial: R, operation: (acc: R, Char) -> R): List<R> {\n return runningFold(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each character, its index in the original char sequence and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of a character, current accumulator value\n * and the character itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic inline fun <R> CharSequence.scanIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): List<R> {\n return runningFoldIndexed(initial, operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.scanReduce(operation: (acc: Char, Char) -> Char): List<Char> {\n return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level =

DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun CharSequence.scanReduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): List<Char> {\n   return runningReduceIndexed(operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\npublic inline fun CharSequence.sumBy(selector: (Char) -> Int): Int {\n   var sum: Int = 0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\npublic inline fun CharSequence.sumByDouble(selector: (Char) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfInt\")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> Int): Int {\n   var sum: Int = 0.toInt()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfLong\")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each character in the char sequence.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.sumOf(selector: (Char) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Splits this char sequence into a list of strings each not exceeding the given [size].\n * \n * The last string in the resulting list may have less characters than the given [size].\n * \n * @param size the number of elements to take in each string, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunked\n */\n@SinceKotlin(\"1.2\")\npublic fun CharSequence.chunked(size: Int): List<String> {\n   return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return list of results of the [transform] applied to an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have less characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransform\n */\n@SinceKotlin(\"1.2\")\npublic fun <R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R): List<R> {\n   return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits this char sequence into a sequence of strings each not exceeding the given [size].\n * \n * The last string in the resulting sequence may have less characters than the given [size].\n * \n * @param size the

number of elements to take in each string, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.collections.Collections.Transformations.chunked\n */\n@SinceKotlin(\"1.2\")\npublic fun CharSequence.chunkedSequence(size: Int): Sequence<String> {\n return chunkedSequence(size) { it.toString() }\n}\n\n/**\n * Splits this char sequence into several char sequences each not exceeding the given [size]\n * and applies the given [transform] function to an each.\n * \n * @return sequence of results of the [transform] applied to an each char sequence.\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * The last char sequence may have less characters than the given [size].\n * \n * @param size the number of elements to take in each char sequence, must be positive and can be greater than the number of elements in this char sequence.\n * \n * @sample samples.text.Strings.chunkedTransformToSequence\n */\n@SinceKotlin(\"1.2\")\npublic fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -> R): Sequence<R> {\n return windowedSequence(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Splits the original char sequence into pair of char sequences,\n * where *first* char sequence contains characters for which [predicate] yielded `true`,\n * while *second* char sequence contains characters for which [predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n */\npublic inline fun CharSequence.partition(predicate: (Char) -> Boolean): Pair<CharSequence, CharSequence> {\n val first = StringBuilder()\n val second = StringBuilder()\n for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n second.append(element)\n }\n }\n return Pair(first, second)\n}\n\n/**\n * Splits the original string into pair of strings,\n * where *first* string contains characters for which [predicate] yielded `true`,\n * while *second* string contains characters for which [predicate] yielded `false`.\n * \n * @sample samples.text.Strings.partition\n */\npublic inline fun String.partition(predicate: (Char) -> Boolean): Pair<String, String> {\n val first = StringBuilder()\n val second = StringBuilder()\n for (element in this) {\n if (predicate(element)) {\n first.append(element)\n } else {\n second.append(element)\n }\n }\n return Pair(first.toString(), second.toString())\n}\n\n/**\n * Returns a list of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where each\n * snapshot is a string.\n * \n * Several last strings may have less characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {\n return windowed(size, step, partialWindows) { it.toString() }\n}\n\n/**\n * Returns a list of results of applying the given [transform] function to\n * an each char sequence representing a view over the window of the given [size]\n * sliding along this char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last char sequences may have less characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): List<R> {\n checkWindowSizeStep(size, step)\n val thisSize = this.length\n val resultCapacity = thisSize / step + if (thisSize % step == 0) 0 else 1\n val result = ArrayList<R>(resultCapacity)\n var index = 0\n while (index in 0 until thisSize) {\n val end = index + size\n val coercedEnd = if (end < 0 || end > thisSize) { if (partialWindows) thisSize else break } else end\n result.add(transform(subSequence(index, coercedEnd)))\n

index += step\n   }\n   return result\n}\n\n/**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where each\n * snapshot is a string.\n * \n * Several last strings may have less characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false): Sequence<String> {\n   return windowedSequence(size, step, partialWindows) { it.toString() }\n}\n\n/**\n * Returns a sequence of results of applying the given [transform] function to\n * an each char sequence representing a view over the window of the given [size]\n * sliding along this char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last char sequences may have less characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n * @param size the number of elements to take in each window\n * @param step the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin(\"1.2\")\npublic fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {\n   checkWindowSizeStep(size, step)\n   val windows = (if (partialWindows) indices else 0 until length - size + 1) step step\n   return windows.asSequence().map { index ->\n   val end = index + size\n   val coercedEnd = if (end < 0 || end > length) length else end\n   transform(subSequence(index, coercedEnd))\n   }\n}\n\n/**\n * Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index\n * The returned list has length of the shortest char sequence.\n * \n * @sample samples.text.Strings.zip\n */\npublic infix fun CharSequence.zip(other: CharSequence): List<Pair<Char, Char>> {\n   return zip(other) { c1, c2 -> c1 to c2 }\n}\n\n/**\n * Returns a list of values built from the characters of `this` and the [other] char sequences with the same index\n * using the provided [transform] function applied to each pair of characters.\n * The returned list has length of the shortest char sequence.\n * \n * @sample samples.text.Strings.zipWithTransform\n */\npublic inline fun <V> CharSequence.zip(other: CharSequence, transform: (a: Char, b: Char) -> V): List<V> {\n   val length = minOf(this.length, other.length)\n   val list = ArrayList<V>(length)\n   for (i in 0 until length) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of pairs of each two adjacent characters in this char sequence.\n * \n * The returned list is empty if this char sequence contains less than two characters.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n@SinceKotlin(\"1.2\")\npublic fun CharSequence.zipWithNext(): List<Pair<Char, Char>> {\n   return zipWithNext { a, b -> a to b }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to an each pair of two adjacent characters in this char sequence.\n * \n * The returned list is empty if this char sequence contains less than two characters.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n */\n@SinceKotlin(\"1.2\")\npublic inline fun <R> CharSequence.zipWithNext(transform: (a: Char, b: Char) -> R): List<R> {\n   val size = length - 1\n   if (size < 1) return emptyList()\n   val result = ArrayList<R>(size)\n   for (index in 0 until size) {\n   result.add(transform(this[index], this[index + 1]))\n   }\n   return result\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original char sequence returning its characters when being iterated.\n */\npublic fun CharSequence.asIterable(): Iterable<Char> {\n   if (this is String && isEmpty()) return emptyList()\n   return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original char sequence returning its characters when being iterated.\n */\npublic fun CharSequence.asSequence(): Sequence<Char> {\n   if (this is String && isEmpty()) return emptySequence()\n   return Sequence { this.iterator() }\n}\n\n","/*\n *

Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\nimport kotlin.contracts.contract\n\n/**\n * Returns a sub sequence of this char sequence having leading and trailing characters matching the [predicate] removed.\n */\npublic inline fun CharSequence.trim(predicate: (Char) -> Boolean): CharSequence {\n   var startIndex = 0\n   var endIndex = length - 1\n   var startFound = false\n\n   while (startIndex <= endIndex) {\n   val index = if (!startFound) startIndex else endIndex\n   val match = predicate(this[index])\n\n   if (!startFound) {\n   if (!match)\n   startFound = true\n   else\n   startIndex += 1\n   } else {\n   if (!match)\n   break\n   else\n   endIndex -= 1\n   }\n   }\n\n   return subSequence(startIndex, endIndex + 1)\n}\n\n/**\n * Returns a string having leading and trailing characters matching the [predicate] removed.\n */\npublic inline fun String.trim(predicate: (Char) -> Boolean): String =\n   (this as CharSequence).trim(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having leading characters matching the [predicate] removed.\n */\npublic inline fun CharSequence.trimStart(predicate: (Char) -> Boolean): CharSequence {\n   for (index in this.indices)\n   if (!predicate(this[index]))\n   return subSequence(index, length)\n\n   return \"\"\n}\n\n/**\n * Returns a string having leading characters matching the [predicate] removed.\n */\npublic inline fun String.trimStart(predicate: (Char) -> Boolean): String =\n   (this as CharSequence).trimStart(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having trailing characters matching the [predicate] removed.\n */\npublic inline fun CharSequence.trimEnd(predicate: (Char) -> Boolean): CharSequence {\n   for (index in this.indices.reversed())\n   if (!predicate(this[index]))\n   return subSequence(0, index + 1)\n\n   return \"\"\n}\n\n/**\n * Returns a string having trailing characters matching the [predicate] removed.\n */\npublic inline fun String.trimEnd(predicate: (Char) -> Boolean): String =\n   (this as CharSequence).trimEnd(predicate).toString()\n\n/**\n * Returns a sub sequence of this char sequence having leading and trailing characters from the [chars] array removed.\n */\npublic fun CharSequence.trim(vararg chars: Char): CharSequence = trim { it in chars }\n\n/**\n * Returns a string having leading and trailing characters from the [chars] array removed.\n */\npublic fun String.trim(vararg chars: Char): String = trim { it in chars }\n\n/**\n * Returns a sub sequence of this char sequence having leading characters from the [chars] array removed.\n */\npublic fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars }\n\n/**\n * Returns a string having leading characters from the [chars] array removed.\n */\npublic fun String.trimStart(vararg chars: Char): String = trimStart { it in chars }\n\n/**\n * Returns a sub sequence of this char sequence having trailing characters from the [chars] array removed.\n */\npublic fun CharSequence.trimEnd(vararg chars: Char): CharSequence = trimEnd { it in chars }\n\n/**\n * Returns a string having trailing characters from the [chars] array removed.\n */\npublic fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }\n\n/**\n * Returns a sub sequence of this char sequence having leading and trailing whitespace removed.\n */\npublic fun CharSequence.trim(): CharSequence = trim(Char::isWhitespace)\n\n/**\n * Returns a string having leading and trailing whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.trim(): String = (this as CharSequence).trim().toString()\n\n/**\n * Returns a sub sequence of this char sequence having leading whitespace removed.\n */\npublic fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)\n\n/**\n * Returns a string having leading whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.trimStart(): String = (this as CharSequence).trimStart().toString()\n\n/**\n * Returns a sub sequence of this char sequence having trailing whitespace removed.\n */\npublic fun CharSequence.trimEnd(): CharSequence = trimEnd(Char::isWhitespace)\n\n/**\n * Returns a string having trailing whitespace removed.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.trimEnd(): String = (this as CharSequence).trimEnd().toString()\n\n/**\n * Returns a char sequence with content of this char sequence padded at the beginning\n * to the specified [length] with the specified character or space.\n *\n * @param length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.\n * @return Returns a char sequence of length at least [length] consisting of `this` char sequence prepended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample

samples.text.Strings.padStart\n */\npublic fun CharSequence.padStart(length: Int, padChar: Char = ' '): CharSequence {\n   if (length < 0)\n   throw IllegalArgumentException(\"Desired length $length is less than zero.\")\n   if (length <= this.length)\n   return this.subSequence(0, this.length)\n\n   val sb = StringBuilder(length)\n   for (i in 1..(length - this.length))\n   sb.append(padChar)\n   sb.append(this)\n   return sb\n}\n\n/**\n * Pads the string to the specified [length] at the beginning with the specified character or space.\n *\n * @param length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length] consisting of `this` string prepended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample samples.text.Strings.padStart\n */\npublic fun String.padStart(length: Int, padChar: Char = ' '): String =\n(this as CharSequence).padStart(length, padChar).toString()\n\n/**\n * Returns a char sequence with content of this char sequence padded at the end\n * to the specified [length] with the specified character or space.\n *\n * @param length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.\n * @return Returns a char sequence of length at least [length] consisting of `this` char sequence appended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample samples.text.Strings.padEnd\n */\npublic fun CharSequence.padEnd(length: Int, padChar: Char = ' '): CharSequence {\n   if (length < 0)\n   throw IllegalArgumentException(\"Desired length $length is less than zero.\")\n   if (length <= this.length)\n   return this.subSequence(0, this.length)\n\n   val sb = StringBuilder(length)\n   sb.append(this)\n   for (i in 1..(length - this.length))\n   sb.append(padChar)\n   return sb\n}\n\n/**\n * Pads the string to the specified [length] at the end with the specified character or space.\n *\n * @param length the desired string length.\n * @param padChar the character to pad string with, if it has length less than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length] consisting of `this` string appended with [padChar] as many times\n * as are necessary to reach that length.\n * @sample samples.text.Strings.padEnd\n */\npublic fun String.padEnd(length: Int, padChar: Char = ' '): String =\n(this as CharSequence).padEnd(length, padChar).toString()\n\n/**\n * Returns `true` if this nullable char sequence is either `null` or empty.\n *\n * @sample samples.text.Strings.stringIsNullOrEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence?.isNullOrEmpty(): Boolean {\n   contract {\n returns(false) implies (this@isNullOrEmpty != null)\n   }\n\n   return this == null || this.length == 0\n}\n\n/**\n * Returns `true` if this char sequence is empty (contains no characters).\n *\n * @sample samples.text.Strings.stringIsEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isEmpty(): Boolean = length == 0\n\n/**\n * Returns `true` if this char sequence is not empty.\n *\n * @sample samples.text.Strings.stringIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotEmpty(): Boolean = length > 0\n\n// implemented differently in JVM and JS\n//public fun String.isBlank(): Boolean = length() == 0 || all { it.isWhitespace() }\n\n\n/**\n * Returns `true` if this char sequence is not empty and contains some characters except of whitespace characters.\n *\n * @sample samples.text.Strings.stringIsNotBlank\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.isNotBlank(): Boolean = !isBlank()\n\n/**\n * Returns `true` if this nullable char sequence is either `null` or empty or consists solely of whitespace characters.\n *\n * @sample samples.text.Strings.stringIsNullOrBlank\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence?.isNullOrBlank(): Boolean {\n   contract {\n   returns(false) implies (this@isNullOrBlank != null)\n   }\n\n   return this == null || this.isBlank()\n}\n\n/**\n * Iterator for characters of the given char sequence.\n */\npublic operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {\n   private var index = 0\n\n   public override fun nextChar(): Char = get(index++)\n\n   public override fun hasNext(): Boolean = index < length\n}\n\n/** Returns the string if it is not `null`, or the empty string otherwise.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String?.orEmpty(): String = this ?: \"\"\n\n/**\n * Returns this char sequence if it's not empty\n * or the result of calling [defaultValue] function if the char sequence is empty.\n *\n * @sample samples.text.Strings.stringIfEmpty\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : CharSequence, C : R =\n   if (isEmpty()) defaultValue() else this\n\n/**\n * Returns this char

sequence if it is not empty and doesn't consist solely of whitespace characters,\n * or the result of calling [defaultValue] function otherwise.\n *\n * @sample samples.text.Strings.stringIfBlank\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifBlank(defaultValue: () -> R): R where C : CharSequence, C : R =\n   if (isBlank()) defaultValue() else this\n\n/**\n * Returns the range of valid character indices for this char sequence.\n */\npublic val CharSequence.indices: IntRange\n   get() = 0..length - 1\n\n/**\n * Returns the index of the last character in the char sequence or -1 if it is empty.\n */\npublic val CharSequence.lastIndex: Int\n   get() = this.length - 1\n\n/**\n * Returns `true` if this CharSequence has Unicode surrogate pair at the specified [index].\n */\npublic fun CharSequence.hasSurrogatePairAt(index: Int): Boolean {\n return index in 0..length - 2\n   && this[index].isHighSurrogate()\n   && this[index + 1].isLowSurrogate()\n}\n\n/**\n * Returns a substring specified by the given [range] of indices.\n */\npublic fun String.substring(range: IntRange): String = substring(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence specified by the given [range] of indices.\n */\npublic fun CharSequence.subSequence(range: IntRange): CharSequence = subSequence(range.start, range.endInclusive + 1)\n\n/**\n * Returns a subsequence of this char sequence.\n *\n * This extension is chosen only for invocation with old-named parameters.\n * Replace parameter names with the same as those of [CharSequence.subSequence].\n */\n@kotlin.internal.InlineOnly\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\") // false warning\n@Deprecated(\"Use parameters named startIndex and endIndex.\", ReplaceWith(\"subSequence(startIndex = start, endIndex = end)\"))\npublic inline fun String.subSequence(start: Int, end: Int): CharSequence = subSequence(start, end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the [startIndex] and ending right before the [endIndex].\n *\n * @param startIndex the start index (inclusive).\n * @param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.substring(startIndex: Int, endIndex: Int = length): String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at indices from the specified [range] of this char sequence.\n */\npublic fun CharSequence.substring(range: IntRange): String = subSequence(range.start, range.endInclusive + 1).toString()\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBefore(delimiter: Char, missingDelimiterValue: String = this): String {\n   val index = indexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBefore(delimiter: String, missingDelimiterValue: String = this): String {\n   val index = indexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringAfter(delimiter: Char, missingDelimiterValue: String = this): String {\n   val index = indexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this): String {\n   val index = indexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(index + delimiter.length, length)\n}\n\n/**\n * Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {\n   val index = lastIndexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringBeforeLast(delimiter: String, missingDelimiterValue: String = this): String {\n   val index = lastIndexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the

original string.\n */\npublic fun String.substringAfterLast(delimiter: Char, missingDelimiterValue: String = this): String {\n   val index = lastIndexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this): String {\n   val index = lastIndexOf(delimiter)\n   return if (index == -1) missingDelimiterValue else substring(index + delimiter.length, length)\n}\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given range\n * is replaced with the [replacement] char sequence.\n * @param startIndex the index of the first character to be replaced.\n * @param endIndex the index of the first character after the replacement to keep in the string.\n */\n@OptIn(ExperimentalStdlibApi::class)\npublic fun CharSequence.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence): CharSequence {\n   if (endIndex < startIndex)\n   throw IndexOutOfBoundsException(\"End index ($endIndex) is less than start index ($startIndex).\")\n   val sb = StringBuilder()\n   sb.appendRange(this, 0, startIndex)\n   sb.append(replacement)\n   sb.appendRange(this, endIndex, length)\n   return sb\n}\n\n/**\n * Replaces the part of the string at the given range with the [replacement] char sequence.\n * @param startIndex the index of the first character to be replaced.\n * @param endIndex the index of the first character after the replacement to keep in the string.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence): String =\n   (this as CharSequence).replaceRange(startIndex, endIndex, replacement).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given [range]\n * is replaced with the [replacement] char sequence.\n *\n * The end index of the [range] is included in the part to be replaced.\n */\npublic fun CharSequence.replaceRange(range: IntRange, replacement: CharSequence): CharSequence =\n   replaceRange(range.start, range.endInclusive + 1, replacement)\n\n/**\n * Replace the part of string at the given [range] with the [replacement] string.\n *\n * The end index of the [range] is included in the part to be replaced.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.replaceRange(range: IntRange, replacement: CharSequence): String =\n   (this as CharSequence).replaceRange(range, replacement).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given range is removed.\n *\n * @param startIndex the index of the first character to be removed.\n * @param endIndex the index of the first character after the removed part to keep in the string.\n *\n * [endIndex] is not included in the removed part.\n */\n@OptIn(ExperimentalStdlibApi::class)\npublic fun CharSequence.removeRange(startIndex: Int, endIndex: Int): CharSequence {\n   if (endIndex < startIndex)\n   throw IndexOutOfBoundsException(\"End index ($endIndex) is less than start index ($startIndex).\")\n\n   if (endIndex == startIndex)\n   return this.subSequence(0, length)\n\n   val sb = StringBuilder(length - (endIndex - startIndex))\n   sb.appendRange(this, 0, startIndex)\n   sb.appendRange(this, endIndex, length)\n   return sb\n}\n\n/**\n * Removes the part of a string at a given range.\n * @param startIndex the index of the first character to be removed.\n * @param endIndex the index of the first character after the removed part to keep in the string.\n *\n * [endIndex] is not included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(startIndex: Int, endIndex: Int): String =\n   (this as CharSequence).removeRange(startIndex, endIndex).toString()\n\n/**\n * Returns a char sequence with content of this char sequence where its part at the given [range] is removed.\n *\n * The end index of the [range] is included in the removed part.\n */\npublic fun CharSequence.removeRange(range: IntRange): CharSequence = removeRange(range.start, range.endInclusive + 1)\n\n/**\n * Removes the part of a string at the given [range].\n *\n * The end index of the [range] is included in the removed part.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.removeRange(range: IntRange): String =\n   (this as CharSequence).removeRange(range).toString()\n\n/**\n * If this char sequence starts with the given [prefix], returns a new char sequence\n * with the prefix removed. Otherwise, returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removePrefix(prefix: CharSequence): CharSequence {\n   if (startsWith(prefix)) {\n   return subSequence(prefix.length, length)\n   }\n   return subSequence(0, length)\n}\n\n/**\n * If this string starts with the given [prefix], returns a copy of this string\n * with the prefix removed. Otherwise, returns this string.\n */\npublic fun String.removePrefix(prefix: CharSequence): String {\n   if

(startsWith(prefix)) {\n return substring(prefix.length)\n }\n return this\n}\n\n/**\n * If this char sequence ends with the given [suffix], returns a new char sequence\n * with the suffix removed. Otherwise, returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {\n if (endsWith(suffix)) {\n return subSequence(0, length - suffix.length)\n }\n return subSequence(0, length)\n}\n\n/**\n * If this string ends with the given [suffix], returns a copy of this string\n * with the suffix removed. Otherwise, returns this string.\n */\npublic fun String.removeSuffix(suffix: CharSequence): String {\n if (endsWith(suffix)) {\n return substring(0, length - suffix.length)\n }\n return this\n}\n\n/**\n * When this char sequence starts with the given [prefix] and ends with the given [suffix],\n * returns a new char sequence having both the given [prefix] and [suffix] removed.\n * Otherwise returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return subSequence(prefix.length, length - suffix.length)\n }\n return subSequence(0, length)\n}\n\n/**\n * Removes from a string both the given [prefix] and [suffix] if and only if\n * it starts with the [prefix] and ends with the [suffix].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(prefix: CharSequence, suffix: CharSequence): String {\n if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) {\n return substring(prefix.length, length - suffix.length)\n }\n return this\n}\n\n/**\n * When this char sequence starts with and ends with the given [delimiter],\n * returns a new char sequence having this [delimiter] removed both from the start and end.\n * Otherwise returns a new char sequence with the same characters.\n */\npublic fun CharSequence.removeSurrounding(delimiter: CharSequence): CharSequence = removeSurrounding(delimiter, delimiter)\n\n/**\n * Removes the given [delimiter] string from both the start and the end of this string\n * if and only if it starts with and ends with the [delimiter].\n * Otherwise returns this string unchanged.\n */\npublic fun String.removeSurrounding(delimiter: CharSequence): String = removeSurrounding(delimiter, delimiter)\n\n/**\n * Replace part of string before the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string before the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBefore(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfter(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n}\n\n/**\n * Replace part of string after the first occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfter(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = indexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfterLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)\n}\n\n/**\n * Replace part of string after the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceAfterLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n

return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter: Char, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n/**\n * Replace part of string before the last occurrence of given delimiter with the [replacement] string.\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n */\npublic fun String.replaceBeforeLast(delimiter: String, replacement: String, missingDelimiterValue: String = this): String {\n val index = lastIndexOf(delimiter)\n return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)\n}\n\n\n// public fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific\n// public fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean): String // JVM- and JS-specific\n\n/**\n * Returns a new string obtained by replacing each substring of this char sequence that matches the given regular expression\n * with the given [replacement].\n *\n * The [replacement] can consist of any combination of literal text and $-substitutions. To treat the replacement string\n * literally escape it with the [kotlin.text.Regex.Companion.escapeReplacement] method.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, replacement: String): String = regex.replace(this, replacement)\n\n/**\n * Returns a new string obtained by replacing each substring of this char sequence that matches the given regular expression\n * with the result of the given function [transform] that takes [MatchResult] and returns a string to be used as a\n * replacement for that match.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, noinline transform: (MatchResult) -> CharSequence): String =\n regex.replace(this, transform)\n\n/**\n * Replaces the first occurrence of the given regular expression [regex] in this char sequence with specified [replacement] expression.\n *\n * @param replacement A replacement expression that can include substitutions. See [Regex.replaceFirst] for details.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replaceFirst(regex: Regex, replacement: String): String = regex.replaceFirst(this, replacement)\n\n\n/**\n * Returns `true` if this char sequence matches the given regular expression.\n */\n@kotlin.internal.InlineOnly\npublic inline infix fun CharSequence.matches(regex: Regex): Boolean = regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n * Invoked when it's already known that arguments are not Strings, so that no additional type checks are performed.\n */\ninternal fun CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase: Boolean): Boolean {\n if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) || (otherOffset > other.length - length)) {\n return false\n }\n\n for (index in 0 until length) {\n if (!this[thisOffset + index].equals(other[otherOffset + index], ignoreCase))\n return false\n }\n return true\n}\n\n/**\n * Returns `true` if this char sequence starts with the specified character.\n */\npublic fun CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 && this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the specified character.\n */\npublic fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n this.length > 0 && this[lastIndex].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence starts with the specified prefix.\n */\npublic fun CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && prefix is String)\n return this.startsWith(prefix)\n else\n return regionMatchesImpl(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char sequence starting at the specified offset [startIndex] starts with the specified prefix.\n */\npublic fun CharSequence.startsWith(prefix: CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && prefix is String)\n return this.startsWith(prefix, startIndex)\n else\n return regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char sequence ends with the specified suffix.\n */\npublic fun CharSequence.endsWith(suffix: CharSequence, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase && this is String && suffix is String)\n return this.endsWith(suffix)\n else\n return regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length, ignoreCase)\n}\n\n\n// common prefix and suffix\n\n/**\n * Returns the longest string `prefix` such that this char

sequence and [other] char sequence both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this and [other] have no common prefix, returns the empty string.\n\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @sample samples.text.Strings.commonPrefixWith\n */\npublic fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n val shortestLength = minOf(this.length, other.length)\n\n var i = 0\n while (i < shortestLength && this[i].equals(other[i], ignoreCase = ignoreCase)) {\n i++\n }\n if (this.hasSurrogatePairAt(i - 1) || other.hasSurrogatePairAt(i - 1)) {\n i--\n }\n return subSequence(0, i).toString()\n}\n\n/**\n * Returns the longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,\n * taking care not to split surrogate pairs.\n * If this and [other] have no common suffix, returns the empty string.\n\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @sample samples.text.Strings.commonSuffixWith\n */\npublic fun CharSequence.commonSuffixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n val thisLength = this.length\n val otherLength = other.length\n val shortestLength = minOf(thisLength, otherLength)\n\n var i = 0\n while (i < shortestLength && this[thisLength - i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {\n i++\n }\n if (this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {\n i--\n }\n return subSequence(thisLength - i, thisLength).toString()\n}\n\n\n// indexOfAny()\n\n/**\n * Finds the index of the first occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of the first occurrence of matched character from [chars] or -1 if none of [chars] are found.\n *\n */\npublic fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n if (!ignoreCase && chars.size == 1 && this is String) {\n val char = chars.single()\n return nativeIndexOf(char, startIndex)\n }\n\n for (index in startIndex.coerceAtLeast(0)..lastIndex) {\n val charAtIndex = get(index)\n if (chars.any { it.equals(charAtIndex, ignoreCase) })\n return index\n }\n return -1\n}\n\n/**\n * Finds the index of the last occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of the last occurrence of matched character from [chars] or -1 if none of [chars] are found.\n *\n */\npublic fun CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n if (!ignoreCase && chars.size == 1 && this is String) {\n val char = chars.single()\n return nativeLastIndexOf(char, startIndex)\n }\n\n for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {\n val charAtIndex = get(index)\n if (chars.any { it.equals(charAtIndex, ignoreCase) })\n return index\n }\n\n return -1\n}\n\n\nprivate fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int, ignoreCase: Boolean, last: Boolean = false): Int {\n val indices = if (!last)\n startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length)\n else\n startIndex.coerceAtMost(lastIndex) downTo endIndex.coerceAtLeast(0)\n\n if (this is String && other is String) { // smart cast\n for (index in indices) {\n if (other.regionMatches(0, this, index, other.length, ignoreCase))\n return index\n }\n } else {\n for (index in indices) {\n if (other.regionMatchesImpl(0, this, index, other.length, ignoreCase))\n return index\n }\n }\n return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {\n if (!ignoreCase && strings.size == 1) {\n val string = strings.single()\n val index = if (!last) indexOf(string, startIndex) else lastIndexOf(string, startIndex)\n return if (index < 0) null else index to string\n }\n\n val indices = if (!last) startIndex.coerceAtLeast(0)..length else startIndex.coerceAtMost(lastIndex) downTo 0\n\n if (this is String) {\n for (index in indices) {\n val matchingString = strings.firstOrNull { it.regionMatches(0, this, index, it.length, ignoreCase) }\n if (matchingString != null)\n return index to matchingString\n }\n } else {\n for (index in indices) {\n val matchingString = strings.firstOrNull { it.regionMatchesImpl(0, this, index, it.length, ignoreCase) }\n if (matchingString != null)\n return index to matchingString\n }\n }\n\n return null\n}\n\n/**\n * Finds the first occurrence of any of the specified [strings] in this char sequence,\n *

starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the first occurrence of matched string from [strings] and the string matched\n * or `null` if none of [strings] are found.\n *\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Pair<Int, String>? =\n   findAnyOf(strings, startIndex, ignoreCase, last = false)\n\n/**\n * Finds the last occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the last occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found.\n *\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the end toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? =\n   findAnyOf(strings, startIndex, ignoreCase, last = true)\n\n/**\n * Finds the index of the first occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the first occurrence of matched string from [strings] or -1 if none of [strings] are found.\n *\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int =\n   findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1\n\n/**\n * Finds the index of the last occurrence of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally ignoring the case.\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the last occurrence of matched string from [strings] or -1 if none of [strings] are found.\n *\n * To avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the end toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches this string at that position.\n */\npublic fun CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int =\n   findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1\n\n\n// indexOf\n\n/**\n * Returns the index within this string of the first occurrence of the specified character, starting from the specified [startIndex].\n *\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of the first occurrence of [char] or -1 if none is found.\n */\npublic fun CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n   return if (ignoreCase || this !is String)\n   indexOfAny(charArrayOf(char), startIndex, ignoreCase)\n   else\n   nativeIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the first occurrence of the specified [string],\n * starting from the specified [startIndex].\n *\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the first occurrence of [string] or `-1` if none is found.\n * @sample samples.text.Strings.indexOf\n */\npublic fun CharSequence.indexOf(string: String, startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n   return if (ignoreCase || this !is String)\n   indexOf(string, startIndex, length, ignoreCase)\n   else\n   nativeIndexOf(string, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence of the specified character,\n * starting from the specified [startIndex].\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of the last occurrence of [char] or -1 if none is found.\n

*/\npublic fun CharSequence.lastIndexOf(char: Char, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n return if (ignoreCase || this !is String)\n lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)\n else\n nativeLastIndexOf(char, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence of the specified [string],\n * starting from the specified [startIndex].\n *\n * @param startIndex The index of character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching a string. By default `false`.\n * @return An index of the last occurrence of [string] or -1 if none is found.\n */\npublic fun CharSequence.lastIndexOf(string: String, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n return if (ignoreCase || this !is String)\n indexOf(string, startIndex, 0, ignoreCase, last = true)\n else\n nativeLastIndexOf(string, startIndex)\n}\n\n/**\n * Returns `true` if this char sequence contains the specified [other] sequence of characters as a substring.\n *\n * @param ignoreCase `true` to ignore character case when comparing strings. By default `false`.\n */\n@Suppress(\"INAPPLICABLE_OPERATOR_MODIFIER\")\npublic operator fun CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n if (other is String)\n indexOf(other, ignoreCase = ignoreCase) >= 0\n else\n indexOf(other, 0, length, ignoreCase) >= 0\n\n\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n *\n * @param ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n */\n@Suppress(\"INAPPLICABLE_OPERATOR_MODIFIER\")\npublic operator fun CharSequence.contains(char: Char, ignoreCase: Boolean = false): Boolean =\n indexOf(char, ignoreCase = ignoreCase) >= 0\n\n/**\n * Returns `true` if this char sequence contains at least one match of the specified regular expression [regex].\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean = regex.containsMatchIn(this)\n\n\n// rangesDelimitedBy\n\n\nprivate class DelimitedRangesSequence(\n private val input: CharSequence,\n private val startIndex: Int,\n private val limit: Int,\n private val getNextMatch: CharSequence.(currentIndex: Int) -> Pair<Int, Int>?\n) : Sequence<IntRange> {\n\n override fun iterator(): Iterator<IntRange> = object : Iterator<IntRange> {\n var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n var currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n var nextSearchIndex: Int = currentStartIndex\n var nextItem: IntRange? = null\n var counter: Int = 0\n\n private fun calcNext() {\n if (nextSearchIndex < 0) {\n nextState = 0\n nextItem = null\n } else {\n if (limit > 0 && ++counter >= limit || nextSearchIndex > input.length) {\n nextItem = currentStartIndex..input.lastIndex\n nextSearchIndex = -1\n } else {\n val match = input.getNextMatch(nextSearchIndex)\n if (match == null) {\n nextItem = currentStartIndex..input.lastIndex\n nextSearchIndex = -1\n } else {\n val (index, length) = match\n nextItem = currentStartIndex until index\n currentStartIndex = index + length\n nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n }\n }\n nextState = 1\n }\n }\n\n override fun next(): IntRange {\n if (nextState == -1)\n calcNext()\n if (nextState == 0)\n throw NoSuchElementException()\n val result = nextItem as IntRange\n // Clean next to avoid keeping reference on yielded instance\n nextItem = null\n nextState = -1\n return result\n }\n\n override fun hasNext(): Boolean {\n if (nextState == -1)\n calcNext()\n return nextState == 1\n }\n }\n}\n\n/**\n * Returns a sequence of index ranges of substrings in this char sequence around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more characters to be used as delimiters.\n * @param startIndex The index to start searching delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is coerced to be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero by default means no limit is set.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: CharArray, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {\n require(limit >= 0, { \"Limit must be non-negative, but was $limit.\" })\n\n return DelimitedRangesSequence(this, startIndex, limit, { currentIndex ->\n indexOfAny(delimiters, currentIndex, ignoreCase = ignoreCase).let { if (it < 0) null else it to 1 }\n })\n}\n\n\n\n/**\n * Returns a sequence of index ranges of substrings in this char sequence around

occurrences of the specified [delimiters].\n *\n * @param delimiters One or more strings to be used as delimiters.\n * @param startIndex The index to start searching delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is coerced to be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero by default means no limit is set.\n *\n * To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [delimiters]\n * that matches this string at that position.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: Array<out String>, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {\n   require(limit >= 0, { \"Limit must be non-negative, but was $limit.\" })\n   val delimitersList = delimiters.asList()\n\n   return DelimitedRangesSequence(this, startIndex, limit, { currentIndex -> findAnyOf(delimitersList, currentIndex, ignoreCase = ignoreCase, last = false)?.let { it.first to it.second.length } })\n\n}\n\n\n// split\n\n/**\n * Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more strings to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero by default means no limit is set.\n *\n * To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from\n * the beginning to the end of this string, and finds at each position the first element in [delimiters]\n * that matches this string at that position.\n */\npublic fun CharSequence.splitToSequence(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =\n   rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more strings to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return. Zero by default means no limit is set.\n *\n * To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from\n * the beginning to the end of this string, and matches at each position the first element in [delimiters]\n * that is equal to a delimiter in this instance at that position.\n */\npublic fun CharSequence.split(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): List<String> {\n   if (delimiters.size == 1) {\n   val delimiter = delimiters[0]\n   if (!delimiter.isEmpty()) {\n   return split(delimiter, ignoreCase, limit)\n   }\n   }\n\n   return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }\n}\n\n/**\n * Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more characters to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.\n */\npublic fun CharSequence.splitToSequence(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =\n   rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters One or more characters to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.\n */\npublic fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): List<String> {\n   if (delimiters.size == 1) {\n   return split(delimiters[0].toString(), ignoreCase, limit)\n   }\n\n   return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }\n}\n\n/**\n * Splits this char sequence to a list of strings around occurrences of the specified [delimiter].\n * This is specialized version of split which receives single non-empty delimiter and offers better performance\n *\n * @param delimiter String used as delimiter\n * @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings to return.\n */\nprivate fun CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {\n   require(limit >= 0, { \"Limit must be non-negative, but was $limit.\" })\n\n   var currentOffset = 0\n   var nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n   if (nextIndex == -1 || limit == 1) {\n   return

listOf(this.toString())\n   }\n\n   val isLimited = limit > 0\n   val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)\n   do {\n   result.add(substring(currentOffset, nextIndex))\n   currentOffset = nextIndex + delimiter.length\n   // Do not search for next occurrence if we're reaching limit\n   if (isLimited && result.size == limit - 1) break\n   nextIndex = indexOf(delimiter, currentOffset, ignoreCase)\n   } while (nextIndex != -1)\n\n   result.add(substring(currentOffset, length))\n   return result\n}\n\n/**\n * Splits this char sequence around matches of the given regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings to return.\n * Zero by default means no limit is set.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> = regex.split(this, limit)\n\n/**\n * Splits this char sequence to a sequence of lines delimited by any of the following character sequences: CRLF, LF or CR.\n *\n * The lines returned do not include terminating line separators.\n */\npublic fun CharSequence.lineSequence(): Sequence<String> = splitToSequence(\"\\r\\n\", \"\\n\", \"\\r\")\n\n/**\n * Splits this char sequence to a list of lines delimited by any of the following character sequences: CRLF, LF or CR.\n *\n * The lines returned do not include terminating line separators.\n */\npublic fun CharSequence.lines(): List<String> = lineSequence().toList()\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Converts the characters in the specified array to a string.\n */\n@SinceKotlin(\"1.2\")\n@Deprecated(\"Use CharArray.concatToString() instead\", ReplaceWith(\"chars.concatToString()\"))\npublic actual fun String(chars: CharArray): String {\n   var result = \"\"\n   for (char in chars) {\n   result += char\n   }\n   return result\n}\n\n/**\n * Converts the characters from a portion of the specified array to a string.\n *\n * @throws IndexOutOfBoundsException if either [offset] or [length] are less than zero\n * or `offset + length` is out of [chars] array bounds.\n */\n@SinceKotlin(\"1.2\")\n@Deprecated(\"Use CharArray.concatToString(startIndex, endIndex) instead\", ReplaceWith(\"chars.concatToString(offset, offset + length)\"))\npublic actual fun String(chars: CharArray, offset: Int, length: Int): String {\n   if (offset < 0 || length < 0 || chars.size - offset < length)\n   throw IndexOutOfBoundsException(\"size: ${chars.size}; offset: $offset; length: $length\")\n   var result = \"\"\n   for (index in offset until offset + length) {\n   result += chars[index]\n   }\n   return result\n}\n\n/**\n * Concatenates characters in this [CharArray] into a String.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun CharArray.concatToString(): String {\n   var result = \"\"\n   for (char in this) {\n   result += char\n   }\n   return result\n}\n\n/**\n * Concatenates characters in this [CharArray] or its subrange into a String.\n *\n * @param startIndex the beginning (inclusive) of the subrange of characters, 0 by default.\n * @param endIndex the end (exclusive) of the subrange of characters, size of this array by default.\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun CharArray.concatToString(startIndex: Int = 0, endIndex: Int = this.size): String {\n   AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n   var result = \"\"\n   for (index in startIndex until endIndex) {\n   result += this[index]\n   }\n   return result\n}\n\n/**\n * Returns a [CharArray] containing characters of this string.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun String.toCharArray(): CharArray {\n   return CharArray(length) { get(it) }\n}\n\n/**\n * Returns a [CharArray] containing characters of this string or its substring.\n *\n * @param startIndex the beginning (inclusive) of the substring, 0 by default.\n * @param endIndex the end (exclusive) of the substring, length of this string by default.\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.toCharArray(startIndex: Int = 0, endIndex: Int = this.length): CharArray {\n   AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n   return

CharArray(endIndex - startIndex) { get(startIndex + it) }\n}\n\n/**\n * Decodes a string from the bytes in UTF-8 encoding in this array.\n *\n * Malformed byte sequences are replaced by the replacement char `\\uFFFD`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun ByteArray.decodeToString(): String {\n   return decodeUtf8(this, 0, size, false)\n}\n\n/**\n * Decodes a string from the bytes in UTF-8 encoding in this array or its subrange.\n *\n * @param startIndex the beginning (inclusive) of the subrange to decode, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to decode, size of this array by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on malformed byte sequence or replace it by the replacement char `\\uFFFD`.\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n * @throws CharacterCodingException if the byte array contains malformed UTF-8 byte sequence and [throwOnInvalidSequence] is true.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun ByteArray.decodeToString(\n   startIndex: Int = 0,\n   endIndex: Int = this.size,\n   throwOnInvalidSequence: Boolean = false\n): String {\n   AbstractList.checkBoundsIndexes(startIndex, endIndex, this.size)\n   return decodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)\n}\n\n/**\n * Encodes this string to an array of bytes in UTF-8 encoding.\n *\n * Any malformed char sequence is replaced by the replacement byte sequence.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun String.encodeToByteArray(): ByteArray {\n   return encodeUtf8(this, 0, length, false)\n}\n\n/**\n * Encodes this string or its substring to an array of bytes in UTF-8 encoding.\n *\n * @param startIndex the beginning (inclusive) of the substring to encode, 0 by default.\n * @param endIndex the end (exclusive) of the substring to encode, length of this string by default.\n * @param throwOnInvalidSequence specifies whether to throw an exception on malformed char sequence or replace.\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or [endIndex] is greater than the length of this string.\n * @throws IllegalArgumentException if [startIndex] is greater than [endIndex].\n * @throws CharacterCodingException if this string contains malformed char sequence and [throwOnInvalidSequence] is true.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.encodeToByteArray(\n   startIndex: Int = 0,\n   endIndex: Int = this.length,\n   throwOnInvalidSequence: Boolean = false\n): ByteArray {\n   AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n   return encodeUtf8(this, startIndex, endIndex, throwOnInvalidSequence)\n}\n\n/**\n * Returns a copy of this string converted to upper case using the rules of the default locale.\n *\n * @sample samples.text.Strings.toUpperCase\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toUpperCase(): String = asDynamic().toUpperCase()\n\n/**\n * Returns a copy of this string converted to lower case using the rules of the default locale.\n *\n * @sample samples.text.Strings.toLowerCase\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toLowerCase(): String = asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeIndexOf(str: String, fromIndex: Int): Int = asDynamic().indexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(str: String, fromIndex: Int): Int = asDynamic().lastIndexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeStartsWith(s: String, position: Int): Boolean = asDynamic().startsWith(s, position)\n\n@kotlin.internal.InlineOnly\ninternal inline fun String.nativeEndsWith(s: String): Boolean = asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun String.substring(startIndex: Int): String = asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\npublic actual inline fun String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex, endIndex)\n\n@kotlin.internal.InlineOnly\npublic inline fun String.concat(str: String): String = asDynamic().concat(str)\n\n@kotlin.internal.InlineOnly\npublic inline fun String.match(regex: String): Array<String>? = asDynamic().match(regex)\n\n//native public fun String.trim(): String\n//TODO: String.replace to implement effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\ninternal inline fun

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String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern, replacement)\n\n@SinceKotlin(\"1.2\")\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n        val n1 = this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n        var start = 0\n        while (true) {\n            val end = minOf(start + 16, min)\n            var s1 = this.substring(start, end)\n            var s2 = other.substring(start, end)\n            if (s1 != s2) {\n                s1 = s1.toUpperCase()\n                s2 = s2.toUpperCase()\n                if (s1 != s2) {\n                    s1 = s1.toLowerCase()\n                    s2 = s2.toLowerCase()\n                    if (s1 != s2) {\n                        return s1.compareTo(s2)\n                    }\n                }\n            }\n            if (end == min) break\n            start = end\n        }\n        return n1 - n2\n    } else {\n        return compareTo(other)\n    }\n}\n\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String> { a, b -> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin(\"1.2\")\npublic actual val String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n    get() = STRING_CASE_INSENSITIVE_ORDER\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UByteArray\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ByteArray) : Collection<UByte> {\n\n    /** Creates a new array of the specified [size], with all elements initialized to zero. */\n    public constructor(size: Int) : this(ByteArray(size))\n\n    /**\n     * Returns the array element at the given [index]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     */\n    public operator fun get(index: Int): UByte = storage[index].toUByte()\n\n    /**\n     * Sets the element at the given [index] to the given [value]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     */\n    public operator fun set(index: Int, value: UByte) {\n        storage[index] = value.toByte()\n    }\n\n    /** Returns the number of elements in the array. */\n    public override val size: Int get() = storage.size\n\n    /** Creates an iterator over the elements of the array. */\n    public override operator fun iterator(): UByteIterator = Iterator(storage)\n\n    private class Iterator(private val array: ByteArray) : UByteIterator() {\n        private var index = 0\n        override fun hasNext() = index < array.size\n        override fun nextUByte() = if (index < array.size) array[index++].toUByte() else throw NoSuchElementException(index.toString())\n    }\n\n    override fun contains(element: UByte): Boolean {\n        // TODO: Eliminate this check after KT-30016 gets fixed.\n        // Currently JS BE does not generate special bridge method for this method.\n        if ((element as Any?) !is UByte) return false\n\n        return storage.contains(element.toByte())\n    }\n\n    override fun containsAll(elements: Collection<UByte>): Boolean {\n        return (elements as Collection<*>).all { it is UByte && storage.contains(it.toByte()) }\n    }\n\n    override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It should return the value for an array element given its index.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray(size: Int, init: (Int) -> UByte): UByteArray {\n    return UByteArray(ByteArray(size) { index -> init(index).toByte() })\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ubyteArrayOf(vararg elements: UByte): UByteArray = elements\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UIntArray\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@PublishedAp
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i\ninternal constructor(@PublishedApi internal val storage: IntArray) : Collection<UInt> {\n\n   /** Creates a new array of the specified [size], with all elements initialized to zero. */\n   public constructor(size: Int) : this(IntArray(size))\n\n   /**\n   * Returns the array element at the given [index]. This method can be called using the index operator.\n   *\n   * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n   * where the behavior is unspecified.\n   */\n   public operator fun get(index: Int): UInt = storage[index].toUInt()\n\n   /**\n   * Sets the element at the given [index] to the given [value]. This method can be called using the index operator.\n   *\n   * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n   * where the behavior is unspecified.\n   */\n   public operator fun set(index: Int, value: UInt) {\n   storage[index] = value.toInt()\n   }\n\n   /** Returns the number of elements in the array. */\n   public override val size: Int get() = storage.size\n\n   /** Creates an iterator over the elements of the array. */\n   public override operator fun iterator(): UIntIterator = Iterator(storage)\n\n   private class Iterator(private val array: IntArray) : UIntIterator() {\n   private var index = 0\n   override fun hasNext() = index < array.size\n   override fun nextUInt() = if (index < array.size) array[index++].toUInt() else throw NoSuchElementException(index.toString())\n   }\n\n   override fun contains(element: UInt): Boolean {\n   // TODO: Eliminate this check after KT-30016 gets fixed.\n   // Currently JS BE does not generate special bridge method for this method.\n   if ((element as Any?) !is UInt) return false\n\n   return storage.contains(element.toInt())\n   }\n\n   override fun containsAll(elements: Collection<UInt>): Boolean {\n   return (elements as Collection<*>).all { it is UInt && storage.contains(it.toInt()) }\n   }\n\n   override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It should return the value for an array element given its index.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray(size: Int, init: (Int) -> UInt): UIntArray {\n   return UIntArray(IntArray(size) { index -> init(index).toInt()\n})\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun uintArrayOf(vararg elements: UInt): UIntArray = elements\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class ULongArray\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: LongArray) : Collection<ULong> {\n\n   /** Creates a new array of the specified [size], with all elements initialized to zero. */\n   public constructor(size: Int) : this(LongArray(size))\n\n   /**\n   * Returns the array element at the given [index]. This method can be called using the index operator.\n   *\n   * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n   * where the behavior is unspecified.\n   */\n   public operator fun get(index: Int): ULong = storage[index].toULong()\n\n   /**\n   * Sets the element at the given [index] to the given [value]. This method can be called using the index operator.\n   *\n   * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n   * where the behavior is unspecified.\n   */\n   public operator fun set(index: Int, value: ULong) {\n   storage[index] = value.toLong()\n   }\n\n   /** Returns the number of elements in the array. */\n   public override val size: Int get() = storage.size\n\n   /** Creates an iterator over the elements of the array. */\n   public override operator fun iterator(): ULongIterator = Iterator(storage)\n\n   private class Iterator(private val array: LongArray) : ULongIterator() {\n   private var index = 0\n   override fun hasNext() = index < array.size\n   override fun nextULong() = if (index < array.size) array[index++].toULong() else throw NoSuchElementException(index.toString())\n   }\n\n   override fun contains(element: ULong): Boolean {\n   // TODO: Eliminate this check after KT-30016 gets fixed.\n   // Currently JS BE does not generate special bridge method for this method.\n   if ((element as Any?) !is ULong) return false\n\n   return storage.contains(element.toLong())\n   }\n\n   override fun containsAll(elements:

Collection<ULong>): Boolean {\n return (elements as Collection<*>).all { it is ULong && storage.contains(it.toLong()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It should return the value for an array element given its index.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray(size: Int, init: (Int) -> ULong): ULongArray {\n return ULongArray(LongArray(size) { index -> init(index).toLong()\n })\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ulongArrayOf(vararg elements: ULong): ULongArray = elements\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline class UShortArray\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@PublishedApi\ninternal constructor(@PublishedApi internal val storage: ShortArray) : Collection<UShort> {\n\n /** Creates a new array of the specified [size], with all elements initialized to zero. */\n public constructor(size: Int) : this(ShortArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called using the index operator.\n *\n * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n public operator fun get(index: Int): UShort = storage[index].toUShort()\n\n /**\n * Sets the element at the given [index] to the given [value]. This method can be called using the index operator.\n *\n * If the [index] is out of bounds of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n public operator fun set(index: Int, value: UShort) {\n storage[index] = value.toShort()\n }\n\n /** Returns the number of elements in the array. */\n public override val size: Int get() = storage.size\n\n /** Creates an iterator over the elements of the array. */\n public override operator fun iterator(): UShortIterator = Iterator(storage)\n\n private class Iterator(private val array: ShortArray) : UShortIterator() {\n private var index = 0\n override fun hasNext() = index < array.size\n override fun nextUShort() = if (index < array.size) array[index++].toUShort() else throw NoSuchElementException(index.toString())\n }\n\n override fun contains(element: UShort): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n // Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is UShort) return false\n\n return storage.contains(element.toShort())\n }\n\n override fun containsAll(elements: Collection<UShort>): Boolean {\n return (elements as Collection<*>).all { it is UShort && storage.contains(it.toShort()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size == 0\n}\n\n/**\n * Creates a new array of the specified [size], where each element is calculated by calling the specified\n * [init] function.\n *\n * The function [init] is called for each array element sequentially starting from the first one.\n * It should return the value for an array element given its index.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray(size: Int, init: (Int) -> UShort): UShortArray {\n return UShortArray(ShortArray(size) { index -> init(index).toShort()\n })\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ushortArrayOf(vararg elements: UShort): UShortArray = elements\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"UArraysKt\")\n@file:kotlin.jvm.JvmPackageName(\"kotlin.collections.unsigned\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the

size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.component1(): UInt {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component1(): ULong {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component1(): UByte {\n   return get(0)\n}\n\n/**\n * Returns 1st *element* from the array.\n * \n * If the size of this array is less than 1, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component1(): UShort {\n   return get(0)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.component2(): UInt {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component2(): ULong {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component2(): UByte {\n   return get(1)\n}\n\n/**\n * Returns 2nd *element* from the array.\n * \n * If the size of this array is less than 2, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component2(): UShort {\n   return get(1)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.component3(): UInt {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component3(): ULong {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component3(): UByte {\n   return get(2)\n}\n\n/**\n * Returns 3rd *element* from the array.\n * \n * If the size of this array is less than 3, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component3(): UShort {\n   return get(2)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the

behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.component4(): UInt {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component4(): ULong {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component4(): UByte {\n   return get(3)\n}\n\n/**\n * Returns 4th *element* from the array.\n * \n * If the size of this array is less than 4, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component4(): UShort {\n   return get(3)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.component5(): UInt {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.component5(): ULong {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.component5(): UByte {\n   return get(4)\n}\n\n/**\n * Returns 5th *element* from the array.\n * \n * If the size of this array is less than 5, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n * where the behavior is unspecified.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.component5(): UShort {\n   return get(4)\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int): UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int): ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int): UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int): UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample

samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrElse\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n   return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.elementAtOrNull(index: Int): UInt? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.elementAtOrNull(index: Int): ULong? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.elementAtOrNull(index: Int): UByte? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAtOrNull\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.elementAtOrNull(index: Int): UShort? {\n   return this.getOrNull(index)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n   return firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n * \n * @sample samples.collections.Collections.Elements.find\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n   return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.first(): UInt {\n   return storage.first().toUInt()\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.first(): ULong {\n   return storage.first().toULong()\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.first(): UByte {\n   return storage.first().toUByte()\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.first(): UShort {\n   return storage.first().toUShort()\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n   for (element in this) if (predicate(element)) return element\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n   return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.firstOrNull(): ULong? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.firstOrNull(): UByte? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.firstOrNull(): UShort? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.firstOrNull(predicate: (UInt) -> Boolean): UInt? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.firstOrNull(predicate: (ULong) -> Boolean): ULong? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.firstOrNull(predicate: (UByte) -> Boolean): UByte? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.firstOrNull(predicate: (UShort) -> Boolean): UShort? {\n for (element in this) if (predicate(element)) return element\n return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.getOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.getOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.getOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.getOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.getOrNull(index: Int): UInt? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.getOrNull(index: Int): ULong? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.getOrNull(index: Int): UByte? {\n return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the

given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.getOrNull\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.getOrNull(index: Int): UShort? {\n   return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.indexOf(element: UInt): Int {\n   return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.indexOf(element: ULong): Int {\n   return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.indexOf(element: UByte): Int {\n   return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.indexOf(element: UShort): Int {\n   return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n   return storage.indexOfFirst { predicate(it.toUInt()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n   return storage.indexOfFirst { predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n   return storage.indexOfFirst { predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n   return storage.indexOfFirst { predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n   return storage.indexOfLast { predicate(it.toUInt()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n   return storage.indexOfLast { predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n   return storage.indexOfLast { predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain such element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n   return storage.indexOfLast { predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.last(): UInt {\n   return storage.last().toUInt()\n}\n\n/**\n * Returns the last element.\n *

@throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.last(): ULong {\n   return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.last(): UByte {\n   return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * @throws [NoSuchElementException] if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.last(): UShort {\n   return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.last(predicate: (ULong) -> Boolean): ULong {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.last(predicate: (UByte) -> Boolean): UByte {\n   for (index in this.indices.reversed()) {\n   val element = this[index]\n   if (predicate(element)) return element\n   }\n   throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
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*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.lastIndexOf(element: UInt): Int {\n   return storage.lastIndexOf(element.toInt())\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.lastIndexOf(element: ULong): Int {\n   return storage.lastIndexOf(element.toLong())\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.lastIndexOf(element: UByte): Int {\n   return storage.lastIndexOf(element.toByte())\n}\n\n/**\n * Returns last index of [element], or -1 if the array does not contain element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.lastIndexOf(element: UShort): Int {\n   return storage.lastIndexOf(element.toShort())\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.lastOrNull(): UInt? {\n   return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.lastOrNull(): ULong? {\n
return if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.lastOrNull(): UByte? {\n
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*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n for (index in this.indices.reversed()) {\n val element = this[index]\n if (predicate(element)) return element\n }\n return null\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.random(): UInt {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.random(): ULong {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.random(): UByte {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.random(): UShort {\n return random(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random): ULong {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random): UByte {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random): UShort {\n if (isEmpty())\n throw NoSuchElementException(\"Array is empty.\")\n return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.randomOrNull(): UInt? {\n return

randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.randomOrNull(): ULong? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.randomOrNull(): UByte? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.randomOrNull(): UShort? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun UIntArray.randomOrNull(random: Random): UInt? {\n   if (isEmpty())\n   return null\n   return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun ULongArray.randomOrNull(random: Random): ULong? {\n   if (isEmpty())\n   return null\n   return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun UByteArray.randomOrNull(random: Random): UByte? {\n   if (isEmpty())\n   return null\n   return get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of randomness, or `null` if this array is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun UShortArray.randomOrNull(random: Random): UShort? {\n   if (isEmpty())\n   return null\n   return get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.single(): UInt {\n   return storage.single().toUInt()\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.single(): ULong {\n   return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.single(): UByte {\n   return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.single(): UShort {\n   return storage.single().toUShort()\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n   var single: UInt? = null\n   var found = false\n   for (element in this) {\n   if (predicate(element)) {\n   if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n   single = element\n   found = true\n   }\n   }\n   if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n   @Suppress(\"UNCHECKED_CAST\")\n   return single as UInt\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n   var single: ULong? = null\n   var found = false\n

for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as ULong\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.single(predicate: (UByte) -> Boolean): UByte {\n var single: UByte? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as UByte\n}\n\n/**\n * Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.single(predicate: (UShort) -> Boolean): UShort {\n var single: UShort? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) throw IllegalArgumentException(\"Array contains more than one matching element.\")\n single = element\n found = true\n }\n }\n if (!found) throw NoSuchElementException(\"Array contains no element matching the predicate.\")\n @Suppress(\"UNCHECKED_CAST\")\n return single as UShort\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.singleOrNull(): ULong? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.singleOrNull(): UByte? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.singleOrNull(): UShort? {\n return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n var single: UInt? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {\n var single: ULong? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {\n var single: UByte? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {\n var single: UShort? = null\n var found = false\n for (element in this) {\n if (predicate(element)) {\n if (found) return null\n single = element\n found = true\n }\n }\n if (!found) return null\n return single\n}\n\n/**\n * Returns a list

containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.drop(n: Int): List<UInt> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.drop(n: Int): List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.drop(n: Int): List<UByte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.drop(n: Int): List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return takeLast((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.dropLast(n: Int): List<UInt> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.dropLast(n: Int): List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int): List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n return take((size - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex downTo 0)

{\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n }\n }\n return emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n var yielding = false\n val list = ArrayList<UInt>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n var yielding = false\n val list = ArrayList<ULong>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n var yielding = false\n val list = ArrayList<UByte>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n var yielding = false\n val list = ArrayList<UShort>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n yielding = true\n }\n return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n return filterTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n return filterTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n return filterTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n   return filterTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n   return filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n   return filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n   return filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexed\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n   return filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int, UInt) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int, ULong) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample samples.collections.Collections.Filtering.filterIndexedTo\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) -> Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element)) destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n * \n * @sample

samples.collections.Collections.Filtering.filterIndexedTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) ->
Boolean): C {\n   forEachIndexed { index, element ->\n   if (predicate(index, element))
destination.add(element)\n   }\n   return destination\n}\n\n/**\n * Returns a list containing all elements not
matching the given [predicate].\n * \n * @sample samples.collections.Collections.Filtering.filter\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n   return filterNotTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n   return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n   return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n * \n * @sample
samples.collections.Collections.Filtering.filter\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n   return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {\n   for
(element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {\n
for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends
all elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n   for
(element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {\n
for (element in this) if (!predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {\n   for (element
in this) if (predicate(element)) destination.add(element)\n   return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n * \n * @sample
samples.collections.Collections.Filtering.filterTo\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :

MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * \n * @sample samples.collections.Collections.Filtering.filterTo\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C : MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n for (element in this) if (predicate(element)) destination.add(element)\n return destination\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange): List<UInt> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange): List<ULong> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange): List<UByte> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange): List<UShort> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>): List<UInt> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<UInt>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>): List<ULong> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<ULong>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>): List<UByte> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<UByte>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>): List<UShort> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list = ArrayList<UShort>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: Collection<Int>): UIntArray {\n return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: Collection<Int>): ULongArray {\n return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices:

Collection<Int>): UByteArray {\n   return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices: Collection<Int>): UShortArray {\n   return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: IntRange): UIntArray {\n   return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: IntRange): ULongArray {\n   return ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices: IntRange): UByteArray {\n   return UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices: IntRange): UShortArray {\n   return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<UInt>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.take(n: Int): List<ULong> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<ULong>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<UByte>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[0])\n   var count = 0\n   val list = ArrayList<UShort>(n)\n   for (item in this) {\n   list.add(item)\n   if (++count == n)\n   break\n   }\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.takeLast(n: Int): List<UInt> {\n   require(n >= 0) { \"Requested element count $n is less than zero.\" }\n   if (n == 0) return emptyList()\n   val size = size\n   if (n >= size) return toList()\n   if (n == 1) return listOf(this[size - 1])\n   val list = ArrayList<UInt>(n)\n   for (index in size - n until size)\n   list.add(this[index])\n   return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<ULong>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.takeLast(n: Int): List<UByte> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<UByte>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.takeLast(n: Int): List<UShort> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<UShort>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n return drop(index + 1)\n }\n }\n return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n val list = ArrayList<UInt>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n val list = ArrayList<ULong>()\n for (item in this) {\n if (!predicate(item))\n break\n list.add(item)\n }\n return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n   val list = ArrayList<UByte>()\n   for (item in this) {\n   if (!predicate(item))\n   break\n   list.add(item)\n   }\n   return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n   val list = ArrayList<UShort>()\n   for (item in this) {\n   if (!predicate(item))\n   break\n   list.add(item)\n   }\n   return list\n}\n\n/**\n * Reverses elements in the array in-place.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reverse(): Unit {\n   storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reverse(): Unit {\n   storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reverse(): Unit {\n   storage.reverse()\n}\n\n/**\n * Reverses elements in the array in-place.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reverse(): Unit {\n   storage.reverse()\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Reverses elements of the array in the specified range in-place.\n * \n * @param fromIndex the start of the range (inclusive) to reverse.\n * @param toIndex the end of the range (exclusive) to reverse.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reverse(fromIndex: Int, toIndex: Int): Unit {\n   storage.reverse(fromIndex, toIndex)\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.reversed(): List<UInt> {\n   if (isEmpty()) return emptyList()\n   val list = toMutableList()\n   list.reverse()\n   return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.reversed(): List<ULong> {\n   if (isEmpty()) return emptyList()\n   val list = toMutableList()\n   list.reverse()\n   return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.reversed(): List<UByte> {\n   if (isEmpty()) return emptyList()\n   val list = toMutableList()\n   list.reverse()\n   return list\n}\n\n/**\n * Returns a list with elements in reversed order.\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.reversed(): List<UShort> {\n if (isEmpty()) return emptyList()\n val list = toMutableList()\n list.reverse()\n return list\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reversedArray(): UIntArray {\n return UIntArray(storage.reversedArray())\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reversedArray(): ULongArray {\n return ULongArray(storage.reversedArray())\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reversedArray(): UByteArray {\n return UByteArray(storage.reversedArray())\n}\n\n/**\n * Returns an array with elements of this array in reversed order.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reversedArray(): UShortArray {\n return UShortArray(storage.reversedArray())\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(): Unit {\n shuffle(Random)\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Randomly shuffles elements in this array in-place using the specified [random] instance as the source of randomness.\n * \n * See: https://en.wikipedia.org/wiki/Fisher%E2%80%93Yates_shuffle#The_modern_algorithm\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.shuffle(random: Random): Unit {\n for (i in lastIndex downTo 1) {\n val j = random.nextInt(i + 1)\n val copy = this[i]\n this[i] = this[j]\n this[j] = copy\n }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending

according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Sorts elements in the array in-place descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(): Unit {\n if (size > 1) {\n sort()\n reverse()\n }\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sorted(): List<UInt> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sorted(): List<ULong> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sorted(): List<UByte> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted(): List<UShort> {\n return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArray(): UIntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending(): UIntArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending(): ULongArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArrayDescending(): UByteArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to their natural sort order.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArrayDescending(): UShortArray {\n if (isEmpty()) return this\n return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending(): List<UInt> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedDescending(): List<ULong> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():

List<UByte> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedDescending(): List<UShort> {\n   return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.asByteArray(): ByteArray {\n   return storage\n}\n\n/**\n * Returns an array of type [IntArray], which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.asIntArray(): IntArray {\n   return storage\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.asList(): List<UInt>\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.asList(): List<ULong>\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.asList(): List<UByte>\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList(): List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.asLongArray(): LongArray {\n   return storage\n}\n\n/**\n * Returns an array of type [ShortArray], which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.asShortArray(): ShortArray {\n   return storage\n}\n\n/**\n * Returns an array of type [UByteArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.asUByteArray(): UByteArray {\n   return UByteArray(this)\n}\n\n/**\n * Returns an array of type [UIntArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.asUIntArray(): UIntArray {\n   return UIntArray(this)\n}\n\n/**\n * Returns an array of type [ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.asULongArray(): ULongArray {\n   return ULongArray(this)\n}\n\n/**\n * Returns an array of type [UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.asUShortArray(): UShortArray {\n   return UShortArray(this)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.contentEquals(other: UIntArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince =

\"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.contentEquals(other: ULongArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other: UByteArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.contentEquals(other: UShortArray): Boolean {\n   return this.contentEquals(other)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray?.contentEquals(other: UIntArray?): Boolean {\n   return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray?.contentEquals(other: ULongArray?): Boolean {\n   return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray?.contentEquals(other: UByteArray?): Boolean {\n   return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray?.contentEquals(other: UShortArray?): Boolean {\n   return this?.storage.contentEquals(other?.storage)\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode(): Int {\n   return this.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentHashCode(): Int {\n   return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray?.contentHashCode(): Int {\n   return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentHashCode(): Int {\n

return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentHashCode(): Int {\n   return this?.storage.contentHashCode()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@SinceKotlin(\"1.3\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n   return this.contentToString()\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray?.contentToString(): String {\n return this?.joinToString(\", \", \"[\", \"]\") ?: \"null\"\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray?.contentToString(): String {\n return this?.joinToString(\", \", \"[\", \"]\") ?: \"null\"\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray?.contentToString(): String {\n return this?.joinToString(\", \", \"[\", \"]\") ?: \"null\"\n}\n\n/**\n * Returns a string representation of the contents of the specified array as if it is [List].\n * \n * @sample samples.collections.Arrays.ContentOperations.contentToString\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray?.contentToString(): String {\n return this?.joinToString(\", \", \"[\", \"]\") ?: \"null\"\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): UIntArray {\n   storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ULongArray {\n   storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): UByteArray {\n   storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): UShortArray {\n   storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n   return destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.copyOf(): UIntArray {\n   return UIntArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.copyOf(): ULongArray {\n   return ULongArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.copyOf(): UByteArray {\n   return UByteArray(storage.copyOf())\n}\n\n/**\n * Returns new array

which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOf\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.copyOf(): UShortArray {\n   return UShortArray(storage.copyOf())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.copyOf(newSize: Int): UIntArray {\n   return UIntArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.copyOf(newSize: Int): ULongArray {\n   return ULongArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.copyOf(newSize: Int): UByteArray {\n   return UByteArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.copyOf(newSize: Int): UShortArray {\n   return UShortArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n   return UIntArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n   return ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n   return UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the

specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive) to copy.\n * @param toIndex the end of the range (exclusive) to copy.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n   return UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.fill(element: UInt, fromIndex: Int = 0, toIndex: Int = size): Unit {\n   storage.fill(element.toInt(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.fill(element: ULong, fromIndex: Int = 0, toIndex: Int = size): Unit {\n   storage.fill(element.toLong(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.fill(element: UByte, fromIndex: Int = 0, toIndex: Int = size): Unit {\n   storage.fill(element.toByte(), fromIndex, toIndex)\n}\n\n/**\n * Fills this array or its subrange with the specified [element] value.\n * \n * @param fromIndex the start of the range (inclusive) to fill, 0 by default.\n * @param toIndex the end of the range (exclusive) to fill, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.fill(element: UShort, fromIndex: Int = 0, toIndex: Int = size): Unit {\n   storage.fill(element.toShort(), fromIndex, toIndex)\n}\n\n/**\n * Returns the range of valid indices for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices: IntRange\n   get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n   get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n   get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n   get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n   get() = storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n   get() = storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n   get() = storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n   get() = storage.lastIndex\n\n/**\n * Returns an array containing all elements of the original array and then the given

[element].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.plus(element: UInt): UIntArray {\n   return UIntArray(storage + element.toInt())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.plus(element: ULong): ULongArray {\n   return ULongArray(storage + element.toLong())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.plus(element: UByte): UByteArray {\n   return UByteArray(storage + element.toByte())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.plus(element: UShort): UShortArray {\n   return UShortArray(storage + element.toShort())\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n   var index = size\n   val result = storage.copyOf(size + elements.size)\n   for (element in elements) result[index++] = element.toInt()\n   return UIntArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n   var index = size\n   val result = storage.copyOf(size + elements.size)\n   for (element in elements) result[index++] = element.toLong()\n   return ULongArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {\n   var index = size\n   val result = storage.copyOf(size + elements.size)\n   for (element in elements) result[index++] = element.toByte()\n   return UByteArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UShortArray.plus(elements: Collection<UShort>): UShortArray {\n   var index = size\n   val result = storage.copyOf(size + elements.size)\n   for (element in elements) result[index++] = element.toShort()\n   return UShortArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UIntArray.plus(elements: UIntArray): UIntArray {\n   return UIntArray(storage + elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongArray.plus(elements: ULongArray): ULongArray {\n   return ULongArray(storage + elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UByteArray.plus(elements: UByteArray): UByteArray {\n   return UByteArray(storage + elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun UShortArray.plus(elements: UShortArray): UShortArray {\n   return UShortArray(storage + elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(): Unit {\n   if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n   if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample

samples.collections.Arrays.Sorting.sortArray\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(): Unit {\n   if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts the array in-place.\n * \n * @sample samples.collections.Arrays.Sorting.sortArray\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(): Unit {\n   if (size > 1) sortArray(this, 0, size)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArray(this, fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArray(this, fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArray(this, fromIndex, toIndex)\n}\n\n/**\n * Sorts a range in the array in-place.\n * \n * @param fromIndex the start of the range (inclusive) to sort, 0 by default.\n * @param toIndex the end of the range (exclusive) to sort, size of this array by default.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n * \n * @sample samples.collections.Arrays.Sorting.sortRangeOfArray\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(fromIndex: Int = 0, toIndex: Int = size): Unit {\n   AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n   sortArray(this, fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is

greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Sorts elements of the array in the specified range in-place.\n * The elements are sorted descending according to their natural sort order.\n * \n * @param fromIndex the start of the range (inclusive) to sort.\n * @param toIndex the end of the range (exclusive) to sort.\n * \n * @throws IndexOutOfBoundsException if [fromIndex] is less than zero or [toIndex] is greater than the size of this array.\n * @throws IllegalArgumentException if [fromIndex] is greater than [toIndex].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortDescending(fromIndex: Int, toIndex: Int): Unit {\n   sort(fromIndex, toIndex)\n   reverse(fromIndex, toIndex)\n}\n\n/**\n * Returns an array of type [ByteArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.toByteArray(): ByteArray {\n   return storage.copyOf()\n}\n\n/**\n * Returns an array of type [IntArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.toIntArray(): IntArray {\n   return storage.copyOf()\n}\n\n/**\n * Returns an array of type [LongArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.toLongArray(): LongArray {\n   return storage.copyOf()\n}\n\n/**\n * Returns an array of type [ShortArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.toShortArray(): ShortArray {\n   return storage.copyOf()\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.toTypedArray(): Array<UInt> {\n   return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.toTypedArray(): Array<ULong> {\n   return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.toTypedArray(): Array<UByte> {\n   return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.toTypedArray(): Array<UShort> {\n   return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of UByte containing all of the elements of this generic array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UByte>.toUByteArray(): UByteArray {\n   return UByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UByteArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.toUByteArray(): UByteArray {\n   return UByteArray(this.copyOf())\n}\n\n/**\n * Returns an array of UInt containing all of the elements of this generic array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UInt>.toUIntArray(): UIntArray {\n   return UIntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UIntArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.toUIntArray(): UIntArray {\n   return UIntArray(this.copyOf())\n}\n\n/**\n * Returns an array of ULong containing all of the elements of this generic array.\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out ULong>.toULongArray(): ULongArray {\n   return ULongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [ULongArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.toULongArray(): ULongArray {\n   return ULongArray(this.copyOf())\n}\n\n/**\n * Returns an array of UShort containing all of the elements of this generic array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UShort>.toUShortArray(): UShortArray {\n   return UShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UShortArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.toUShortArray(): UShortArray {\n   return UShortArray(this.copyOf())\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UIntArray.associateWith(valueSelector: (UInt) -> V): Map<UInt, V> {\n   val result = LinkedHashMap<UInt, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> ULongArray.associateWith(valueSelector: (ULong) -> V): Map<ULong, V> {\n   val result = LinkedHashMap<ULong, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UByteArray.associateWith(valueSelector: (UByte) -> V): Map<UByte, V> {\n   val result = LinkedHashMap<UByte, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Returns a [Map] where keys are elements from the given array and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UShortArray.associateWith(valueSelector: (UShort) -> V): Map<UShort, V> {\n   val result = LinkedHashMap<UShort, V>(mapCapacity(size).coerceAtLeast(16))\n   return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in UInt, in V>> UIntArray.associateWithTo(destination: M, valueSelector: (UInt) -> V): M {\n   for (element in this) {\n   destination.put(element, valueSelector(element))\n   }\n   return destination\n}\n\n/**\n *

Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in ULong, in V>> ULongArray.associateWithTo(destination: M, valueSelector: (ULong) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in UByte, in V>> UByteArray.associateWithTo(destination: M, valueSelector: (UByte) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given array,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n * \n * @sample samples.collections.Collections.Transformations.associateWithTo\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V, M : MutableMap<in UShort, in V>> UShortArray.associateWithTo(destination: M, valueSelector: (UShort) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element of original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMap\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.flatMapIndexed(transform: (index: Int, UInt) -> Iterable<R>): List<R> {\n return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from

results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.flatMapIndexed(transform: (index: Int, ULong) -> Iterable<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.flatMapIndexed(transform: (index: Int, UByte) -> Iterable<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array.\n * \n * @sample samples.collections.Collections.Transformations.flatMapIndexed\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.flatMapIndexed(transform: (index: Int, UShort) -> Iterable<R>): List<R> {\n   return flatMapIndexedTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.flatMapIndexedTo(destination: C, transform: (index: Int, UInt) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++, element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.flatMapIndexedTo(destination: C, transform: (index: Int, ULong) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++, element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.flatMapIndexedTo(destination: C, transform: (index: Int, UByte) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++, element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element\n * and its index in the original array, to the given [destination].\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.flatMapIndexedTo(destination: C, transform: (index: Int, UShort) -> Iterable<R>): C {\n   var index = 0\n   for (element in this) {\n   val list = transform(index++, element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :

MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each element of original array, to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) -> Iterable<R>): C {\n   for (element in this) {\n   val list = transform(element)\n   destination.addAll(list)\n   }\n   return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n   return groupByTo(LinkedHashMap<K, MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> ULongArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n   return groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> UByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n   return groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K> UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n   return groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n

*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> UIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> ULongArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> UByteArray.groupBy(keySelector: (UByte) -> K, valueTransform: (UByte) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> UShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n   return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M : MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<UInt>() }\n   list.add(element)\n   }\n   return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M : MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<ULong>() }\n   list.add(element)\n   }\n   return destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M : MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K): M {\n   for (element in this) {\n   val key = keySelector(element)\n   val list = destination.getOrPut(key) { ArrayList<UByte>() }\n   list.add(element)\n   }\n   return destination\n}\n\n/**\n * Groups elements of the

original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M : MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<UShort>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K, valueTransform: (UInt) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K, valueTransform: (ULong) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K, valueTransform: (UByte) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V, M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K, valueTransform: (UShort) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.map(transform: (UInt) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original array.\n * \n * @sample samples.collections.Collections.Transformations.map\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.map(transform: (ULong) -> R): List<R> {\n return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list 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transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {\n return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function that takes 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and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an

element and the element itself\n * and returns the result of the transform applied to the element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n var index = 0\n for (item in this)\n destination.add(transform(index++, item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n for (item in this)\n destination.add(transform(item))\n return destination\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex(): Iterable<IndexedValue<UInt>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex(): Iterable<IndexedValue<ULong>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex(): Iterable<IndexedValue<UByte>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable] that wraps each element of the original array\n * into an [IndexedValue] containing the index of that element and the element itself.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.withIndex(): Iterable<IndexedValue<UShort>> {\n return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.all(predicate: (UInt) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.all(predicate: (ULong) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.all(predicate: (UByte) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.all(predicate: (UShort) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return

false\n   return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.any(): Boolean {\n   return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.any(): Boolean {\n   return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.any(): Boolean {\n   return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.any(): Boolean {\n   return storage.any()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.any(predicate: (UInt) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.any(predicate: (ULong) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.any(predicate: (UByte) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return true\n   return false\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.count(predicate: (UInt) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.count(predicate: (ULong) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.count(predicate: (UByte) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int {\n   var count = 0\n   for (element in this) if (predicate(element)) ++count\n   return count\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n *

\n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes current accumulator value and an element, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {\n   var accumulator = initial\n   for (element in this) accumulator = operation(accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n   var index = 0\n   var accumulator = initial\n   for (element in this) accumulator = operation(index++, accumulator, element)\n   return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the

next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes an element and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial]

value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * \n * Returns the specified [initial] value if the array is empty.\n * \n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {\n   var index = lastIndex\n   var accumulator = initial\n   while (index >= 0) {\n   accumulator = operation(index, get(index), accumulator)\n   --index\n   }\n   return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.forEach(action: (UInt) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.forEach(action: (ULong) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.forEach(action: (UByte) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.forEach(action: (UShort) -> Unit): Unit {\n   for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {\n   var index = 0\n   for (item in this) action(index++, item)\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.max(): UInt? {\n   return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.max(): ULong? {\n return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\", ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.max(): UByte? {\n return maxOrNull()\n}\n\n@Deprecated(\"Use maxOrNull instead.\",

ReplaceWith(\"maxOrNull()\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.max(): UShort? {\n
return maxOrNull()\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n   return
maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n   return
maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n   return
maxByOrNull(selector)\n}\n\n@Deprecated(\"Use maxByOrNull instead.\",
ReplaceWith(\"maxByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n   return
maxByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.maxByOrNull(selector: (UInt) -> R): UInt? {\n   if (isEmpty()) return null\n   var
maxElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return maxElem\n   var maxValue =
selector(maxElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (maxValue < v)
{\n   maxElem = e\n   maxValue = v\n   }\n   }\n   return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.maxByOrNull(selector: (ULong) -> R): ULong? {\n   if (isEmpty()) return null\n
var maxElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return maxElem\n   var maxValue =
selector(maxElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (maxValue < v)
{\n   maxElem = e\n   maxValue = v\n   }\n   }\n   return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UByteArray.maxByOrNull(selector: (UByte) -> R): UByte? {\n   if (isEmpty()) return null\n
var maxElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return maxElem\n   var maxValue =
selector(maxElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (maxValue < v)
{\n   maxElem = e\n   maxValue = v\n   }\n   }\n   return maxElem\n}\n\n/**\n * Returns the first
element yielding the largest value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxByOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.maxByOrNull(selector: (UShort) -> R): UShort? {\n   if (isEmpty()) return null\n
var maxElem = this[0]\n   val lastIndex = this.lastIndex\n   if (lastIndex == 0) return maxElem\n   var maxValue =
selector(maxElem)\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   val v = selector(e)\n   if (maxValue < v)
{\n   maxElem = e\n   maxValue = v\n   }\n   }\n   return maxElem\n}\n\n/**\n * Returns the largest
value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of
values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws

NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.maxOf(selector: (ULong) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.maxOf(selector: (UByte) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.maxOf(selector: (UShort) -> Double): Double {\n if (isEmpty()) throw
NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v =
selector(this[i])\n maxValue = maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the
largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If
any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.maxOf(selector: (UInt) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.maxOf(selector: (ULong) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n
var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =
maxOf(maxValue, v)\n }\n return maxValue\n}\n\n/**\n * Returns the largest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.maxOf(selector: (UByte) -> Float): Float {\n if (isEmpty()) throw NoSuchElementException()\n var
maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n maxValue =

maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.maxOf(selector: (UShort) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UIntArray.maxOf(selector: (UInt) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.maxOf(selector: (ULong) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.maxOf(selector: (UByte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxOf(selector: (UShort) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.maxOfOrNull(selector: (UInt) -> Double): Double? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

ULongArray.maxOfOrNull(selector: (ULong) -> Double): Double? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.maxOfOrNull(selector: (UByte) -> Double): Double? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.maxOfOrNull(selector: (UShort) -> Double): Double? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.maxOfOrNull(selector: (UInt) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.maxOfOrNull(selector: (ULong) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.maxOfOrNull(selector: (UByte) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.maxOfOrNull(selector: (UShort) -> Float): Float? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   maxValue = maxOf(maxValue, v)\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :

Comparable<R>> UIntArray.maxOfOrNull(selector: (UInt) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.maxOfOrNull(selector: (ULong) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.maxOfOrNull(selector: (UByte) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxOfOrNull(selector: (UShort) -> R): R? {\n   if (isEmpty()) return null\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (maxValue < v) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.maxOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.maxOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.maxOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var maxValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(maxValue, v) < 0) {\n   maxValue = v\n   }\n   }\n   return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution

ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.maxOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n if (isEmpty()) throw NoSuchElementException()\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.maxOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n if (isEmpty()) return null\n var maxValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n if (comparator.compare(maxValue, v) < 0) {\n maxValue = v\n }\n }\n return maxValue\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxOrNull(): UInt? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxOrNull(): ULong? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxOrNull(): UByte? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxOrNull(): UShort? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n@Deprecated(\"Use maxWithOrNull instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWith(comparator: Comparator<in UInt>): UInt? {\n return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use maxWithOrNull

instead.\", ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWith(comparator:
Comparator<in ULong>): ULong? {\n   return maxWithOrNull(comparator)\n}\n\n@Deprecated(\"Use
maxWithOrNull instead.\",
ReplaceWith(\"maxWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxWith(comparator:
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\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxWith(comparator:
Comparator<in UShort>): UShort? {\n   return maxWithOrNull(comparator)\n}\n\n/**\n * Returns the first element
having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWithOrNull(comparator:
Comparator<in UInt>): UInt? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n
val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the
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*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWithOrNull(comparator:
Comparator<in ULong>): ULong? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n
    val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the
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Comparator<in UByte>): UByte? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n
   val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return max\n}\n\n/**\n * Returns the
first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxWithOrNull(comparator:
Comparator<in UShort>): UShort? {\n   if (isEmpty()) return null\n   var max = this[0]\n   for (i in 1..lastIndex) {\n
    val e = this[i]\n   if (comparator.compare(max, e) < 0) max = e\n   }\n   return
max\n}\n\n@Deprecated(\"Use minOrNull instead.\",
ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt? {\n   return
minOrNull()\n}\n\n@Deprecated(\"Use minOrNull instead.\",
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\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.min(): ULong? {\n
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ReplaceWith(\"minOrNull()\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.min(): UShort? {\n
return minOrNull()\n}\n\n@Deprecated(\"Use minByOrNull instead.\",
ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n   return
minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\",
ReplaceWith(\"minByOrNull(selector)\"))\n@DeprecatedSinceKotlin(warningSince =
\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> ULongArray.minBy(selector: (ULong) -> R): ULong? {\n   return
minByOrNull(selector)\n}\n\n@Deprecated(\"Use minByOrNull instead.\",

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\"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
<R : Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n return
minByOrNull(selector)\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minByOrNull\n
*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minByOrNull(selector: (UInt) -> R): UInt? {\n if (isEmpty()) return null\n var
minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the first
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*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> ULongArray.minByOrNull(selector: (ULong) -> R): ULong? {\n if (isEmpty()) return null\n
var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
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*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.minByOrNull(selector: (UShort) -> R): UShort? {\n if (isEmpty()) return null\n
var minElem = this[0]\n val lastIndex = this.lastIndex\n if (lastIndex == 0) return minElem\n var minValue =
selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if (minValue > v)
{\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n * Returns the smallest
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values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws
NoSuchElementException if the array is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.minOf(selector: (UInt) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n
var minValue = selector(this[0])\n for (i in 1..lastIndex) {\n val v = selector(this[i])\n minValue =
minOf(minValue, v)\n }\n return minValue\n}\n\n/**\n * Returns the smallest value among all values produced
by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector]
function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n
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ULongArray.minOf(selector: (ULong) -> Double): Double {\n if (isEmpty()) throw NoSuchElementException()\n

var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.minOf(selector: (UByte) -> Double): Double {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] 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Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.minOf(selector: (UByte) -> Float): Float {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * 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Comparable<R>> UIntArray.minOf(selector: (UInt) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.minOf(selector: (ULong) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.minOf(selector: (UByte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.minOf(selector: (UShort) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.minOfOrNull(selector: (UInt) -> Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.minOfOrNull(selector: (ULong) -> Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.minOfOrNull(selector: (UByte) -> Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.minOfOrNull(selector: (UShort) -> Double): Double? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.minOfOrNull(selector: (UInt) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.minOfOrNull(selector: (ULong) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.minOfOrNull(selector: (UByte) -> Float): Float? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   minValue = minOf(minValue, v)\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n * \n * If any of values produced by [selector] function is `NaN`, the returned result is `NaN`.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.minOfOrNull(selector: (UShort) -> Float): Float? 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Comparable<R>> UByteArray.minOfOrNull(selector: (UByte) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value among all values produced by [selector] function\n * applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.minOfOrNull(selector: (UShort) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (minValue > v) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.minOfWith(comparator: Comparator<in R>, selector: (UInt) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.minOfWith(comparator: Comparator<in R>, selector: (ULong) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.minOfWith(comparator: Comparator<in R>, selector: (UByte) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array.\n * \n * @throws NoSuchElementException if the array is empty.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.minOfWith(comparator: Comparator<in R>, selector: (UShort) -> R): R {\n   if (isEmpty()) throw NoSuchElementException()\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UIntArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UInt) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector]

function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (ULong) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UByte) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest value according to the provided [comparator]\n * among all values produced by [selector] function applied to each element in the array or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.minOfWithOrNull(comparator: Comparator<in R>, selector: (UShort) -> R): R? {\n   if (isEmpty()) return null\n   var minValue = selector(this[0])\n   for (i in 1..lastIndex) {\n   val v = selector(this[i])\n   if (comparator.compare(minValue, v) > 0) {\n   minValue = v\n   }\n   }\n   return minValue\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minOrNull(): UInt? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minOrNull(): ULong? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minOrNull(): UByte? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minOrNull(): UShort? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (min > e) min = e\n   }\n   return min\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWith(comparator: Comparator<in UInt>): UInt? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWith(comparator: Comparator<in ULong>): ULong? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWith(comparator: Comparator<in UByte>): UByte? {\n   return minWithOrNull(comparator)\n}\n\n@Deprecated(\"Use minWithOrNull instead.\", ReplaceWith(\"minWithOrNull(comparator)\"))\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWith(comparator: Comparator<in UShort>): UShort? {\n   return minWithOrNull(comparator)\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n

*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.minWithOrNull(comparator: Comparator<in UInt>): UInt? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.minWithOrNull(comparator: Comparator<in ULong>): ULong? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.minWithOrNull(comparator: Comparator<in UByte>): UByte? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.minWithOrNull(comparator: Comparator<in UShort>): UShort? {\n   if (isEmpty()) return null\n   var min = this[0]\n   for (i in 1..lastIndex) {\n   val e = this[i]\n   if (comparator.compare(min, e) > 0) min = e\n   }\n   return min\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.none(): Boolean {\n   return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n   for (element in this) if (predicate(element)) return false\n   return true\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.onEach(action: (UInt) -> Unit): UIntArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.onEach(action: (ULong) -> Unit): ULongArray {\n   return apply { for (element in this)

action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.onEach(action: (UByte) -> Unit): UByteArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element and returns the array itself afterwards.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.onEach(action: (UShort) -> Unit): UShortArray {\n   return apply { for (element in this) action(element) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.onEachIndexed(action: (index: Int, UInt) -> Unit): UIntArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.onEachIndexed(action: (index: Int, ULong) -> Unit): ULongArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.onEachIndexed(action: (index: Int, UByte) -> Unit): UByteArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element,\n * and returns the array itself afterwards.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the action on the element.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.onEachIndexed(action: (index: Int, UShort) -> Unit): UShortArray {\n   return apply { forEachIndexed(action) }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. 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accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes current accumulator value and an element,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(index, accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. 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It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an element, current accumulator value and the element itself,\n * and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.reduce\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {\n   if (isEmpty())\n   throw UnsupportedOperationException(\"Empty array can't be reduced.\")\n   var accumulator = this[0]\n   for (index in 1..lastIndex) {\n   accumulator = operation(index, accumulator, this[index])\n   }\n   return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * \n * Throws an exception if this array is empty. 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If the array can be empty in an expected way,\n * please use [reduceIndexedOrNull] instead. It returns `null` when its receiver is empty.\n * \n * @param [operation] function that takes the index of an

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*/\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.runningReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n    if (isEmpty()) return emptyList()\n    var accumulator = this[0]\n    val result = ArrayList<UShort>(size).apply { add(accumulator) }\n    for (index in 1 until size) {\n        accumulator = operation(accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with the first element of this array.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the 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accumulator = operation(index, accumulator, this[index])\n        result.add(accumulator)\n    }\n    return result\n}\n\n/**\n * Returns a list containing successive accumulation
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*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> ULongArray.scanIndexed(initial: R, operation: (index: Int, acc:

R, ULong) -> R): List<R> {\n   return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UByteArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): List<R> {\n   return runningFoldIndexed(initial, operation)\n}\n\n/**\n * Returns a list containing successive accumulation values generated by applying [operation] from left to right\n * to each element, its index in the original array and current accumulator value that starts with [initial] value.\n * \n * Note that `acc` value passed to [operation] function should not be mutated;\n * otherwise it would affect the previous value in resulting list.\n * \n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n * \n * @sample samples.collections.Collections.Aggregates.scan\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R> UShortArray.scanIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): List<R> {\n   return runningFoldIndexed(initial, operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.scanReduce(operation: (acc: UInt, UInt) -> UInt): List<UInt> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.scanReduce(operation: (acc: ULong, ULong) -> ULong): List<ULong> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.scanReduce(operation: (acc: UByte, UByte) -> UByte): List<UByte> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduce instead.\", ReplaceWith(\"runningReduce(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.scanReduce(operation: (acc: UShort, UShort) -> UShort): List<UShort> {\n   return runningReduce(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.scanReduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): List<UInt> {\n   return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.scanReduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): List<ULong> {\n   return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level = DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.scanReduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): List<UByte> {\n   return runningReduceIndexed(operation)\n}\n\n@Deprecated(\"Use runningReduceIndexed instead.\", ReplaceWith(\"runningReduceIndexed(operation)\"), level =

DeprecationLevel.ERROR)\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.scanReduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): List<UShort> {\n   return runningReduceIndexed(operation)\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumByDouble(selector: (UShort) -> Double): Double {\n   var sum: Double = 0.0\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolutionByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfDouble\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector: (ULong) -> Double): Double {\n   var sum: Double = 0.toDouble()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n

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*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfDouble\ ")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> Double): Double {\n var sum: Double = 0.toDouble()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfInt\")\n @ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfInt\")\n @ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector: (ULong) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfInt\")\n @ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfInt\")\n @ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> Int): Int {\n var sum: Int = 0.toInt()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfLong\") \n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfLong\") \n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector: (ULong) -> Long): Long {\n var sum: Long = 0.toLong()\n for (element in this) {\n sum += selector(element)\n }\n return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n

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ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfLong\")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
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ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfLong\")
\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> Long): Long {\n   var sum: Long = 0.toLong()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
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ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfUInt\")\
n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector: (UInt)
-> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum += selector(element)\n   }\n
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfUInt\")\
n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
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ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfUInt\")\
n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector:
(UByte) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum += selector(element)\n
  }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n
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ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfUInt\")\
n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector:
(UShort) -> UInt): UInt {\n   var sum: UInt = 0.toUInt()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfULong\
")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sumOf(selector:
(UInt) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n
*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution
ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfULong\
")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sumOf(selector:
(ULong) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum +=
selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n

*/\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sumOf(selector: (UByte) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\n@SinceKotlin(\"1.4\")\n@OptIn(kotlin.experimental.ExperimentalTypeInference::class)\n@OverloadResolution ByLambdaReturnType\n@Suppress(\"INAPPLICABLE_JVM_NAME\")\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sumOf(selector: (UShort) -> ULong): ULong {\n   var sum: ULong = 0.toULong()\n   for (element in this) {\n   sum += selector(element)\n   }\n   return sum\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out R>): List<Pair<UInt, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other: Array<out R>): List<Pair<ULong, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out R>): List<Pair<UByte, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other: Array<out R>): List<Pair<UShort, R>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array

with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Iterable<R>): List<Pair<UInt, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other: Iterable<R>): List<Pair<ULong, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Iterable<R>): List<Pair<UByte, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other: Iterable<R>): List<Pair<UShort, R>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> ULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V> UByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>

UShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n   val arraySize = size\n   val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n   var i = 0\n   for (element in other) {\n   if (i >= arraySize) break\n   list.add(transform(this[i++], element))\n   }\n   return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray): List<Pair<UInt, UInt>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray): List<Pair<ULong, ULong>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray): List<Pair<UByte, UByte>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray): List<Pair<UShort, UShort>> {\n   return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> ULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V> UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {\n   val size = minOf(size, other.size)\n   val list = ArrayList<V>(size)\n   for (i in 0 until size) {\n   list.add(transform(this[i], other[i]))\n   }\n   return list\n}\n\n/**\n * Returns the sum of all elements in the array.\n

*/\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UInt>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out ULong>.sum(): ULong {\n   var sum: ULong = 0uL\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfUByte\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UByte>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName(\"sumOfUShort\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Array<out UShort>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.sum(): UInt {\n   return storage.sum().toUInt()\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.sum(): ULong {\n   return storage.sum().toULong()\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.sum(): UInt {\n   return sumBy { it.toUInt() }\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.sum(): UInt {\n   return sumBy { it.toUInt() }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"UCollectionsKt\")\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an array of UByte containing all of the elements of this collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Collection<UByte>.toUByteArray(): UByteArray {\n   val result = UByteArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of UInt containing all of the elements of this collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Collection<UInt>.toUIntArray(): UIntArray {\n   val result = UIntArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of ULong containing all of the elements of this collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Collection<ULong>.toULongArray(): ULongArray {\n   val result = ULongArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns an array of UShort containing all of the elements of this collection.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Collection<UShort>.toUShortArray(): UShortArray {\n   val result = UShortArray(size)\n   var index = 0\n   for (element in this)\n   result[index++] = element\n   return result\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Iterable<UInt>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Iterable<ULong>.sum(): ULong {\n   var sum: ULong = 0uL\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n@kotlin.jvm.JvmName(\"sumOfUByte\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Iterable<UByte>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n

/\n@kotlin.jvm.JvmName(\"sumOfUShort\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Iterable<UShort>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n return sum\n}\n\n","/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"UComparisonsKt\")\n\npackage kotlin.comparisons\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, b: UInt): UInt {\n   return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, b: ULong): ULong {\n return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, b: UByte): UByte {\n return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort, b: UShort): UShort {\n return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UInt, b: UInt, c: UInt): UInt {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UByte, b: UByte, c: UByte): UByte {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort {\n   return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, vararg other: UInt): UInt {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, vararg other: ULong): ULong {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, vararg other: UByte): UByte {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n   return max\n}\n\n/**\n * Returns the greater of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort, vararg other: UShort): UShort {\n   var max = a\n   for (e in other) max = maxOf(max, e)\n return max\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UInt, b: UInt): UInt {\n   return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, b: ULong): ULong {\n return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte, b: UByte): UByte {\n return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UShort, b: UShort): UShort {\n return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UInt, b: UInt, c: UInt): UInt {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: ULong, b: ULong, c: ULong): ULong {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

minOf(a: UByte, b: UByte, c: UByte): UByte {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {\n   return minOf(a, minOf(b, c))\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UInt, vararg other: UInt): UInt {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, vararg other: ULong): ULong {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte, vararg other: UByte): UByte {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n/**\n * Returns the smaller of the given values.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UShort, vararg other: UShort): UShort {\n   var min = a\n   for (e in other) min = minOf(min, e)\n   return min\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"URangesKt\")\n\npackage kotlin.ranges\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntRange.random(): UInt {\n   return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange.random(): ULong {\n   return random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntRange.random(random: Random): UInt {\n   try {\n   return random.nextUInt(this)\n   } catch(e: IllegalArgumentException) {\n   throw NoSuchElementException(e.message)\n   }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n * \n * @throws IllegalArgumentException if this range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongRange.random(random: Random): ULong {\n   try {\n   return random.nextULong(this)\n   } catch(e: IllegalArgumentException) {\n   throw NoSuchElementException(e.message)\n   }\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntRange.randomOrNull(): UInt? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange.randomOrNull(): ULong? {\n   return randomOrNull(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun UIntRange.randomOrNull(random: Random): UInt? {\n   if (isEmpty())\n   return null\n   return random.nextUInt(this)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness, or `null` if this range is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\npublic fun ULongRange.randomOrNull(random: Random): ULong? {\n   if (isEmpty())\n   return null\n   return random.nextULong(this)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun

UIntRange.contains(element: UInt?): Boolean {\n   return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n * \n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun ULongRange.contains(element: ULong?): Boolean {\n   return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value: UByte): Boolean {\n   return contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun ULongRange.contains(value: UByte): Boolean {\n   return contains(value.toULong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun ULongRange.contains(value: UInt): Boolean {\n   return contains(value.toULong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value: ULong): Boolean {\n   return (value shr UInt.SIZE_BITS) == 0uL && contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun UIntRange.contains(value: UShort): Boolean {\n   return contains(value.toUInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic operator fun ULongRange.contains(value: UShort): Boolean {\n   return contains(value.toULong())\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UByte.downTo(to: UByte): UIntProgression {\n   return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UInt.downTo(to: UInt): UIntProgression {\n   return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun ULong.downTo(to: ULong): ULongProgression {\n   return ULongProgression.fromClosedRange(this, to, -1L)\n}\n\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UShort.downTo(to: UShort): UIntProgression {\n   return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UIntProgression.reversed(): UIntProgression {\n   return UIntProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range in the opposite direction with the same step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULongProgression.reversed(): ULongProgression {\n   return ULongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UIntProgression.step(step: Int): UIntProgression {\n   checkStepIsPositive(step > 0, step)\n   return UIntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun ULongProgression.step(step: Long): ULongProgression {\n   checkStepIsPositive(step > 0, step)\n   return ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range from

this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UByte.until(to: UByte): UIntRange {\n   if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n   return this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UInt.until(to: UInt): UIntRange {\n   if (to <= UInt.MIN_VALUE) return UIntRange.EMPTY\n   return this .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun ULong.until(to: ULong): ULongRange {\n   if (to <= ULong.MIN_VALUE) return ULongRange.EMPTY\n   return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic infix fun UShort.until(to: UShort): UIntRange {\n   if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n   return this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtLeast(minimumValue: UInt): UInt {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtLeast(minimumValue: ULong): ULong {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtLeast(minimumValue: UByte): UByte {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtLeast(minimumValue: UShort): UShort {\n   return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtMost(maximumValue: UInt): UInt {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtMost(maximumValue: ULong): ULong {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtMost(maximumValue:

UByte): UByte {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtMost(maximumValue: UShort): UShort {\n   return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(minimumValue: UInt, maximumValue: UInt): UInt {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(minimumValue: ULong, maximumValue: ULong): ULong {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceIn(minimumValue: UByte, maximumValue: UByte): UByte {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceIn(minimumValue: UShort, maximumValue: UShort): UShort {\n   if (minimumValue > maximumValue) throw IllegalArgumentException(\"Cannot coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.\")\n   if (this < minimumValue) return minimumValue\n   if (this > maximumValue) return maximumValue\n   return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(range: ClosedRange<UInt>): UInt {\n   if (range is ClosedFloatingPointRange) {\n   return this.coerceIn<UInt>(range)\n   }\n   if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n   return when {\n   this < range.start -> range.start\n   this > range.endInclusive -> range.endInclusive\n   else -> this\n   }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n

/\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(range: ClosedRange<ULong>): ULong {\n   if (range is ClosedFloatingPointRange) {\n   return this.coerceIn<ULong>(range)\n   }\n   if (range.isEmpty()) throw IllegalArgumentException(\"Cannot coerce value to an empty range: $range.\")\n   return when {\n   this < range.start -> range.start\n   this > range.endInclusive -> range.endInclusive\n   else -> this\n   }\n}\n\n","/\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"USequencesKt\")\n\npackage kotlin.sequences\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.random.*\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfUInt\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Sequence<UInt>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfULong\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Sequence<ULong>.sum(): ULong {\n   var sum: ULong = 0uL\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfUByte\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Sequence<UByte>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName(\"sumOfUShort\")\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Sequence<UShort>.sum(): UInt {\n   var sum: UInt = 0u\n   for (element in this) {\n   sum += element\n   }\n   return sum\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n\npublic expect open class Error : Throwable {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class Exception : Throwable {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class RuntimeException : Exception {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalArgumentException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class IllegalStateException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class IndexOutOfBoundsException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n}\n\npublic expect open class ConcurrentModificationException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n   @Deprecated(\"The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.\", level = DeprecationLevel.ERROR)\n   constructor(message: String?, cause: Throwable?)\n   @Deprecated(\"The constructor is not supported on all platforms and will be removed from kotlin-stdlib-common soon.\", level = DeprecationLevel.ERROR)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class UnsupportedOperationException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n   constructor(message: String?, cause: Throwable?)\n   constructor(cause: Throwable?)\n}\n\npublic expect open class NumberFormatException : IllegalArgumentException {\n   constructor()\n   constructor(message: String?)\n}\n\npublic expect open class NullPointerException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n}\n\npublic expect open class ClassCastException : RuntimeException {\n   constructor()\n   constructor(message: String?)\n}\n\npublic expect open class AssertionError : Error {\n   constructor()\n   constructor(message: Any?)\n}\n\npublic expect open class

NoSuchElementException : RuntimeException {\n constructor()\n constructor(message: String?)\n}\n\n@SinceKotlin(\"1.3\")\npublic expect open class ArithmeticException : RuntimeException {\n constructor()\n constructor(message: String?)\n}\n\n@Deprecated(\"This exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-common soon.\", level = DeprecationLevel.ERROR)\npublic expect open class NoWhenBranchMatchedException : RuntimeException {\n constructor()\n constructor(message: String?)\n constructor(message: String?, cause: Throwable?)\n constructor(cause: Throwable?)\n}\n\n@Deprecated(\"This exception type is not supposed to be thrown or caught in common code and will be removed from kotlin-stdlib-common soon.\", level = DeprecationLevel.ERROR)\npublic expect class UninitializedPropertyAccessException : RuntimeException {\n constructor()\n constructor(message: String?)\n constructor(message: String?, cause: Throwable?)\n constructor(cause: Throwable?)\n}\n\n/**\n * Thrown after invocation of a function or property that was expected to return `Nothing`, but returned something instead.\n */\n@SinceKotlin(\"1.4\")\n@PublishedApi\ninternal class KotlinNothingValueException : RuntimeException {\n constructor() : super()\n constructor(message: String?) : super(message)\n constructor(message: String?, cause: Throwable?) : super(message, cause)\n constructor(cause: Throwable?) : super(cause)\n}\n\n\n/**\n * Returns the detailed description of this throwable with its stack trace.\n *\n * The detailed description includes:\n * - the short description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of each throwable in the [Throwable.cause] chain.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun Throwable.stackTraceToString(): String\n\n/**\n * Prints the [detailed description][Throwable.stackTraceToString] of this throwable to the standard output or standard error output.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun Throwable.printStackTrace(): Unit\n\n/**\n * When supported by the platform, adds the specified exception to the list of exceptions that were\n * suppressed in order to deliver this exception.\n */\n@SinceKotlin(\"1.4\")\npublic expect fun Throwable.addSuppressed(exception: Throwable)\n\n/**\n * Returns a list of all exceptions that were suppressed in order to deliver this exception.\n *\n * The list can be empty:\n * - if no exceptions were suppressed;\n * - if the platform doesn't support suppressed exceptions;\n * - if this [Throwable] instance has disabled the suppression.\n */\n@SinceKotlin(\"1.4\")\npublic expect val Throwable.suppressedExceptions: List<Throwable>","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in JavaScript.\n */\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)\n@OptionalExpectation\npublic expect annotation class JsName(val name: String)\n\n/**\n * Marks experimental JS export annotations.\n *\n * Note that behavior of these annotations will likely be changed in the future.\n *\n * Usages of such annotations will be reported as warnings unless an explicit opt-in with\n * the [OptIn] annotation, e.g. `@OptIn(ExperimentalJsExport::class)`,\n * or with the `-Xopt-in=kotlin.js.ExperimentalJsExport` compiler option is given.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental(level = Experimental.Level.WARNING)\n@RequiresOptIn(level = RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.4\")\npublic annotation class ExperimentalJsExport\n\n/**\n * Exports top-level declaration on JS platform.\n *\n * Compiled module exposes declarations that are marked with this annotation without name mangling.\n *\n * This annotation can be applied to either files or top-level declarations.\n *\n * It is currently prohibited to export the following kinds of declarations:\n *\n * * `expect` declarations\n * * inline functions with reified type parameters\n * * suspend functions\n * * secondary constructors without `@JsName`\n * * extension properties\n * * enum classes\n * * annotation classes\n *\n * Signatures of exported declarations must only contain \"exportable\" types:\n *\n * * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n * * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n * * `Array<exportable-type>`\n * * Function types with exportable parameters and return types\n * * `external` or

`@JsExport` classes and interfaces\n *   * Nullable counterparts of types above\n *   * Unit return type. Must not be nullable\n *\n * This annotation is experimental, meaning that restrictions mentioned above are subject to change.\n */\n@ExperimentalJsExport\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\n@SinceKotlin(\"1.4\")\n@OptionalExpectation\npublic expect annotation class JsExport()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport kotlin.internal.PlatformDependent\n\n/**\n * Classes that inherit from this interface can be represented as a sequence of elements that can\n * be iterated over.\n * @param T the type of element being iterated over. The iterator is covariant in its element type.\n */\npublic interface Iterable<out T> {\n   /**\n   * Returns an iterator over the elements of this object.\n   */\n   public operator fun iterator(): Iterator<T>\n}\n\n/**\n * Classes that inherit from this interface can be represented as a sequence of elements that can\n * be iterated over and that supports removing elements during iteration.\n * @param T the type of element being iterated over. The mutable iterator is invariant in its element type.\n */\npublic interface MutableIterable<out T> : Iterable<T> {\n   /**\n   * Returns an iterator over the elements of this sequence that supports removing elements during iteration.\n   */\n   override fun iterator(): MutableIterator<T>\n}\n\n/**\n * A generic collection of elements. Methods in this interface support only read-only access to the collection;\n * read/write access is supported through the [MutableCollection] interface.\n * @param E the type of elements contained in the collection. The collection is covariant in its element type.\n */\npublic interface Collection<out E> : Iterable<E> {\n   // Query Operations\n   /**\n   * Returns the size of the collection.\n   */\n   public val size: Int\n\n   /**\n   * Returns `true` if the collection is empty (contains no elements), `false` otherwise.\n   */\n   public fun isEmpty(): Boolean\n\n   /**\n   * Checks if the specified element is contained in this collection.\n   */\n   public operator fun contains(element: @UnsafeVariance E): Boolean\n\n   override fun iterator(): Iterator<E>\n\n   // Bulk Operations\n   /**\n   * Checks if all elements in the specified collection are contained in this collection.\n   */\n   public fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n}\n\n/**\n * A generic collection of elements that supports adding and removing elements.\n *\n * @param E the type of elements contained in the collection. The mutable collection is invariant in its element type.\n */\npublic interface MutableCollection<E> : Collection<E>, MutableIterable<E> {\n   // Query Operations\n   override fun iterator(): MutableIterator<E>\n\n   // Modification Operations\n   /**\n   * Adds the specified element to the collection.\n   *\n   * @return `true` if the element has been added, `false` if the collection does not support duplicates\n   * and the element is already contained in the collection.\n   */\n   public fun add(element: E): Boolean\n\n   /**\n   * Removes a single instance of the specified element from this\n   * collection, if it is present.\n   *\n   * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.\n   */\n   public fun remove(element: E): Boolean\n\n   // Bulk Modification Operations\n   /**\n   * Adds all of the elements of the specified collection to this collection.\n   *\n   * @return `true` if any of the specified elements was added to the collection, `false` if the collection was not modified.\n   */\n   public fun addAll(elements: Collection<E>): Boolean\n\n   /**\n   * Removes all of this collection's elements that are also contained in the specified collection.\n   *\n   * @return `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.\n   */\n   public fun removeAll(elements: Collection<E>): Boolean\n\n   /**\n   * Retains only the elements in this collection that are contained in the specified collection.\n   *\n   * @return `true` if any element was removed from the collection, `false` if the collection was not modified.\n   */\n   public fun retainAll(elements: Collection<E>): Boolean\n\n   /**\n   * Removes all elements from this collection.\n   */\n   public fun clear(): Unit\n}\n\n/**\n * A generic ordered collection of elements. Methods in this interface support only read-only access to the list;\n * read/write access is supported through the [MutableList] interface.\n * @param E the type of elements contained in the list. The list is covariant in its element type.\n */\npublic interface List<out E> : Collection<E> {\n   // Query Operations\n\n   override val size: Int\n   override fun isEmpty(): Boolean\n   override fun contains(element: @UnsafeVariance E): Boolean\n   override fun iterator(): Iterator<E>\n\n   // Bulk Operations\n   override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n   // Positional Access Operations\n   /**\n   * Returns the element at the specified index in the list.\n   */\n   public operator fun

get(index: Int): E\n\n   // Search Operations\n   /**\n   * Returns the index of the first occurrence of the specified element in the list, or -1 if the specified\n   * element is not contained in the list.\n   */\n   public fun indexOf(element: @UnsafeVariance E): Int\n\n   /**\n   * Returns the index of the last occurrence of the specified element in the list, or -1 if the specified\n   * element is not contained in the list.\n   */\n   public fun lastIndexOf(element: @UnsafeVariance E): Int\n\n   // List Iterators\n   /**\n   * Returns a list iterator over the elements in this list (in proper sequence).\n   */\n   public fun listIterator(): ListIterator<E>\n\n   /**\n   * Returns a list iterator over the elements in this list (in proper sequence), starting at the specified [index].\n   */\n   public fun listIterator(index: Int): ListIterator<E>\n\n   // View\n   /**\n   * Returns a view of the portion of this list between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).\n   * The returned list is backed by this list, so non-structural changes in the returned list are reflected in this list, and vice-versa.\n   *\n   * Structural changes in the base list make the behavior of the view undefined.\n   */\n   public fun subList(fromIndex: Int, toIndex: Int): List<E>\n}\n\n/**\n * A generic ordered collection of elements that supports adding and removing elements.\n * @param E the type of elements contained in the list. The mutable list is invariant in its element type.\n */\npublic interface MutableList<E> : List<E>, MutableCollection<E> {\n   // Modification Operations\n   /**\n   * Adds the specified element to the end of this list.\n   *\n   * @return `true` because the list is always modified as the result of this operation.\n   */\n   override fun add(element: E): Boolean\n\n   override fun remove(element: E): Boolean\n\n   // Bulk Modification Operations\n   /**\n   * Adds all of the elements of the specified collection to the end of this list.\n   *\n   * The elements are appended in the order they appear in the [elements] collection.\n   *\n   * @return `true` if the list was changed as the result of the operation.\n   */\n   override fun addAll(elements: Collection<E>): Boolean\n\n   /**\n   * Inserts all of the elements of the specified collection [elements] into this list at the specified [index].\n   *\n   * @return `true` if the list was changed as the result of the operation.\n   */\n   public fun addAll(index: Int, elements: Collection<E>): Boolean\n\n   override fun removeAll(elements: Collection<E>): Boolean\n   override fun retainAll(elements: Collection<E>): Boolean\n   override fun clear(): Unit\n\n   // Positional Access Operations\n   /**\n   * Replaces the element at the specified position in this list with the specified element.\n   *\n   * @return the element previously at the specified position.\n   */\n   public operator fun set(index: Int, element: E): E\n\n   /**\n   * Inserts an element into the list at the specified [index].\n   */\n   public fun add(index: Int, element: E): Unit\n\n   /**\n   * Removes an element at the specified [index] from the list.\n   *\n   * @return the element that has been removed.\n   */\n   public fun removeAt(index: Int): E\n\n   // List Iterators\n   override fun listIterator(): MutableListIterator<E>\n\n   override fun listIterator(index: Int): MutableListIterator<E>\n\n   // View\n   override fun subList(fromIndex: Int, toIndex: Int): MutableList<E>\n}\n\n/**\n * A generic unordered collection of elements that does not support duplicate elements.\n * Methods in this interface support only read-only access to the set;\n * read/write access is supported through the [MutableSet] interface.\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n */\npublic interface Set<out E> : Collection<E> {\n   // Query Operations\n\n   override val size: Int\n   override fun isEmpty(): Boolean\n   override fun contains(element: @UnsafeVariance E): Boolean\n   override fun iterator(): Iterator<E>\n\n   // Bulk Operations\n   override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n}\n\n/**\n * A generic unordered collection of elements that does not support duplicate elements, and supports\n * adding and removing elements.\n * @param E the type of elements contained in the set. The mutable set is invariant in its element type.\n */\npublic interface MutableSet<E> : Set<E>, MutableCollection<E> {\n   // Query Operations\n   override fun iterator(): MutableIterator<E>\n\n   // Modification Operations\n\n   /**\n   * Adds the specified element to the set.\n   *\n   * @return `true` if the element has been added, `false` if the element is already contained in the set.\n   */\n   override fun add(element: E): Boolean\n\n   override fun remove(element: E): Boolean\n\n   // Bulk Modification Operations\n\n   override fun addAll(elements: Collection<E>): Boolean\n   override fun removeAll(elements: Collection<E>): Boolean\n   override fun retainAll(elements: Collection<E>): Boolean\n   override fun clear(): Unit\n}\n\n/**\n * A collection that holds pairs of objects (keys and values) and supports efficiently retrieving\n * the value corresponding to each key. Map keys are unique; the map holds only one value for each key.\n * Methods in this interface support only read-only access to the map; read-write access is supported through\n * the [MutableMap] interface.\n * @param K

the type of map keys. The map is invariant in its key type, as it\n * can accept key as a parameter (of [containsKey] for example) and return it in [keys] set.\n * @param V the type of map values. The map is covariant in its value type.\n */\npublic interface Map<K, out V> {\n // Query Operations\n /**\n   * Returns the number of key/value pairs in the map.\n   */\n public val size: Int\n\n /**\n   * Returns `true` if the map is empty (contains no elements), `false` otherwise.\n   */\n public fun isEmpty(): Boolean\n\n /**\n   * Returns `true` if the map contains the specified [key].\n   */\n public fun containsKey(key: K): Boolean\n\n /**\n   * Returns `true` if the map maps one or more keys to the specified [value].\n   */\n public fun containsValue(value: @UnsafeVariance V): Boolean\n\n /**\n   * Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.\n   */\n public operator fun get(key: K): V?\n\n /**\n   * Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.\n   *\n   * @since JDK 1.8\n   */\n @SinceKotlin(\"1.1\")\n @PlatformDependent\n public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V {\n   // See default implementation in JDK sources\n   return null as V\n }\n\n // Views\n /**\n   * Returns a read-only [Set] of all keys in this map.\n   */\n public val keys: Set<K>\n\n /**\n   * Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values.\n   */\n public val values: Collection<V>\n\n /**\n   * Returns a read-only [Set] of all key/value pairs in this map.\n   */\n public val entries: Set<Map.Entry<K, V>>\n\n /**\n   * Represents a key/value pair held by a [Map].\n   */\n public interface Entry<out K, out V> {\n   /**\n   * Returns the key of this key/value pair.\n   */\n   public val key: K\n\n   /**\n   * Returns the value of this key/value pair.\n   */\n   public val value: V\n }\n}\n\n/**\n * A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving\n * the value corresponding to each key. Map keys are unique; the map holds only one value for each key.\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type of map values. The mutable map is invariant in its value type.\n */\npublic interface MutableMap<K, V> : Map<K, V> {\n // Modification Operations\n /**\n   * Associates the specified [value] with the specified [key] in the map.\n   *\n   * @return the previous value associated with the key, or `null` if the key was not present in the map.\n   */\n public fun put(key: K, value: V): V?\n\n /**\n   * Removes the specified key and its corresponding value from this map.\n   *\n   * @return the previous value associated with the key, or `null` if the key was not present in the map.\n   */\n public fun remove(key: K): V?\n\n /**\n   * Removes the entry for the specified key only if it is mapped to the specified value.\n   *\n   * @return true if entry was removed\n   */\n @SinceKotlin(\"1.1\")\n @PlatformDependent\n public fun remove(key: K, value: V): Boolean {\n   // See default implementation in JDK sources\n   return true\n }\n\n // Bulk Modification Operations\n /**\n   * Updates this map with key/value pairs from the specified map [from].\n   */\n public fun putAll(from: Map<out K, V>): Unit\n\n /**\n   * Removes all elements from this map.\n   */\n public fun clear(): Unit\n\n // Views\n /**\n   * Returns a [MutableSet] of all keys in this map.\n   */\n override val keys: MutableSet<K>\n\n /**\n   * Returns a [MutableCollection] of all values in this map. Note that this collection may contain duplicate values.\n   */\n override val values: MutableCollection<V>\n\n /**\n   * Returns a [MutableSet] of all key/value pairs in this map.\n   */\n override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n\n /**\n   * Represents a key/value pair held by a [MutableMap].\n   */\n public interface MutableEntry<K, V> : Map.Entry<K, V> {\n   /**\n   * Changes the value associated with the key of this entry.\n   *\n   * @return the previous value corresponding to the key.\n   */\n   public fun setValue(newValue: V): V\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.collections\n\n/** An iterator over a sequence of values of type `Byte`. */\npublic abstract class ByteIterator : Iterator<Byte> {\n override final fun next() = nextByte()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun nextByte(): Byte\n}\n\n/** An iterator over a sequence of values of type `Char`. */\npublic abstract class CharIterator : Iterator<Char> {\n override final fun next() = nextChar()\n\n /** Returns the next value in the sequence without boxing. */\n public abstract fun nextChar(): Char\n}\n\n/** An iterator over a sequence of values of type `Short`. */\npublic abstract class ShortIterator : Iterator<Short> {\n override final fun

next() = nextShort()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextShort(): Short\n}\n\n/** An iterator over a sequence of values of type `Int`. */\npublic abstract class IntIterator : Iterator<Int> {\n   override final fun next() = nextInt()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextInt(): Int\n}\n\n/** An iterator over a sequence of values of type `Long`. */\npublic abstract class LongIterator : Iterator<Long> {\n   override final fun next() = nextLong()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextLong(): Long\n}\n\n/** An iterator over a sequence of values of type `Float`. */\npublic abstract class FloatIterator : Iterator<Float> {\n   override final fun next() = nextFloat()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextFloat(): Float\n}\n\n/** An iterator over a sequence of values of type `Double`. */\npublic abstract class DoubleIterator : Iterator<Double> {\n   override final fun next() = nextDouble()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextDouble(): Double\n}\n\n/** An iterator over a sequence of values of type `Boolean`. */\npublic abstract class BooleanIterator : Iterator<Boolean> {\n   override final fun next() = nextBoolean()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextBoolean(): Boolean\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/**\n * An iterator over a progression of values of type `Char`.\n * @property step the number by which the value is incremented on each step.\n */\ninternal class CharProgressionIterator(first: Char, last: Char, val step: Int) : CharIterator() {\n   private val finalElement = last.toInt()\n   private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n   private var next = if (hasNext) first.toInt() else finalElement\n\n   override fun hasNext(): Boolean = hasNext\n\n   override fun nextChar(): Char {\n   val value = next\n   if (value == finalElement) {\n   if (!hasNext) throw kotlin.NoSuchElementException()\n   hasNext = false\n   }\n   else {\n   next += step\n   }\n   return value.toChar()\n   }\n}\n\n/**\n * An iterator over a progression of values of type `Int`.\n * @property step the number by which the value is incremented on each step.\n */\ninternal class IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator() {\n   private val finalElement = last\n   private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n   private var next = if (hasNext) first else finalElement\n\n   override fun hasNext(): Boolean = hasNext\n\n   override fun nextInt(): Int {\n   val value = next\n   if (value == finalElement) {\n   if (!hasNext) throw kotlin.NoSuchElementException()\n   hasNext = false\n   }\n   else {\n   next += step\n   }\n   return value\n   }\n}\n\n/**\n * An iterator over a progression of values of type `Long`.\n * @property step the number by which the value is incremented on each step.\n */\ninternal class LongProgressionIterator(first: Long, last: Long, val step: Long) : LongIterator() {\n   private val finalElement = last\n   private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n   private var next = if (hasNext) first else finalElement\n\n   override fun hasNext(): Boolean = hasNext\n\n   override fun nextLong(): Long {\n   val value = next\n   if (value == finalElement) {\n   if (!hasNext) throw kotlin.NoSuchElementException()\n   hasNext = false\n   }\n   else {\n   next += step\n   }\n   return value\n   }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`.\n */\npublic open class CharProgression\n   internal constructor\n   (\n   start: Char,\n   endInclusive: Char,\n   step: Int\n   ) : Iterable<Char> {\n   init {\n   if (step == 0) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n   if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than Int.MIN_VALUE to avoid overflow on negation.\")\n   }\n\n   /**\n   * The first element in the progression.\n   */\n   public val first: Char = start\n\n   /**\n   * The last element in the progression.\n   */\n   public val last: Char = getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toChar()\n\n   /**\n   * The step of the progression.\n   */\n   public val step: Int = step\n\n   override fun iterator(): CharIterator = CharProgressionIterator(first, last, step)\n\n   /** Checks if the progression is empty. */\n   public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n   override fun equals(other: Any?): Boolean =\n

other is CharProgression && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first.toInt() + last.toInt()) + step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion object {\n /**\n * Creates CharProgression within the specified bounds of a closed range.\n\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n * In order to go backwards the [step] must be negative.\n *\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression = CharProgression(rangeStart, rangeEnd, step)\n }\n}\n\n/**\n * A progression of values of type `Int`.\n */\npublic open class IntProgression\n internal constructor\n (\n start: Int,\n endInclusive: Int,\n step: Int\n) : Iterable<Int> {\n init {\n if (step == 0) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than Int.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the progression.\n */\n public val first: Int = start\n\n /**\n * The last element in the progression.\n */\n public val last: Int = getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toInt()\n\n /**\n * The step of the progression.\n */\n public val step: Int = step\n\n override fun iterator(): IntIterator = IntProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n other is IntProgression && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * first + last) + step)\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion object {\n /**\n * Creates IntProgression within the specified bounds of a closed range.\n\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n * In order to go backwards the [step] must be negative.\n *\n * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart: Int, rangeEnd: Int, step: Int): IntProgression = IntProgression(rangeStart, rangeEnd, step)\n }\n}\n\n/**\n * A progression of values of type `Long`.\n */\npublic open class LongProgression\n internal constructor\n (\n start: Long,\n endInclusive: Long,\n step: Long\n) : Iterable<Long> {\n init {\n if (step == 0L) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than Long.MIN_VALUE to avoid overflow on negation.\")\n }\n\n /**\n * The first element in the progression.\n */\n public val first: Long = start\n\n /**\n * The last element in the progression.\n */\n public val last: Long = getProgressionLastElement(start.toLong(), endInclusive.toLong(), step).toLong()\n\n /**\n * The step of the progression.\n */\n public val step: Long = step\n\n override fun iterator(): LongIterator = LongProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty. */\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other: Any?): Boolean =\n other is LongProgression && (isEmpty() && other.isEmpty() ||\n first == other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))) + (step xor (step ushr 32))).toInt()\n\n override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n companion object {\n /**\n * Creates LongProgression within the specified bounds of a closed range.\n\n * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n * In order to go backwards the [step] must be negative.\n *\n * [step] must be greater than `Long.MIN_VALUE` and not equal to zero.\n */\n public fun fromClosedRange(rangeStart: Long, rangeEnd: Long, step: Long): LongProgression = LongProgression(rangeStart, rangeEnd, step)\n }\n}\n\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.ranges\n\n/**\n * Represents a range of values (for example, numbers or characters).\n * See the [Kotlin language

documentation](https://kotlinlang.org/docs/reference/ranges.html) for more information.\n */\npublic interface ClosedRange<T: Comparable<T>> {\n /**\n * The minimum value in the range.\n */\n public val start: T\n\n /**\n * The maximum value in the range (inclusive).\n */\n public val endInclusive: T\n\n /**\n * Checks whether the specified [value] belongs to the range.\n */\n public operator fun contains(value: T): Boolean = value >= start && value <= endInclusive\n\n /**\n * Checks whether the range is empty.\n */\n public fun isEmpty(): Boolean = start > endInclusive\n}\n","/*\n * Copyright 2010-2015 JetBrains s.r.o.\n *\n * Licensed under the Apache License, Version 2.0 (the \"License\");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n *\n * http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed on an \"AS IS\" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin\n\n/**\n * The type with only one value: the `Unit` object. This type corresponds to the `void` type in Java.\n */\npublic object Unit {\n override fun toString() = \"kotlin.Unit\"\n}\n","/*\n * Copyright 2010-2015 JetBrains s.r.o.\n *\n * Licensed under the Apache License, Version 2.0 (the \"License\");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n *\n * http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed on an \"AS IS\" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.annotation\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * Contains the list of code elements which are the possible annotation targets\n */\npublic enum class AnnotationTarget {\n /** Class, interface or object, annotation class is also included */\n CLASS,\n /** Annotation class only */\n ANNOTATION_CLASS,\n /** Generic type parameter (unsupported yet) */\n TYPE_PARAMETER,\n /** Property */\n PROPERTY,\n /** Field, including property's backing field */\n FIELD,\n /** Local variable */\n LOCAL_VARIABLE,\n /** Value parameter of a function or a constructor */\n VALUE_PARAMETER,\n /** Constructor only (primary or secondary) */\n CONSTRUCTOR,\n /** Function (constructors are not included) */\n FUNCTION,\n /** Property getter only */\n PROPERTY_GETTER,\n /** Property setter only */\n PROPERTY_SETTER,\n /** Type usage */\n TYPE,\n /** Any expression */\n EXPRESSION,\n /** File */\n FILE,\n /** Type alias */\n @SinceKotlin(\"1.1\")\n TYPEALIAS\n}\n\n/**\n * Contains the list of possible annotation's retentions.\n *\n * Determines how an annotation is stored in binary output.\n */\npublic enum class AnnotationRetention {\n /** Annotation isn't stored in binary output */\n SOURCE,\n /** Annotation is stored in binary output, but invisible for reflection */\n BINARY,\n /** Annotation is stored in binary output and visible for reflection (default retention) */\n RUNTIME\n}\n\n/**\n * This meta-annotation indicates the kinds of code elements which are possible targets of an annotation.\n *\n * If the target meta-annotation is not present on an annotation declaration, the annotation is applicable to the following elements:\n * [CLASS], [PROPERTY], [FIELD], [LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER], [PROPERTY_SETTER].\n *\n * @property allowedTargets list of allowed annotation targets\n */\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@MustBeDocumented\npublic annotation class Target(vararg val allowedTargets: AnnotationTarget)\n\n/**\n * This meta-annotation determines whether an annotation is stored in binary output and visible for reflection. By default, both are true.\n *\n * @property value necessary annotation retention (RUNTIME, BINARY or SOURCE)\n */\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Retention(val value: AnnotationRetention = AnnotationRetention.RUNTIME)\n\n/**\n * This meta-annotation determines that an annotation is applicable twice or more on a single code element\n */\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This meta-annotation determines that an annotation is a part of public API and therefore should be included in the generated\n * documentation for the element to which the annotation is applied.\n

/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n","/\n * Copyright 2010-2016 JetBrains s.r.o.\n *\n * Licensed under the Apache License, Version 2.0 (the \"License\");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n *\n * http://www.apache.org/licenses/LICENSE-2.0\n *\n * Unless required by applicable law or agreed to in writing, software\n * distributed under the License is distributed on an \"AS IS\" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding type parameter is not used for unsafe operations such as casts or 'is' checks\n * That means it's completely safe to use generic types as argument for such parameter.\n */\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method 'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n */\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class PlatformDependent\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a: Int, b: Int): Int {\n   val mod = a % b\n   return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b: Long): Long {\n   val mod = a % b\n   return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun differenceModulo(a: Int, b: Int, c: Int): Int {\n   return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun differenceModulo(a: Long, b: Long, c: Long): Long {\n   return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Int, end: Int, step: Int): Int = when {\n   step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n   step < 0 -> if (start <= end) end else end + differenceModulo(start, end, -step)\n   else -> throw kotlin.IllegalArgumentException(\"Step is zero.\")\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Long, end: Long, step: Long): Long = when {\n   step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n   step < 0 -> if (start <= end) end else end + differenceModulo(start, end, -step)\n   else -> throw kotlin.IllegalArgumentException(\"Step is zero.\")\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@JsName(\"arrayIterator\")\ninternal fun arrayIterator(array: dynamic, type: String?) = when (type) {\n   null -> {\n   val arr: Array<dynamic> = array\n   object : Iterator<dynamic> {\n   var index = 0\n   override fun hasNext() = index < arr.size\n   override fun next() = if (index < arr.size) arr[index++] else throw NoSuchElementException(\"$index\")\n   }\n   }\n   \"BooleanArray\" -> booleanArrayIterator(array)\n   \"ByteArray\" -> byteArrayIterator(array)\n   \"ShortArray\" -> shortArrayIterator(array)\n   \"CharArray\" -> charArrayIterator(array)\n   \"IntArray\" ->

intArrayIterator(array)\n   \"LongArray\" -> longArrayIterator(array)\n   \"FloatArray\" ->
floatArrayIterator(array)\n   \"DoubleArray\" -> doubleArrayIterator(array)\n   else -> throw
IllegalStateException(\"Unsupported type argument for arrayIterator:
$type\")\n}\n\n@JsName(\"booleanArrayIterator\")\ninternal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {\n   var index = 0\n   override fun hasNext() = index < array.size\n   override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"byteArrayIterator\")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n   var index = 0\n   override fun hasNext() = index < array.size\n   override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"shortArrayIterator\")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n   var index = 0\n   override fun hasNext() =
index < array.size\n   override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"charArrayIterator\")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n   var index = 0\n   override fun hasNext() = index < array.size\n   override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"intArrayIterator\")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n   var index = 0\n   override fun hasNext() = index < array.size\n   override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"floatArrayIterator\")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n   var index = 0\n   override fun hasNext() = index
< array.size\n   override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"doubleArrayIterator\")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n   var index = 0\n   override fun hasNext()
= index < array.size\n   override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"longArrayIterator\")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n   var index = 0\n   override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"PropertyMetadata\")\ninternal class
PropertyMetadata(@JsName(\"callableName\") val name:
String)\n\n@JsName(\"noWhenBranchMatched\")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName(\"subSequence\")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n   if (c is String) {\n   return c.substring(startIndex, endIndex)\n
} else {\n   return c.asDynamic().`subSequence_vux9f0$`(startIndex, endIndex)\n
}\n}\n\n@JsName(\"captureStack\")\ninternal fun captureStack(baseClass: JsClass<in Throwable>, instance:
Throwable) {\n   if (js(\"Error\").captureStackTrace) {\n   // Using uncropped stack traces due to KT-37563.\n
// Precise stack traces are implemented in JS IR compiler and stdlib\n
js(\"Error\").captureStackTrace(instance);\n   } else {\n   instance.asDynamic().stack = js(\"new
Error()\").stack;\n   }\n}\n\n@JsName(\"newThrowable\")\ninternal fun newThrowable(message: String?, cause:
Throwable?): Throwable {\n   val throwable = js(\"new Error()\")\n   throwable.message = if (jsTypeOf(message)
== \"undefined\") {\n   if (cause != null) cause.toString() else null\n   } else {\n   message\n   }\n
throwable.cause = cause\n   throwable.name = \"Throwable\"\n   return
throwable\n}\n\n@JsName(\"BoxedChar\")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n   override
fun equals(other: Any?): Boolean {\n   return other is BoxedChar && c == other.c\n   }\n\n   override fun
hashCode(): Int {\n   return c\n   }\n\n   override fun toString(): String {\n   return
js(\"this.c\").unsafeCast<Char>().toString()\n   }\n\n   override fun compareTo(other: Int): Int {\n   return
js(\"this.c - other\").unsafeCast<Int>()\n   }\n\n   @JsName(\"valueOf\")\n   public fun valueOf(): Int {\n
return c\n   }\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n   val typed
= js(\"Array\")(args.size)\n   for (i in args.indices) {\n   val arr = args[i]\n   if (arr !is Array<*>) {\n

typed[i] = js(\"[]\").slice.call(arr)\n } else {\n typed[i] = arr\n }\n }\n return js(\"[]\").concat.apply(js(\"[]\"), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an Array.\n */\n@PublishedApi\n@JsName(\"arrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal fun <T> arrayConcat(a: T, b: T): T {\n return concat(js(\"arguments\"))\n}\n\n/** Concat primitive arrays. Main use: prepare vararg arguments.\n * For compatibility with 1.1.0 the arguments may be a mixture of Array's and TypedArray's.\n *\n * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray) returns a TypedArray, otherwise an Array.\n * If the first argument has the $type$ property (Boolean-, Char-, and LongArray) copy its value to result.$type$.\n * If the first argument is a regular Array without the $type$ property default to arrayConcat.\n */\n@PublishedApi\n@JsName(\"primitiveArrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal fun <T> primitiveArrayConcat(a: T, b: T): T {\n val args: Array<T> = js(\"arguments\")\n if (a is Array<*> && a.asDynamic().`$type$` === undefined) {\n return concat(args)\n } else {\n var size = 0\n for (i in args.indices) {\n size += args[i].asDynamic().length as Int\n }\n val result = js(\"new a.constructor(size)\")\n kotlin.copyArrayType(a, result)\n size = 0\n for (i in args.indices) {\n val arr = args[i].asDynamic()\n for (j in 0 until arr.length) {\n result[size++] = arr[j]\n }\n }\n return result\n}\n\n@JsName(\"booleanArrayOf\")\ninternal fun booleanArrayOf() = withType(\"BooleanArray\", js(\"[].slice.call(arguments)\"))\n\n@JsName(\"charArrayOf\") // The arguments have to be slice'd here because of Rhino (see KT-16974)\ninternal fun charArrayOf() = withType(\"CharArray\", js(\"new Uint16Array([].slice.call(arguments))\"))\n\n@JsName(\"longArrayOf\")\ninternal fun longArrayOf() = withType(\"LongArray\", js(\"[].slice.call(arguments)\"))\n\n@JsName(\"withType\")\n@kotlin.internal.InlineOnly\ninternal inline fun withType(type: String, array: dynamic): dynamic {\n array.`$type$` = type\n return array\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Function corresponding to JavaScript's `typeof` operator\n */\n@kotlin.internal.InlineOnly\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline fun jsTypeOf(a: Any?): String = js(\"typeof a\")\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"UNUSED_PARAMETER\", \"NOTHING_TO_INLINE\")\n\npackage kotlin\n\n/**\n * Returns an empty array of the specified type [T].\n */\npublic inline fun <T> emptyArray(): Array<T> = js(\"[]\")\n\n@library\npublic fun <T> arrayOf(vararg elements: T): Array<T> = definedExternally\n\n@library\npublic fun doubleArrayOf(vararg elements: Double): DoubleArray = definedExternally\n\n@library\npublic fun floatArrayOf(vararg elements: Float): FloatArray = definedExternally\n\n@library\npublic fun longArrayOf(vararg elements: Long): LongArray = definedExternally\n\n@library\npublic fun intArrayOf(vararg elements: Int): IntArray = definedExternally\n\n@library\npublic fun charArrayOf(vararg elements: Char): CharArray = definedExternally\n\n@library\npublic fun shortArrayOf(vararg elements: Short): ShortArray = definedExternally\n\n@library\npublic fun byteArrayOf(vararg elements: Byte): ByteArray = definedExternally\n\n@library\npublic fun booleanArrayOf(vararg elements: Boolean): BooleanArray = definedExternally\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].\n */\npublic actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n * The [mode] parameter is ignored. */\npublic actual fun <T> lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].\n *\n * The [lock] parameter is ignored.\n */\npublic actual fun <T> lazy(lock: Any?, initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic): dynamic {\n val srcLen: Int = src.length\n val dstLen: Int = dst.length\n var index: Int = 0\n while (index < srcLen && index < dstLen) dst[index] = src[index++]\n return dst\n}\n\n\ninternal fun arrayCopyResize(source:

dynamic, newSize: Int, defaultValue: Any?): dynamic {\n   val result = source.slice(0, newSize)\n copyArrayType(source, result)\n   var index: Int = source.length\n   if (newSize > index) {\n   result.length = newSize\n   while (index < newSize) result[index++] = defaultValue\n   }\n   return result\n}\n\ninternal fun <T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {\n   val result = array.slice()\n result.length += collection.size\n   copyArrayType(array, result)\n   var index: Int = array.length\n   for (element in collection) result[index++] = element\n   return result\n}\n\ninternal fun <T> fillFromCollection(dst: dynamic, startIndex: Int, collection: Collection<T>): dynamic {\n   var index = startIndex\n   for (element in collection) dst[index++] = element\n   return dst\n}\n\ninternal inline fun copyArrayType(from: dynamic, to: dynamic) {\n   if (from.`$type$` !== undefined) {\n   to.`$type$` = from.`$type$`\n   }\n}\n\ninternal inline fun jsIsType(obj: dynamic, jsClass: dynamic) = js(\"Kotlin\").isType(obj, jsClass)","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin(\"1.3\")\n@JsName(\"CoroutineImpl\")\ninternal abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?> {\n   protected var state = 0\n   protected var exceptionState = 0\n   protected var result: Any? = null\n   protected var exception: Throwable? = null\n   protected var finallyPath: Array<Int>? = null\n\n   public override val context: CoroutineContext = resultContinuation.context\n\n   private var intercepted_: Continuation<Any?>? = null\n\n   public fun intercepted(): Continuation<Any?> =\n   intercepted_\n   ?: (context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)\n   .also { intercepted_ = it }\n\n   override fun resumeWith(result: Result<Any?>) {\n   var current = this\n   var currentResult: Any? = result.getOrNull()\n   var currentException: Throwable? = result.exceptionOrNull()\n\n   // This loop unrolls recursion in current.resumeWith(param) to make saner and shorter stack traces on resume\n   while (true) {\n   with(current) {\n   val completion = resultContinuation\n\n   // Set result and exception fields in the current continuation\n   if (currentException == null) {\n   this.result = currentResult\n   } else {\n   state = exceptionState\n   exception = currentException\n   }\n\n   try {\n   val outcome = doResume()\n   if (outcome === COROUTINE_SUSPENDED) return\n   currentResult = outcome\n   currentException = null\n   } catch (exception: dynamic) { // Catch all exceptions\n   currentResult = null\n   currentException = exception.unsafeCast<Throwable>()\n   }\n\n   releaseIntercepted() // this state machine instance is terminating\n\n   if (completion is CoroutineImpl) {\n   // unrolling recursion via loop\n   current = completion\n   } else {\n   // top-level completion reached -- invoke and return\n   currentException?.let {\n   completion.resumeWithException(it)\n   } ?: completion.resume(currentResult)\n   return\n   }\n   }\n   }\n   }\n\n   private fun releaseIntercepted() {\n   val intercepted = intercepted_\n   if (intercepted != null && intercepted !== this) {\n   context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)\n   }\n   this.intercepted_ = CompletedContinuation // just in case\n   }\n\n   protected abstract fun doResume(): Any?\n}\n\ninternal object CompletedContinuation : Continuation<Any?> {\n   override val context: CoroutineContext\n   get() = error(\"This continuation is already complete\")\n\n   override fun resumeWith(result: Result<Any?>) {\n   error(\"This continuation is already complete\")\n   }\n\n   override fun toString(): String = \"This continuation is already complete\"\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"UNCHECKED_CAST\", \"RedundantVisibilityModifier\")\n\npackage kotlin\n\nimport kotlin.contracts.*\nimport kotlin.internal.InlineOnly\nimport kotlin.jvm.JvmField\nimport kotlin.jvm.JvmName\n\n/**\n * A discriminated union that encapsulates a successful outcome with a value of type [T]\n * or a failure with an arbitrary [Throwable] exception.\n */\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\n@SinceKotlin(\"1.3\")\npublic inline class Result<out T> @PublishedApi internal constructor(\n   @PublishedApi\n   internal val value:

```
Any?\n) : Serializable {\n    // discovery\n\n    /**\n     * Returns `true` if this instance represents a successful outcome.\n     * In this case [isFailure] returns `false`.\n     */\n    public val isSuccess: Boolean get() = value !is Failure\n\n    /**\n     * Returns `true` if this instance represents a failed outcome.\n     * In this case [isSuccess] returns `false`.\n     */\n    public val isFailure: Boolean get() = value is Failure\n\n    // value & exception retrieval\n\n    /**\n     * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or `null`\n     * if it is [failure][Result.isFailure].\n     *\n     * This function is a shorthand for `getOrElse { null }` (see [getOrElse]) or\n     * `fold(onSuccess = { it }, onFailure = { null })` (see [fold]).\n     */\n    @InlineOnly\n    public inline fun getOrNull(): T? =\n        when {\n            isFailure -> null\n            else -> value as T\n        }\n\n    /**\n     * Returns the encapsulated [Throwable] exception if this instance represents [failure][isFailure] or `null`\n     * if it is [success][isSuccess].\n     *\n     * This function is a shorthand for `fold(onSuccess = { null }, onFailure = { it })` (see [fold]).\n     */\n    public fun exceptionOrNull(): Throwable? =\n        when (value) {\n            is Failure -> value.exception\n            else -> null\n        }\n\n    /**\n     * Returns a string `Success(v)` if this instance represents [success][Result.isSuccess]\n     * where `v` is a string representation of the value or a string `Failure(x)` if\n     * it is [failure][isFailure] where `x` is a string representation of the exception.\n     */\n    public override fun toString(): String =\n        when (value) {\n            is Failure -> value.toString() // \"Failure($exception)\"\n            else -> \"Success($value)\"\n        }\n\n    // companion with constructors\n\n    /**\n     * Companion object for [Result] class that contains its constructor functions\n     * [success] and [failure].\n     */\n    public companion object {\n        /**\n         * Returns an instance that encapsulates the given [value] as successful value.\n         */\n        @Suppress(\"INAPPLICABLE_JVM_NAME\")\n        @InlineOnly\n        @JvmName(\"success\")\n        public inline fun <T> success(value: T): Result<T> =\n            Result(value)\n\n        /**\n         * Returns an instance that encapsulates the given [Throwable] [exception] as failure.\n         */\n        @Suppress(\"INAPPLICABLE_JVM_NAME\")\n        @InlineOnly\n        @JvmName(\"failure\")\n        public inline fun <T> failure(exception: Throwable): Result<T> =\n            Result(createFailure(exception))\n    }\n\n    internal class Failure(\n        @JvmField\n        val exception: Throwable\n    ) : Serializable {\n        override fun equals(other: Any?): Boolean = other is Failure && exception == other.exception\n        override fun hashCode(): Int = exception.hashCode()\n        override fun toString(): String = \"Failure($exception)\"\n    }\n}\n\n/**\n * Creates an instance of internal marker [Result.Failure] class to\n * make sure that this class is not exposed in ABI.\n */\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun createFailure(exception: Throwable): Any =\n    Result.Failure(exception)\n\n/**\n * Throws exception if the result is failure. This internal function minimizes\n * inlined bytecode for [getOrThrow] and makes sure that in the future we can\n * add some exception-augmenting logic here (if needed).\n */\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun Result<*>.throwOnFailure() {\n    if (value is Result.Failure) throw value.exception\n}\n\n/**\n * Calls the specified function [block] and returns its encapsulated result if invocation was successful,\n * catching any [Throwable] exception that was thrown from the [block] function execution and encapsulating it as a failure.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R> runCatching(block: () -> R): Result<R> {\n    return try {\n        Result.success(block())\n    } catch (e: Throwable) {\n        Result.failure(e)\n    }\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns its encapsulated result if invocation was successful,\n * catching any [Throwable] exception that was thrown from the [block] function execution and encapsulating it as a failure.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n    return try {\n        Result.success(block())\n    } catch (e: Throwable) {\n        Result.failure(e)\n    }\n}\n\n// -- extensions ---\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or throws the encapsulated [Throwable] exception\n * if it is [failure][Result.isFailure].\n *\n * This function is a shorthand for `getOrElse { throw it }` (see [getOrElse]).\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <T> Result<T>.getOrThrow(): T {\n    throwOnFailure()\n    return value as T\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n * result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * Note, that this function rethrows any [Throwable] exception thrown by [onFailure] function.\n *\n * This function is a shorthand for `fold(onSuccess = { it }, onFailure = onFailure)` (see [fold]).\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T :
```

R> Result<T>.getOrElse(onFailure: (exception: Throwable) -> R): R {\n contract {\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> value as T\n else -> onFailure(exception)\n }\n}\n\n/**\n * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n * [defaultValue] if it is [failure][Result.isFailure].\n *\n * This function is a shorthand for `getOrElse { defaultValue }` (see [getOrElse]).\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T : R> Result<T>.getOrDefault(defaultValue: R): R {\n if (isFailure) return defaultValue\n return value as T\n}\n\n/**\n * Returns the result of [onSuccess] for the encapsulated value if this instance represents [success][Result.isSuccess]\n * or the result of [onFailure] function for the encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * Note, that this function rethrows any [Throwable] exception thrown by [onSuccess] or by [onFailure] function.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T> Result<T>.fold(\n onSuccess: (value: T) -> R,\n onFailure: (exception: Throwable) -> R\n): R {\n contract {\n callsInPlace(onSuccess, InvocationKind.AT_MOST_ONCE)\n callsInPlace(onFailure, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> onSuccess(value as T)\n else -> onFailure(exception)\n }\n}\n\n// transformation\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n * See [mapCatching] for an alternative that encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T> Result<T>.map(transform: (value: T) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when {\n isSuccess -> Result.success(transform(value as T))\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated [Throwable] exception if it is [failure][Result.isFailure].\n *\n * This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n * See [map] for an alternative that rethrows exceptions from `transform` function.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {\n return when {\n isSuccess -> runCatching { transform(value as T) }\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n *\n * Note, that this function rethrows any [Throwable] exception thrown by [transform] function.\n * See [recoverCatching] for an alternative that encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> Result.success(transform(exception))\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to the encapsulated [Throwable] exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n *\n * This function catches any [Throwable] exception thrown by [transform] function and encapsulates it as a failure.\n * See [recover] for an alternative that rethrows exceptions.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <R, T : R> Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {\n val value = value // workaround for inline classes BE bug\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> runCatching { transform(exception) }\n }\n}\n\n// \"peek\" onto value/exception and pipe\n\n/**\n * Performs the given [action] on the encapsulated [Throwable] exception if this instance represents [failure][Result.isFailure].\n * Returns the original `Result` unchanged.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <T> Result<T>.onFailure(action: (exception: Throwable) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n exceptionOrNull()?.let { action(it) }\n return this\n}\n\n/**\n * Performs the given [action] on the

encapsulated value if this instance represents [success][Result.isSuccess].\n * Returns the original `Result` unchanged.\n */\n@InlineOnly\n@SinceKotlin(\"1.3\")\npublic inline fun <T> Result<T>.onSuccess(action: (value: T) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n if (isSuccess) action(value as T)\n return this\n}\n\n// ----------\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.contracts.*\nimport kotlin.coroutines.intrinsics.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Interface representing a continuation after a suspension point that returns a value of type `T`.\n */\n@SinceKotlin(\"1.3\")\npublic interface Continuation<in T> {\n /**\n * The context of the coroutine that corresponds to this continuation.\n */\n public val context: CoroutineContext\n\n /**\n * Resumes the execution of the corresponding coroutine passing a successful or failed [result] as the\n * return value of the last suspension point.\n */\n public fun resumeWith(result: Result<T>)\n}\n\n/**\n * Classes and interfaces marked with this annotation are restricted when used as receivers for extension\n * `suspend` functions. These `suspend` extensions can only invoke other member or extension `suspend` functions on this particular\n * receiver and are restricted from calling arbitrary suspension functions.\n */\n@SinceKotlin(\"1.3\")\n@Target(AnnotationTarget.CLASS)\n@Retention(AnnotationRetention.BINARY)\npublic annotation class RestrictsSuspension\n\n/**\n * Resumes the execution of the corresponding coroutine passing [value] as the return value of the last suspension point.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic inline fun <T> Continuation<T>.resume(value: T): Unit =\n resumeWith(Result.success(value))\n\n/**\n * Resumes the execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension point.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic inline fun <T> Continuation<T>.resumeWithException(exception: Throwable): Unit =\n resumeWith(Result.failure(exception))\n\n\n/**\n * Creates a [Continuation] instance with the given [context] and implementation of [resumeWith] method.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic inline fun <T> Continuation(\n context: CoroutineContext,\n crossinline resumeWith: (Result<T>) -> Unit\n): Continuation<T> =\n object : Continuation<T> {\n override val context: CoroutineContext\n get() = context\n\n override fun resumeWith(result: Result<T>) =\n resumeWith(result)\n }\n\n/**\n * Creates a coroutine without a receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce an [IllegalStateException].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"UNCHECKED_CAST\")\npublic fun <T> (suspend () -> T).createCoroutine(\n completion: Continuation<T>\n): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED)\n\n/**\n * Creates a coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n * Subsequent invocation of any resume function on the resulting continuation will produce an [IllegalStateException].\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"UNCHECKED_CAST\")\npublic fun <R, T> (suspend R.() -> T).createCoroutine(\n receiver: R,\n completion: Continuation<T>\n): Continuation<Unit> =\n SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(), COROUTINE_SUSPENDED)\n\n/**\n * Starts a coroutine without a receiver and with result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"UNCHECKED_CAST\")\npublic fun <T> (suspend () -> T).startCoroutine(\n completion: Continuation<T>\n) {\n createCoroutineUnintercepted(completion).intercepted().resume(Unit)\n}\n\n/**\n * Starts a coroutine with receiver

type [R] and result type [T].\n * This function creates and starts a new, fresh instance of suspendable computation every time it is invoked.\n * The [completion] continuation is invoked when the coroutine completes with a result or an exception.\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"UNCHECKED_CAST\")\npublic fun <R, T> (suspend R.() -> T).startCoroutine(\n   receiver: R,\n   completion: Continuation<T>\n) {\n createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit)\n}\n\n/**\n * Obtains the current continuation instance inside suspend functions and suspends\n * the currently running coroutine.\n *\n * In this function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously in\n * the same stack-frame where the suspension function is run or asynchronously later in the same thread or\n * from a different thread of execution. Subsequent invocation of any resume function will produce an [IllegalStateException].\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic suspend inline fun <T> suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T {\n   contract { callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n   return suspendCoroutineUninterceptedOrReturn { c: Continuation<T> ->\n   val safe = SafeContinuation(c.intercepted())\n   block(safe)\n   safe.getOrThrow()\n   }\n}\n\n/**\n * Returns the context of the current coroutine.\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"WRONG_MODIFIER_TARGET\")\n@InlineOnly\npublic suspend inline val coroutineContext: CoroutineContext\n   get() {\n   throw NotImplementedError(\"Implemented as intrinsic\")\n   }\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines.intrinsics\n\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Starts an unintercepted coroutine without a receiver and with result type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the [completion] continuation is invoked when the coroutine completes with a result or an exception.\n *\n * The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might\n * be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is established.\n *\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended\n * coroutine using a reference to the suspending function.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic actual inline fun <T> (suspend () -> T).startCoroutineUninterceptedOrReturn(\n   completion: Continuation<T>\n): Any? = this.asDynamic()(completion, false)\n\n/**\n * Starts an unintercepted coroutine with receiver type [R] and result type [T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the latter case, the [completion] continuation is invoked when the coroutine completes with a result or an exception.\n *\n * The coroutine is started directly in the invoker's thread without going through the [ContinuationInterceptor] that might\n * be present in the completion's [CoroutineContext]. It is the invoker's responsibility to ensure that a proper invocation\n * context is established.\n *\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of the suspended\n * coroutine using a reference to the suspending function.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic actual inline fun <R, T> (suspend R.() -> T).startCoroutineUninterceptedOrReturn(\n   receiver: R,\n   completion: Continuation<T>\n): Any? = this.asDynamic()(receiver, completion, false)\n\n@InlineOnly\ninternal actual inline fun <R, P, T> (suspend R.(P) -> T).startCoroutineUninterceptedOrReturn(\n   receiver: R,\n   param: P,\n   completion: Continuation<T>\n): Any? = this.asDynamic()(receiver, param, completion, false)\n\n/**\n * Creates unintercepted coroutine without receiver and with result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when coroutine completes with result or exception.\n *\n * This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present in the completion's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation

context is established.\n * Note that [completion] of this function may get invoked in an arbitrary context.\n *\n * [Continuation.intercepted] can be used to acquire the intercepted continuation.\n * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of\n * both the coroutine and [completion] happens in the invocation context established by\n * [ContinuationInterceptor].\n *\n * Repeated invocation of any resume function on the resulting continuation corrupts the\n * state machine of the coroutine and may result in arbitrary behaviour or exception.\n */\n@SinceKotlin(\"1.3\")\npublic actual fun <T> (suspend () -> T).createCoroutineUnintercepted(\n completion: Continuation<T>\n): Continuation<Unit> =\n // Kotlin/JS suspend lambdas have an extra parameter `suspended`\n if (this.asDynamic().length == 2) {\n // When `suspended` is true the continuation is created, but not executed\n this.asDynamic()(completion, true)\n } else {\n createCoroutineFromSuspendFunction(completion) {\n this.asDynamic()(completion)\n }\n }\n\n/**\n * Creates unintercepted coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is invoked.\n *\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when coroutine completes with result or exception.\n *\n * This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present in the completion's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation context is established.\n * Note that [completion] of this function may get invoked in an arbitrary context.\n *\n * [Continuation.intercepted] can be used to acquire the intercepted continuation.\n * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of\n * both the coroutine and [completion] happens in the invocation context established by\n * [ContinuationInterceptor].\n *\n * Repeated invocation of any resume function on the resulting continuation corrupts the\n * state machine of the coroutine and may result in arbitrary behaviour or exception.\n */\n@SinceKotlin(\"1.3\")\npublic actual fun <R, T> (suspend R.() -> T).createCoroutineUnintercepted(\n receiver: R,\n completion: Continuation<T>\n): Continuation<Unit> =\n // Kotlin/JS suspend lambdas have an extra parameter `suspended`\n if (this.asDynamic().length == 3) {\n // When `suspended` is true the continuation is created, but not executed\n this.asDynamic()(receiver, completion, true)\n } else {\n createCoroutineFromSuspendFunction(completion) {\n this.asDynamic()(receiver, completion)\n }\n }\n\n/**\n * Intercepts this continuation with [ContinuationInterceptor].\n *\n * This function shall be used on the immediate result of [createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn],\n * in which case it checks for [ContinuationInterceptor] in the continuation's [context][Continuation.context],\n * invokes [ContinuationInterceptor.interceptContinuation], caches and returns the result.\n *\n * If this function is invoked on other [Continuation] instances it returns `this` continuation unchanged.\n */\n@SinceKotlin(\"1.3\")\npublic actual fun <T> Continuation<T>.intercepted(): Continuation<T> =\n (this as? CoroutineImpl)?.intercepted() ?: this\n\n\nprivate inline fun <T> createCoroutineFromSuspendFunction(\n completion: Continuation<T>,\n crossinline block: () -> Any?\n): Continuation<Unit> {\n @Suppress(\"UNCHECKED_CAST\")\n return object : CoroutineImpl(completion as Continuation<Any?>) {\n override fun doResume(): Any? {\n exception?.let { throw it }\n return block()\n }\n }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n// Mirrors signature from JS IR BE\n// Used for js.translator/testData/box/number/mulInt32.kt\n@library\n@JsName(\"imulEmulated\")\ninternal fun imul(x: Int, y: Int): Int = definedExternally\n\ninternal inline fun isArrayish(o: dynamic) = js(\"Kotlin\").isArrayish(o)","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n// NOTE: Do not author your exceptions as they are written in this file, instead use this template:\n/*\npublic open class MyException : Exception {\n constructor() : super()\n constructor(message: String?) : super(message)\n constructor(message: String?, cause: Throwable?) : super(message, cause)\n constructor(cause: Throwable?) : super(cause)\n}\n*/\n\n\n// TODO: remove primary constructors, make all secondary KT-22055\n\n@Suppress(\"USELESS_ELVIS_RIGHT_IS_NULL\")\npublic

actual open class Error actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\n@Suppress(\"USELESS_ELVIS_RIGHT_IS_NULL\")\npublic actual open class Exception actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class RuntimeException actual constructor(message: String?, cause: Throwable?) : Exception(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class IllegalArgumentException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class IllegalStateException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class IndexOutOfBoundsException actual constructor(message: String?) : RuntimeException(message) {\n   actual constructor() : this(null)\n}\n\npublic actual open class ConcurrentModificationException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class UnsupportedOperationException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\n\npublic actual open class NumberFormatException actual constructor(message: String?) : IllegalArgumentException(message) {\n   actual constructor() : this(null)\n}\n\n\npublic actual open class NullPointerException actual constructor(message: String?) : RuntimeException(message) {\n   actual constructor() : this(null)\n}\n\npublic actual open class ClassCastException actual constructor(message: String?) : RuntimeException(message) {\n   actual constructor() : this(null)\n}\n\npublic actual open class AssertionError\n@SinceKotlin(\"1.4\")\nconstructor(message: String?, cause: Throwable?) : Error(message, cause) {\n   actual constructor() : this(null)\n   constructor(message: String?) : this(message, null)\n   actual constructor(message: Any?) : this(message.toString(), message as? Throwable)\n}\n\npublic actual open class NoSuchElementException actual constructor(message: String?) : RuntimeException(message) {\n   actual constructor() : this(null)\n}\n\n@SinceKotlin(\"1.3\")\npublic actual open class ArithmeticException actual constructor(message: String?) : RuntimeException(message) {\n   actual constructor() : this(null)\n}\n\npublic actual open class NoWhenBranchMatchedException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n\npublic actual open class UninitializedPropertyAccessException actual constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n   actual constructor() : this(null, null)\n   actual constructor(message: String?) : this(message, null)\n   actual constructor(cause: Throwable?) : this(undefined, cause)\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n\n@file:Suppress(\"UNUSED_PARAMETER\")\n\npackage kotlin.js\n\n@kotlin.internal.InlineOnly\ninternal inline fun jsDeleteProperty(obj: Any, property: Any) {\n   js(\"delete obj[property]\")\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun jsBitwiseOr(lhs: Any?, rhs: Any?): Int =\n   js(\"lhs | rhs\").unsafeCast<Int>()","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.math\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n *\n * If [sign] is `NaN` the sign of the result is undefined.\n */\n@SinceKotlin(\"1.2\")\npublic actual

fun Double.withSign(sign: Double): Double {\n   val thisSignBit = js(\"Kotlin\").doubleSignBit(this).unsafeCast<Int>()\n   val newSignBit = js(\"Kotlin\").doubleSignBit(sign).unsafeCast<Int>()\n   return if (thisSignBit == newSignBit) this else -this\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n * according to the IEEE 754 floating-point \"double format\" bit layout.\n */\n@SinceKotlin(\"1.2\")\n@library(\"doubleToBits\")\npublic actual fun Double.toBits(): Long = definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n * according to the IEEE 754 floating-point \"double format\" bit layout,\n * preserving `NaN` values exact layout.\n */\n@SinceKotlin(\"1.2\")\n@library(\"doubleToRawBits\")\npublic actual fun Double.toRawBits(): Long = definedExternally\n\n/**\n * Returns the [Double] value corresponding to a given bit representation.\n */\n@SinceKotlin(\"1.2\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Double.Companion.fromBits(bits: Long): Double = js(\"Kotlin\").doubleFromBits(bits).unsafeCast<Double>()\n\n/**\n * Returns a bit representation of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point \"single format\" bit layout.\n *\n * Note that in Kotlin/JS [Float] range is wider than \"single format\" bit layout can represent,\n * so some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and back.\n */\n@SinceKotlin(\"1.2\")\n@library(\"floatToBits\")\npublic actual fun Float.toBits(): Int = definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point \"single format\" bit layout,\n * preserving `NaN` values exact layout.\n *\n * Note that in Kotlin/JS [Float] range is wider than \"single format\" bit layout can represent,\n * so some [Float] values may overflow, underflow or loose their accuracy after conversion to bits and back.\n */\n@SinceKotlin(\"1.2\")\n@library(\"floatToRawBits\")\npublic actual fun Float.toRawBits(): Int = definedExternally\n\n/**\n * Returns the [Float] value corresponding to a given bit representation.\n */\n@SinceKotlin(\"1.2\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Float.Companion.fromBits(bits: Int): Float = js(\"Kotlin\").floatFromBits(bits).unsafeCast<Float>()\n\n\ninternal inline fun Long(low: Int, high: Int) = js(\"Kotlin\").Long.fromBits(low, high).unsafeCast<Long>()\ninternal inline val Long.low: Int get() = this.asDynamic().getLowBits().unsafeCast<Int>()\ninternal inline val Long.high: Int get() = this.asDynamic().getHighBits().unsafeCast<Int>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\nimport kotlin.reflect.KClass\n\n@PublishedApi\ninternal fun <T : Annotation> KClass<*>.findAssociatedObject(annotationClass: KClass<T>): Any? {\n   // This API is not supported in js-v1. Return `null` to be source-compatible with js-ir.\n   return null\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Long] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Long.toString(radix: Int): String = asDynamic().toString(checkRadix(radix))","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Reverses elements in the list in-place.\n */\npublic actual fun <T> MutableList<T>.reverse(): Unit {\n   val midPoint = (size / 2) - 1\n   if (midPoint < 0) return\n   var reverseIndex = lastIndex\n   for (index in 0..midPoint) {\n   val tmp = this[index]\n   this[index] = this[reverseIndex]\n   this[reverseIndex] = tmp\n   reverseIndex--\n   }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n//\n// NOTE:

THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.js.*\n\n/**\n * Returns a character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic actual fun CharSequence.elementAt(index: Int): Char {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, length: $length}\") }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n//\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n//\n\nimport kotlin.js.*\nimport kotlin.ranges.contains\nimport kotlin.ranges.reversed\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.elementAt(index: Int): UInt {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.elementAt(index: Int): ULong {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.elementAt(index: Int): UByte {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.elementAt(index: Int): UShort {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size}\") }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UIntArray.asList(): List<UInt> {\n return object : AbstractList<UInt>(), RandomAccess {\n override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UInt): Boolean = this@asList.contains(element)\n override fun get(index: Int): UInt {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun indexOf(element: UInt): Int {\n if ((element as Any?) !is UInt) return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UInt): Int {\n if ((element as Any?) !is UInt) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun ULongArray.asList(): List<ULong> {\n return object : AbstractList<ULong>(), RandomAccess {\n override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: ULong): Boolean = this@asList.contains(element)\n override fun get(index: Int): ULong {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun indexOf(element: ULong): Int {\n if ((element as Any?) !is ULong) return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: ULong): Int {\n if ((element as Any?) !is ULong) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UByteArray.asList(): List<UByte> {\n return object : AbstractList<UByte>(), RandomAccess {\n override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UByte): Boolean = this@asList.contains(element)\n override fun get(index: Int):

UByte {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun indexOf(element: UByte): Int {\n if ((element as Any?) !is UByte) return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UByte): Int {\n if ((element as Any?) !is UByte) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic actual fun UShortArray.asList(): List<UShort> {\n return object : AbstractList<UShort>(), RandomAccess {\n override val size: Int get() = this@asList.size\n override fun isEmpty(): Boolean = this@asList.isEmpty()\n override fun contains(element: UShort): Boolean = this@asList.contains(element)\n override fun get(index: Int): UShort {\n AbstractList.checkElementIndex(index, size)\n return this@asList[index]\n }\n override fun indexOf(element: UShort): Int {\n if ((element as Any?) !is UShort) return -1\n return this@asList.indexOf(element)\n }\n override fun lastIndexOf(element: UShort): Int {\n if ((element as Any?) !is UShort) return -1\n return this@asList.lastIndexOf(element)\n }\n }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"DEPRECATION_ERROR\")\npackage jquery.ui\n\n\n//jquery UI\nimport jquery.JQuery\nimport kotlin.js.Json\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.buttonset(): JQuery = asDynamic().buttonset()\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.dialog(): JQuery = asDynamic().dialog()\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.dialog(params: Json): JQuery = asDynamic().dialog(params)\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.dialog(mode: String, param: String): Any? = asDynamic().dialog(mode, param)\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.dialog(mode: String): JQuery = asDynamic().dialog(mode)\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.dialog(mode: String, param: String, value: Any?): JQuery = asDynamic().dialog(mode, param, value)\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.button(): JQuery = asDynamic().button()\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.accordion(): JQuery = asDynamic().accordion()\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.draggable(params: Json): JQuery = asDynamic().draggable(params)\n\n@Deprecated(\"Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.\", level = DeprecationLevel.ERROR)\npublic inline fun JQuery.selectable(): JQuery = asDynamic().selectable()\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n\npublic actual fun interface Comparator<T> {\n @JsName(\"compare\")\n public actual fun compare(a: T, b: T): Int\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n@Target(FUNCTION)\n@Deprecated(\"Use inline extension function with body using dynamic\")\npublic annotation class nativeGetter\n\n@Target(FUNCTION)\n@Deprecated(\"Use inline extension function with body using dynamic\")\npublic annotation class nativeSetter\n\n@Target(FUNCTION)\n@Deprecated(\"Use inline extension function with body using dynamic\")\npublic annotation class nativeInvoke\n\n@Target(CLASS, FUNCTION, PROPERTY)\ninternal

annotation class library(public val name: String = \"\")\n\n@Target(CLASS)\ninternal annotation class marker\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two functions for which the compiler gives same name in JavaScript, you can\n *   mark one with `@JsName(...)` to prevent the compiler from reporting error.\n * * You are writing a JavaScript library in Kotlin. The compiler produces mangled names\n *   for functions with parameters, which is unnatural for usual JavaScript developer.\n *   You can put `@JsName(...)` on functions you want to be available from JavaScript.\n * * For some reason you want to rename declaration, e.g. there's common term in JavaScript\n *   for a concept provided by the declaration, which in uncommon in Kotlin.\n *\n * Example:\n *\n * ``` kotlin\n * class Person(val name: String) {\n *   fun hello() {\n *   println(\"Hello $name!\")\n *   }\n *\n *   @JsName(\"helloWithGreeting\")\n *   fun hello(greeting: String) {\n *   println(\"$greeting $name!\")\n *   }\n * }\n * ```\n *\n * @property name the name which compiler uses both for declaration itself and for all references to the declaration.\n *   It's required to denote a valid JavaScript identifier.\n *\n */\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)\npublic actual annotation class JsName(actual val name: String)\n\n/**\n * Denotes an `external` declaration that must be imported from native JavaScript library.\n *\n * The compiler produces the code relevant for the target module system, for example, in case of CommonJS,\n * it will import the declaration via the `require(...)` function.\n *\n * The annotation can be used on top-level external declarations (classes, properties, functions) and files.\n * In case of file (which can't be `external`) the following rule applies: all the declarations in\n * the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object\n * that contain all the declarations from the file.\n *\n * Example:\n *\n * ``` kotlin\n * @JsModule(\"jquery\")\n * external abstract class JQuery() {\n *   // some declarations here\n * }\n *\n * @JsModule(\"jquery\")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @property import name of a module to import declaration from.\n *   It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system.\n *\n * @see JsNonModule\n */\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\npublic annotation class JsModule(val import: String)\n\n/**\n * Denotes an `external` declaration that can be used without module system.\n *\n * By default, an `external` declaration is available regardless your target module system.\n * However, by applying [JsModule] annotation you can make a declaration unavailable to *plain* module system.\n * Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available\n * as an npm package.\n * To tell the Kotlin compiler to accept both cases, you can augment [JsModule] with the `@JsNonModule` annotation.\n *\n * For example:\n *\n * ``` kotlin\n * @JsModule(\"jquery\")\n * @JsNonModule\n * @JsName(\"$\")\n * external abstract class JQuery() {\n *   // some declarations here\n * }\n *\n * @JsModule(\"jquery\")\n * @JsNonModule\n * @JsName(\"$\")\n * external fun JQuery(element: Element): JQuery\n * ```\n *\n * @see JsModule\n */\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\npublic annotation class JsNonModule\n\n/**\n * Adds prefix to `external` declarations in a source file.\n *\n * JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects.\n * The compiler turns references to `external` declarations either to plain unprefixed names (in case of *plain* modules)\n * or to plain imports.\n * However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this.\n * You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)`\n * annotation.\n *\n * Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations.\n *\n * Example:\n *\n * ```\n * @file:JsQualifier(\"my.jsPackageName\")\n * package some.kotlinPackage\n *\n * external fun foo(x: Int)\n *\n * external fun bar(): String\n * ```\n *\n * @property value the qualifier to add to the declarations in the generated code.\n *   It must be a sequence of valid JavaScript identifiers separated by the `.` character.\n * Examples of valid qualifiers are: `foo`, `bar.Baz`, `_.$0.f`.\n *\n * @see JsModule\n */\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.FILE)\npublic annotation class JsQualifier(val value: String)\n\n/**\n * Exports top-level declaration on JS platform.\n *\n * Compiled module exposes declarations that are marked with this annotation without name mangling.\n *\n * This annotation can be

applied to either files or top-level declarations.\n *\n * It is currently prohibited to export the following kinds of declarations:\n *\n * * `expect` declarations\n * * inline functions with reified type parameters\n * * suspend functions\n * * secondary constructors without `@JsName`\n * * extension properties\n * * enum classes\n * * annotation classes\n *\n * Signatures of exported declarations must only contain \"exportable\" types:\n *\n * * `dynamic`, `Any`, `String`, `Boolean`, `Byte`, `Short`, `Int`, `Float`, `Double`\n * * `BooleanArray`, `ByteArray`, `ShortArray`, `IntArray`, `FloatArray`, `DoubleArray`\n * * `Array<exportable-type>`\n * * Function types with exportable parameters and return types\n * * `external` or `@JsExport` classes and interfaces\n * * Nullable counterparts of types above\n * * Unit return type. Must not be nullable\n *\n * This annotation is experimental, meaning that restrictions mentioned above are subject to change.\n */\n@ExperimentalJsExport\n@Retention(AnnotationRetention.BINARY)\n@Target(CLASS, PROPERTY, FUNCTION, FILE)\n@SinceKotlin(\"1.3\")\npublic actual annotation class JsExport\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.jvm\n\n// these are used in common generated code in stdlib\n\n// TODO: find how to deprecate these ones\n\n@Target(AnnotationTarget.FIELD)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation class Volatile\n\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY_GETTER, AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.SOURCE)\npublic actual annotation class Synchronized\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableCollection] interface.\n *\n * @param E the type of elements contained in the collection. The collection is invariant in its element type.\n */\npublic actual abstract class AbstractMutableCollection<E> protected actual constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n   actual abstract override fun add(element: E): Boolean\n\n   actual override fun remove(element: E): Boolean {\n   checkIsMutable()\n   val iterator = iterator()\n   while (iterator.hasNext()) {\n   if (iterator.next() == element) {\n   iterator.remove()\n   return true\n   }\n   }\n   return false\n   }\n\n   actual override fun addAll(elements: Collection<E>): Boolean {\n   checkIsMutable()\n   var modified = false\n   for (element in elements) {\n   if (add(element)) modified = true\n   }\n   return modified\n   }\n\n   actual override fun removeAll(elements: Collection<E>): Boolean {\n   checkIsMutable()\n   return (this as MutableIterable<E>).removeAll { it in elements }\n   }\n\n   actual override fun retainAll(elements: Collection<E>): Boolean {\n   checkIsMutable()\n   return (this as MutableIterable<E>).removeAll { it !in elements }\n   }\n\n   actual override fun clear(): Unit {\n   checkIsMutable()\n   val iterator = this.iterator()\n   while (iterator.hasNext()) {\n   iterator.next()\n   iterator.remove()\n   }\n   }\n\n   @JsName(\"toJSON\")\n   open fun toJSON(): Any = this.toArray()\n\n\n   /**\n   * This method is called every time when a mutating method is called on this mutable collection.\n   * Mutable collections that are built (frozen) must throw `UnsupportedOperationException`.\n   */\n   internal open fun checkIsMutable(): Unit { }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractList\n * Copyright 2007 Google Inc.\n*/\n\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableList] interface.\n *\n * @param E the type of elements contained in the list. The list is invariant in its element type.\n */\npublic actual abstract class AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableList<E> {\n   protected var modCount: Int = 0\n\n   abstract override fun add(index: Int, element: E): Unit\n   abstract override fun removeAt(index: Int): E\n   abstract override fun set(index: Int, element: E): E\n\n   /**\n   * Adds the specified element to the end of this list.\n   *\n   * @return `true` because the list is always modified as the result of this operation.\n   */\n   actual override fun add(element: E): Boolean {\n   checkIsMutable()\n   add(size, element)\n   return true\n   }\n\n   actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n   checkIsMutable()\n   var _index = index\n   var changed = false\n   for (e in elements) {\n

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add(_index++, e)\n            changed = true\n        }\n        return changed\n    }\n\n    actual override fun clear() {\n        checkIsMutable()\n        removeRange(0, size)\n    }\n\n    actual override fun removeAll(elements: Collection<E>): Boolean {\n        checkIsMutable()\n        return removeAll { it in elements }\n    }\n\n    actual override fun retainAll(elements: Collection<E>): Boolean {\n        checkIsMutable()\n        return removeAll { it !in elements }\n    }\n\n\n    actual override fun iterator(): MutableIterator<E> = IteratorImpl()\n\n    actual override fun contains(element: E): Boolean = indexOf(element) >= 0\n\n    actual override fun indexOf(element: E): Int {\n        for (index in 0..lastIndex) {\n            if (get(index) == element) {\n                return index\n            }\n        }\n        return -1\n    }\n\n    actual override fun lastIndexOf(element: E): Int {\n        for (index in lastIndex downTo 0) {\n            if (get(index) == element) {\n                return index\n            }\n        }\n        return -1\n    }\n\n    actual override fun listIterator(): MutableListIterator<E> = listIterator(0)\n    actual override fun listIterator(index: Int): MutableListIterator<E> = ListIteratorImpl(index)\n\n\n    actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> = SubList(this, fromIndex, toIndex)\n\n    /**\n     * Removes the range of elements from this list starting from [fromIndex] and ending with but not including [toIndex].\n     */\n    protected open fun removeRange(fromIndex: Int, toIndex: Int) {\n        val iterator = listIterator(fromIndex)\n        repeat(toIndex - fromIndex) {\n            iterator.next()\n            iterator.remove()\n        }\n    }\n\n    /**\n     * Compares this list with another list instance with the ordered structural equality.\n     *\n     * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same order.\n     */\n    override fun equals(other: Any?): Boolean {\n        if (other === this) return true\n        if (other !is List<*>) return false\n\n        return AbstractList.orderedEquals(this, other)\n    }\n\n    /**\n     * Returns the hash code value for this list.\n     */\n    override fun hashCode(): Int = AbstractList.orderedHashCode(this)\n\n\n    private open inner class IteratorImpl : MutableIterator<E> {\n        /** the index of the item that will be returned on the next call to [next]`()` */\n        protected var index = 0\n        /** the index of the item that was returned on the previous call to [next]`()`\n         * or [ListIterator.previous]`()` (for `ListIterator`),\n         * -1 if no such item exists\n         */\n        protected var last = -1\n\n        override fun hasNext(): Boolean = index < size\n\n        override fun next(): E {\n            if (!hasNext()) throw NoSuchElementException()\n            last = index++\n            return get(last)\n        }\n\n        override fun remove() {\n            check(last != -1) { \"Call next() or previous() before removing element from the iterator.\" }\n\n            removeAt(last)\n            index = last\n            last = -1\n        }\n    }\n\n    /**\n     * Implementation of `MutableListIterator` for abstract lists.\n     */\n    private inner class ListIteratorImpl(index: Int) : IteratorImpl(), MutableListIterator<E> {\n\n        init {\n            AbstractList.checkPositionIndex(index, this@AbstractMutableList.size)\n            this.index = index\n        }\n\n        override fun hasPrevious(): Boolean = index > 0\n\n        override fun nextIndex(): Int = index\n\n        override fun previous(): E {\n            if (!hasPrevious()) throw NoSuchElementException()\n\n            last = --index\n            return get(last)\n        }\n\n        override fun previousIndex(): Int = index - 1\n\n        override fun add(element: E) {\n            add(index, element)\n            index++\n            last = -1\n        }\n\n        override fun set(element: E) {\n            check(last != -1) { \"Call next() or previous() before updating element value with the iterator.\" }\n            set(last, element)\n        }\n    }\n\n    private class SubList<E>(private val list: AbstractMutableList<E>, private val fromIndex: Int, toIndex: Int) : AbstractMutableList<E>(), RandomAccess {\n        private var _size: Int = 0\n\n        init {\n            AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)\n            this._size = toIndex - fromIndex\n        }\n\n        override fun add(index: Int, element: E) {\n            AbstractList.checkPositionIndex(index, _size)\n\n            list.add(fromIndex + index, element)\n            _size++\n        }\n\n        override fun get(index: Int): E {\n            AbstractList.checkElementIndex(index, _size)\n\n            return list[fromIndex + index]\n        }\n\n        override fun removeAt(index: Int): E {\n            AbstractList.checkElementIndex(index, _size)\n\n            val result = list.removeAt(fromIndex + index)\n            _size--\n            return result\n        }\n\n        override fun set(index: Int, element: E): E {\n            AbstractList.checkElementIndex(index, _size)\n\n            return list.set(fromIndex + index, element)\n        }\n\n        override val size: Int get() = _size\n\n        internal override fun checkIsMutable(): Unit = list.checkIsMutable()\n    }\n\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n
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*/\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableMap] interface.\n *\n * The implementor is required to implement [entries] property, which should return mutable set of map entries, and [put] function.\n *\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type of map values. The map is invariant in its value type.\n */\npublic actual abstract class AbstractMutableMap<K, V> protected actual constructor() : AbstractMap<K, V>(), MutableMap<K, V> {\n\n /**\n * A mutable [Map.Entry] shared by several [Map] implementations.\n */\n internal open class SimpleEntry<K, V>(override val key: K, value: V) : MutableMap.MutableEntry<K, V> {\n constructor(entry: Map.Entry<K, V>) : this(entry.key, entry.value)\n\n private var _value = value\n\n override val value: V get() = _value\n\n override fun setValue(newValue: V): V {\n // Should check if the map containing this entry is mutable.\n // However, to not increase entry memory footprint it might be worthwhile not to check it here and\n // force subclasses that implement `build()` (freezing) operation to implement their own `MutableEntry`.\n// this@AbstractMutableMap.checkIsMutable()\n val oldValue = this._value\n this._value = newValue\n return oldValue\n }\n\n override fun hashCode(): Int = entryHashCode(this)\n override fun toString(): String = entryToString(this)\n override fun equals(other: Any?): Boolean = entryEquals(this, other)\n\n }\n\n actual override fun clear() {\n entries.clear()\n }\n\n private var _keys: MutableSet<K>? = null\n actual override val keys: MutableSet<K>\n get() {\n if (_keys == null) {\n _keys = object : AbstractMutableSet<K>() {\n override fun add(element: K): Boolean = throw UnsupportedOperationException(\"Add is not supported on keys\")\n override fun clear() {\n this@AbstractMutableMap.clear()\n }\n\n override operator fun contains(element: K): Boolean = containsKey(element)\n\n override operator fun iterator(): MutableIterator<K> {\n val entryIterator = entries.iterator()\n return object : MutableIterator<K> {\n override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): K = entryIterator.next().key\n override fun remove() = entryIterator.remove()\n }\n }\n\n override fun remove(element: K): Boolean {\n checkIsMutable()\n if (containsKey(element)) {\n this@AbstractMutableMap.remove(element)\n return true\n }\n return false\n }\n\n override val size: Int get() = this@AbstractMutableMap.size\n\n override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()\n }\n }\n return _keys!!\n }\n\n actual abstract override fun put(key: K, value: V): V?\n\n actual override fun putAll(from: Map<out K, V>) {\n checkIsMutable()\n for ((key, value) in from) {\n put(key, value)\n }\n }\n\n private var _values: MutableCollection<V>? = null\n actual override val values: MutableCollection<V>\n get() {\n if (_values == null) {\n _values = object : AbstractMutableCollection<V>() {\n override fun add(element: V): Boolean = throw UnsupportedOperationException(\"Add is not supported on values\")\n override fun clear() = this@AbstractMutableMap.clear()\n\n override operator fun contains(element: V): Boolean = containsValue(element)\n\n override operator fun iterator(): MutableIterator<V> {\n val entryIterator = entries.iterator()\n return object : MutableIterator<V> {\n override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n override fun remove() = entryIterator.remove()\n }\n }\n\n override val size: Int get() = this@AbstractMutableMap.size\n\n // TODO: should we implement them this way? Currently it's unspecified in JVM\n override fun equals(other: Any?): Boolean {\n if (this === other) return true\n if (other !is Collection<*>) return false\n return AbstractList.orderedEquals(this, other)\n }\n\n override fun hashCode(): Int = AbstractList.orderedHashCode(this)\n\n override fun checkIsMutable(): Unit = this@AbstractMutableMap.checkIsMutable()\n }\n }\n return _values!!\n }\n\n actual override fun remove(key: K): V? {\n checkIsMutable()\n val iter = entries.iterator()\n while (iter.hasNext()) {\n val entry = iter.next()\n val k = entry.key\n if (key == k) {\n val value = entry.value\n iter.remove()\n return value\n }\n }\n return null\n }\n\n\n /**\n * This method is called every time when a mutating method is called on this mutable map.\n * Mutable

maps that are built (frozen) must throw `UnsupportedOperationException`.\n */\n internal open fun checkIsMutable(): Unit {}\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the [MutableSet] interface.\n *\n * @param E the type of elements contained in the set. The set is invariant in its element type.\n */\npublic actual abstract class AbstractMutableSet<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableSet<E> {\n\n /**\n * Compares this set with another set instance with the unordered structural equality.\n *\n * @return `true`, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Set<*>) return false\n return AbstractSet.setEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this set.\n */\n override fun hashCode(): Int = AbstractSet.unorderedHashCode(this)\n\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a [MutableList] implementation, which uses a resizable array as its backing storage.\n *\n * This implementation doesn't provide a way to manage capacity, as backing JS array is resizeable itself.\n * There is no speed advantage to pre-allocating array sizes in JavaScript, so this implementation does not include any of the\n * capacity and \"growth increment\" concepts.\n */\npublic actual open class ArrayList<E> internal constructor(private var array: Array<Any?>) : AbstractMutableList<E>(), MutableList<E>, RandomAccess {\n private var isReadOnly: Boolean = false\n\n /**\n * Creates an empty [ArrayList].\n */\n public actual constructor() : this(emptyArray()) {}\n\n /**\n * Creates an empty [ArrayList].\n * @param initialCapacity initial capacity (ignored)\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n public actual constructor(initialCapacity: Int = 0) : this(emptyArray()) {}\n\n /**\n * Creates an [ArrayList] filled from the [elements] collection.\n */\n public actual constructor(elements: Collection<E>) : this(elements.toTypedArray<Any?>()) {}\n\n @PublishedApi\n internal fun build(): List<E> {\n checkIsMutable()\n isReadOnly = true\n return this\n }\n\n /** Does nothing in this ArrayList implementation. */\n public actual fun trimToSize() {}\n\n /** Does nothing in this ArrayList implementation. */\n public actual fun ensureCapacity(minCapacity: Int) {}\n\n actual override val size: Int get() = array.size\n @Suppress(\"UNCHECKED_CAST\")\n actual override fun get(index: Int): E = array[rangeCheck(index)] as E\n actual override fun set(index: Int, element: E): E {\n checkIsMutable()\n rangeCheck(index)\n @Suppress(\"UNCHECKED_CAST\")\n return array[index].apply { array[index] = element } as E\n }\n\n actual override fun add(element: E): Boolean {\n checkIsMutable()\n array.asDynamic().push(element)\n modCount++\n return true\n }\n\n actual override fun add(index: Int, element: E): Unit {\n checkIsMutable()\n array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n modCount++\n }\n\n actual override fun addAll(elements: Collection<E>): Boolean {\n checkIsMutable()\n if (elements.isEmpty()) return false\n\n array += elements.toTypedArray<Any?>()\n modCount++\n return true\n }\n\n actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n checkIsMutable()\n insertionRangeCheck(index)\n\n if (index == size) return addAll(elements)\n if (elements.isEmpty()) return false\n when (index) {\n size -> return addAll(elements)\n 0 -> array = elements.toTypedArray<Any?>() + array\n else -> array = array.copyOfRange(0, index).asDynamic().concat(elements.toTypedArray<Any?>(), array.copyOfRange(index, size))\n }\n\n modCount++\n return true\n }\n\n actual override fun removeAt(index: Int): E {\n checkIsMutable()\n rangeCheck(index)\n modCount++\n return if (index == lastIndex)\n array.asDynamic().pop()\n else\n array.asDynamic().splice(index, 1)[0]\n }\n\n actual override fun remove(element: E): Boolean {\n checkIsMutable()\n for (index in array.indices) {\n if (array[index] == element) {\n array.asDynamic().splice(index, 1)\n modCount++\n return true\n }\n }\n return false\n }\n\n override fun removeRange(fromIndex: Int, toIndex: Int) {\n checkIsMutable()\n modCount++\n array.asDynamic().splice(fromIndex, toIndex - fromIndex)\n }\n\n actual override fun

clear() {\n checkIsMutable()\n array = emptyArray()\n modCount++\n }\n\n\n actual override fun indexOf(element: E): Int = array.indexOf(element)\n\n actual override fun lastIndexOf(element: E): Int = array.lastIndexOf(element)\n\n override fun toString() = arrayToString(array)\n override fun toArray(): Array<Any?> = js(\"[]\").slice.call(array)\n\n\n internal override fun checkIsMutable() {\n if (isReadOnly) throw UnsupportedOperationException()\n }\n\n private fun rangeCheck(index: Int) = index.apply {\n AbstractList.checkElementIndex(index, size)\n }\n\n private fun insertionRangeCheck(index: Int) = index.apply {\n AbstractList.checkPositionIndex(index, size)\n }\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparison: (T, T) -> Int) {\n if (getStableSortingIsSupported()) {\n array.asDynamic().sort(comparison)\n } else {\n mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, Comparator(comparison))\n }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>, comparator: Comparator<in T>) {\n if (getStableSortingIsSupported()) {\n val comparison = { a: T, b: T -> comparator.compare(a, b) }\n array.asDynamic().sort(comparison)\n } else {\n mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparator)\n }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>, fromIndex: Int, toIndex: Int, comparator: Comparator<in T>) {\n if (fromIndex < toIndex - 1) {\n mergeSort(array.unsafeCast<Array<T>>(), fromIndex, toIndex - 1, comparator)\n }\n}\n\ninternal fun <T : Comparable<T>> sortArray(array: Array<out T>) {\n if (getStableSortingIsSupported()) {\n val comparison = { a: T, b: T -> a.compareTo(b) }\n array.asDynamic().sort(comparison)\n } else {\n mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, naturalOrder())\n }\n}\n\nprivate var _stableSortingIsSupported: Boolean? = null\nprivate fun getStableSortingIsSupported(): Boolean {\n _stableSortingIsSupported?.let { return it }\n _stableSortingIsSupported = false\n\n val array = js(\"[]\").unsafeCast<Array<Int>>()\n // known implementations may use stable sort for arrays of up to 512 elements\n // so we create slightly more elements to test stability\n for (index in 0 until 600) array.asDynamic().push(index)\n val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) }\n array.asDynamic().sort(comparison)\n for (index in 1 until array.size) {\n val a = array[index - 1]\n val b = array[index]\n if ((a and 3) == (b and 3) && a >= b) return false\n }\n _stableSortingIsSupported = true\n return true\n}\n\n\nprivate fun <T> mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator: Comparator<in T>) {\n val buffer = arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()\n val result = mergeSort(array, buffer, start, endInclusive, comparator)\n if (result !== array) {\n for (i in start..endInclusive) array[i] = result[i]\n }\n}\n\n// Both start and end are inclusive indices.\nprivate fun <T> mergeSort(array: Array<T>, buffer: Array<T>, start: Int, end: Int, comparator: Comparator<in T>): Array<T> {\n if (start == end) {\n return array\n }\n\n val median = (start + end) / 2\n val left = mergeSort(array, buffer, start, median, comparator)\n val right = mergeSort(array, buffer, median + 1, end, comparator)\n\n val target = if (left === buffer) array else buffer\n\n // Merge.\n var leftIndex = start\n var rightIndex = median + 1\n for (i in start..end) {\n when {\n leftIndex <= median && rightIndex <= end -> {\n val leftValue = left[leftIndex]\n val rightValue = right[rightIndex]\n\n if (comparator.compare(leftValue, rightValue) <= 0) {\n target[i] = leftValue\n leftIndex++\n } else {\n target[i] = rightValue\n rightIndex++\n }\n }\n leftIndex <= median -> {\n target[i] = left[leftIndex]\n leftIndex++\n }\n else /* rightIndex <= end */ -> {\n target[i] = right[rightIndex]\n rightIndex++\n }\n Unit // TODO: Fix KT-31506\n }\n }\n }\n\n return target\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin(\"1.3\")\n@kotlin.js.JsName(\"contentDeepHashCodeImpl\")\ninternal fun <T> Array<out T>?.contentDeepHashCodeImpl(): Int {\n if (this == null) return 0\n var result = 1\n for (element in this) {\n val elementHash = when {\n element == null -> 0\n isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()\n\n

element is UByteArray -> element.contentHashCode()\n element is UShortArray -> element.contentHashCode()\n element is UIntArray -> element.contentHashCode()\n element is ULongArray -> element.contentHashCode()\n\n else -> element.hashCode()\n }\n\n result = 31 * result + elementHash\n }\n return result\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal interface EqualityComparator {\n /**\n * Subclasses must override to return a value indicating\n * whether or not two keys or values are equal.\n */\n abstract fun equals(value1: Any?, value2: Any?): Boolean\n\n /**\n * Subclasses must override to return the hash code of a given key.\n */\n abstract fun getHashCode(value: Any?): Int\n\n\n object HashCode : EqualityComparator {\n override fun equals(value1: Any?, value2: Any?): Boolean = value1 == value2\n\n override fun getHashCode(value: Any?): Int = value?.hashCode() ?: 0\n }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT AbstractHashMap\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap] interface.\n *\n * This implementation makes no guarantees regarding the order of enumeration of [keys], [values] and [entries] collections.\n */\n// Classes that extend HashMap and implement `build()` (freezing) operation\n// have to make sure mutating methods check `checkIsMutable`.\npublic actual open class HashMap<K, V> : AbstractMutableMap<K, V>, MutableMap<K, V> {\n\n private inner class EntrySet : AbstractMutableSet<MutableEntry<K, V>>() {\n\n override fun add(element: MutableEntry<K, V>): Boolean = throw UnsupportedOperationException(\"Add is not supported on entries\")\n override fun clear() {\n this@HashMap.clear()\n }\n\n override operator fun contains(element: MutableEntry<K, V>): Boolean = containsEntry(element)\n\n override operator fun iterator(): MutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n\n override fun remove(element: MutableEntry<K, V>): Boolean {\n if (contains(element)) {\n this@HashMap.remove(element.key)\n return true\n }\n return false\n }\n\n override val size: Int get() = this@HashMap.size\n }\n\n\n /**\n * Internal implementation of the map: either string-based or hashcode-based.\n */\n private val internalMap: InternalMap<K, V>\n\n private val equality: EqualityComparator\n\n internal constructor(internalMap: InternalMap<K, V>) : super() {\n this.internalMap = internalMap\n this.equality = internalMap.equality\n }\n\n /**\n * Constructs an empty [HashMap] instance.\n */\n actual constructor() : this(InternalHashCodeMap(EqualityComparator.HashCode))\n\n /**\n * Constructs an empty [HashMap] instance.\n *\n * @param initialCapacity the initial capacity (ignored)\n * @param loadFactor the load factor (ignored)\n *\n * @throws IllegalArgumentException if the initial capacity or load factor are negative\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f) : this() {\n // This implementation of HashMap has no need of load factors or capacities.\n require(initialCapacity >= 0) { \"Negative initial capacity: $initialCapacity\" }\n require(loadFactor >= 0) { \"Non-positive load factor: $loadFactor\" }\n }\n\n actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n\n /**\n * Constructs an instance of [HashMap] filled with the contents of the specified [original] map.\n */\n actual constructor(original: Map<out K, V>) : this() {\n this.putAll(original)\n }\n\n actual override fun clear() {\n internalMap.clear()\n// structureChanged(this)\n }\n\n actual override fun containsKey(key: K): Boolean = internalMap.contains(key)\n\n actual override fun containsValue(value: V): Boolean = internalMap.any { equality.equals(it.value, value) }\n\n private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? = null\n actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n get() {\n if (_entries == null) {\n _entries = createEntrySet()\n }\n return _entries!!\n }\n\n protected open fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n actual override operator fun get(key: K): V? = internalMap.get(key)\n\n actual override fun put(key: K, value: V): V? = internalMap.put(key, value)\n\n actual override fun remove(key: K): V? = internalMap.remove(key)\n\n actual

override val size: Int get() = internalMap.size\n\n}\n\n/**\n * Constructs the specialized implementation of [HashMap] with [String] keys, which stores the keys as properties of\n * JS object without hashing them.\n */\npublic fun <V> stringMapOf(vararg pairs: Pair<String, V>): HashMap<String, V> {\n return HashMap<String, V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT HashSet\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * The implementation of the [MutableSet] interface, backed by a [HashMap] instance.\n */\n// Classes that extend HashSet and implement `build()` (freezing) operation\n// have to make sure mutating methods check `checkIsMutable`.\npublic actual open class HashSet<E> : AbstractMutableSet<E>, MutableSet<E> {\n\n internal val map: HashMap<E, Any>\n\n /**\n * Constructs a new empty [HashSet].\n */\n actual constructor() {\n map = HashMap<E, Any>()\n }\n\n /**\n * Constructs a new [HashSet] filled with the elements of the specified collection.\n */\n actual constructor(elements: Collection<E>) {\n map = HashMap<E, Any>(elements.size)\n addAll(elements)\n }\n\n /**\n * Constructs a new empty [HashSet].\n *\n * @param initialCapacity the initial capacity (ignored)\n * @param loadFactor the load factor (ignored)\n *\n * @throws IllegalArgumentException if the initial capacity or load factor are negative\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f) {\n map = HashMap<E, Any>(initialCapacity, loadFactor)\n }\n\n actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n /**\n * Protected constructor to specify the underlying map. This is used by\n * LinkedHashSet.\n\n * @param map underlying map to use.\n */\n internal constructor(map: HashMap<E, Any>) {\n this.map = map\n }\n\n actual override fun add(element: E): Boolean {\n val old = map.put(element, this)\n return old == null\n }\n\n actual override fun clear() {\n map.clear()\n }\n\n// public override fun clone(): Any {\n// return HashSet<E>(this)\n// }\n\n actual override operator fun contains(element: E): Boolean = map.containsKey(element)\n\n actual override fun isEmpty(): Boolean = map.isEmpty()\n\n actual override fun iterator(): MutableIterator<E> = map.keys.iterator()\n\n actual override fun remove(element: E): Boolean = map.remove(element) != null\n\n actual override val size: Int get() = map.size\n\n}\n\n/**\n * Creates a new instance of the specialized implementation of [HashSet] with the specified [String] elements,\n * which elements the keys as properties of JS object without hashing them.\n */\npublic fun stringSetOf(vararg elements: String): HashSet<String> {\n return HashSet(stringMapOf<Any>()).apply { addAll(elements) }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT InternalHashCodeMap\n * Copyright 2008 Google Inc.\n */\n\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\nimport kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to provide [java.util.Map]-like semantics for any\n * key type.\n *\n *\n * Implementation notes:\n *\n *\n * A key's hashCode is the index in backingMap which should contain that key. Since several keys may\n * have the same hash, each value in hashCodeMap is actually an array containing all entries whose\n * keys share the same hash.\n */\ninternal class InternalHashCodeMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n\n private var backingMap: dynamic = createJsMap()\n override var size: Int = 0\n private set\n\n override fun put(key: K, value: V): V? {\n val hashCode = equality.getHashCode(key)\n val chainOrEntry = getChainOrEntryOrNull(hashCode)\n if (chainOrEntry == null) {\n // This is a new chain, put it to the map.\n backingMap[hashCode] = SimpleEntry(key, value)\n } else {\n if (chainOrEntry !is Array<*>) {\n // It is an entry\n val entry: SimpleEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n return entry.setValue(value)\n } else {\n backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n size++\n return null\n }\n } else {\n // Chain already exists, perhaps key also exists.\n val chain: Array<MutableEntry<K, V>> = chainOrEntry\n val entry = chain.findEntryInChain(key)\n if (entry != null) {\n return entry.setValue(value)\n

}\n chain.asDynamic().push(SimpleEntry(key, value))\n }\n }\n size++\n// structureChanged(host)\n return null\n }\n\n override fun remove(key: K): V? {\n val hashCode = equality.getHashCode(key)\n val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n if (chainOrEntry !is Array<*>) {\n val entry: MutableEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n jsDeleteProperty(backingMap, hashCode)\n size--\n return entry.value\n } else {\n return null\n }\n } else {\n val chain: Array<MutableEntry<K, V>> = chainOrEntry\n for (index in chain.indices) {\n val entry = chain[index]\n if (equality.equals(key, entry.key)) {\n if (chain.size == 1) {\n chain.asDynamic().length = 0\n // remove the whole array\n jsDeleteProperty(backingMap, hashCode)\n } else {\n // splice out the entry we're removing\n chain.asDynamic().splice(index, 1)\n }\n size--\n// structureChanged(host)\n return entry.value\n }\n }\n }\n return null\n }\n\n override fun clear() {\n backingMap = createJsMap()\n size = 0\n }\n\n override fun contains(key: K): Boolean = getEntry(key) != null\n\n override fun get(key: K): V? = getEntry(key)?.value\n\n private fun getEntry(key: K): MutableEntry<K, V>? {\n val chainOrEntry = getChainOrEntryOrNull(equality.getHashCode(key)) ?: return null\n if (chainOrEntry !is Array<*>) {\n val entry: MutableEntry<K, V> = chainOrEntry\n if (equality.equals(entry.key, key)) {\n return entry\n } else {\n return null\n }\n } else {\n val chain: Array<MutableEntry<K, V>> = chainOrEntry\n return chain.findEntryInChain(key)\n }\n }\n\n private fun Array<MutableEntry<K, V>>.findEntryInChain(key: K): MutableEntry<K, V>? =\n firstOrNull { entry -> equality.equals(entry.key, key) }\n\n override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n\n return object : MutableIterator<MutableEntry<K, V>> {\n var state = -1 // -1 not ready, 0 - ready, 1 - done\n\n val keys: Array<String> = js(\"Object\").keys(backingMap)\n var keyIndex = -1\n\n var chainOrEntry: dynamic = null\n var isChain = false\n var itemIndex = -1\n var lastEntry: MutableEntry<K, V>? = null\n\n private fun computeNext(): Int {\n if (chainOrEntry != null && isChain) {\n val chainSize: Int = chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>().size\n if (++itemIndex < chainSize)\n return 0\n }\n\n if (++keyIndex < keys.size) {\n chainOrEntry = backingMap[keys[keyIndex]]\n isChain = chainOrEntry is Array<*>\n itemIndex = 0\n return 0\n } else {\n chainOrEntry = null\n return 1\n }\n }\n\n override fun hasNext(): Boolean {\n if (state == -1)\n state = computeNext()\n return state == 0\n }\n\n override fun next(): MutableEntry<K, V> {\n if (!hasNext()) throw NoSuchElementException()\n val lastEntry = if (isChain) {\n chainOrEntry.unsafeCast<Array<MutableEntry<K, V>>>()[itemIndex]\n } else {\n chainOrEntry.unsafeCast<MutableEntry<K, V>>()\n }\n this.lastEntry = lastEntry\n state = -1\n return lastEntry\n }\n\n override fun remove() {\n checkNotNull(lastEntry)\n this@InternalHashCodeMap.remove(lastEntry!!.key)\n lastEntry = null\n // the chain being iterated just got modified by InternalHashCodeMap.remove\n itemIndex--\n }\n }\n }\n\n private fun getChainOrEntryOrNull(hashCode: Int): dynamic {\n val chainOrEntry = backingMap[hashCode]\n return if (chainOrEntry === undefined) null else chainOrEntry\n }\n\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * The common interface of [InternalStringMap] and [InternalHashCodeMap].\n */\ninternal interface InternalMap<K, V> : MutableIterable<MutableMap.MutableEntry<K, V>> {\n val equality: EqualityComparator\n val size: Int\n operator fun contains(key: K): Boolean\n operator fun get(key: K): V?\n\n fun put(key: K, value: V): V?\n fun remove(key: K): V?\n fun clear(): Unit\n\n fun createJsMap(): dynamic {\n val result = js(\"Object.create(null)\")\n // force to switch object representation to dictionary mode\n result[\"foo\"] = 1\n jsDeleteProperty(result, \"foo\")\n return result\n }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o.

and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT InternalStringMap\n * Copyright 2008 Google Inc.\n */\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * A simple wrapper around JavaScript Map for key type is string.\n *\n * Though this map is instantiated only with K=String, the K type is not fixed to String statically,\n * because we want to have it erased to Any? in order not to generate type-safe override bridges for\n * [get], [contains], [remove] etc, if they ever are generated.\n */\ninternal class InternalStringMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V> {\n\n   private var backingMap: dynamic = createJsMap()\n   override var size: Int = 0\n   private set\n\n//   /**\n//   * A mod count to track 'value' replacements in map to ensure that the 'value' that we have in the\n//   * iterator entry is guaranteed to be still correct.\n//   * This is to optimize for the common scenario where the values are not modified during\n//   * iterations where the entries are never stale.\n//   */\n//   private var valueMod: Int = 0\n\n   override operator fun contains(key: K): Boolean {\n   if (key !is String) return false\n   return backingMap[key] !== undefined\n   }\n\n   override operator fun get(key: K): V? {\n   if (key !is String) return null\n   val value = backingMap[key]\n   return if (value !== undefined) value.unsafeCast<V>() else null\n   }\n\n\n   override fun put(key: K, value: V): V? {\n   require(key is String)\n   val oldValue = backingMap[key]\n   backingMap[key] = value\n\n   if (oldValue === undefined) {\n   size++\n//   structureChanged(host)\n   return null\n   } else {\n//   valueMod++\n   return oldValue.unsafeCast<V>()\n   }\n   }\n\n   override fun remove(key: K): V? {\n   if (key !is String) return null\n   val value = backingMap[key]\n   if (value !== undefined) {\n   jsDeleteProperty(backingMap, key)\n   size--\n//   structureChanged(host)\n   return value.unsafeCast<V>()\n   } else {\n//   valueMod++\n   return null\n   }\n   }\n\n\n   override fun clear() {\n   backingMap = createJsMap()\n   size = 0\n   }\n\n\n   override fun iterator(): MutableIterator<MutableEntry<K, V>> {\n   return object : MutableIterator<MutableEntry<K, V>> {\n   private val keys: Array<String> = js(\"Object\").keys(backingMap)\n   private val iterator = keys.iterator()\n   private var lastKey: String? = null\n\n   override fun hasNext(): Boolean = iterator.hasNext()\n\n   override fun next(): MutableEntry<K, V> {\n   val key = iterator.next()\n   lastKey = key\n   @Suppress(\"UNCHECKED_CAST\")\n   return newMapEntry(key as K)\n   }\n\n   override fun remove() {\n   @Suppress(\"UNCHECKED_CAST\")\n   this@InternalStringMap.remove(checkNotNull(lastKey) as K)\n   }\n   }\n   }\n\n   private fun newMapEntry(key: K): MutableEntry<K, V> = object : MutableEntry<K, V> {\n   override val key: K get() = key\n   override val value: V get() = this@InternalStringMap[key].unsafeCast<V>()\n\n   override fun setValue(newValue: V): V = this@InternalStringMap.put(key, newValue).unsafeCast<V>()\n\n   override fun hashCode(): Int = AbstractMap.entryHashCode(this)\n   override fun toString(): String = AbstractMap.entryToString(this)\n   override fun equals(other: Any?): Boolean = AbstractMap.entryEquals(this, other)\n   }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT LinkedHashMap\n * Copyright 2008 Google Inc.\n */\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap] interface, which additionally preserves the insertion order\n * of entries during the iteration.\n *\n * The insertion order is preserved by maintaining a doubly-linked list of all of its entries.\n */\npublic actual open class LinkedHashMap<K, V> : HashMap<K, V>, MutableMap<K, V> {\n\n   /**\n   * The entry we use includes next/prev pointers for a doubly-linked circular\n   * list with a head node. This reduces the special cases we have to deal with\n   * in the list operations.\n\n   * Note that we duplicate the key from the underlying hash map so we can find\n   * the eldest entry. The alternative would have been to modify HashMap so more\n   * of the code was directly usable here, but this would have added some\n   * overhead to HashMap, or to reimplement most of the HashMap code here with\n   * small modifications. Paying a small storage cost only if you use\n   * LinkedHashMap and minimizing code size seemed like a better tradeoff\n   */\n   private inner class ChainEntry<K, V>(key: K, value: V) : AbstractMutableMap.SimpleEntry<K, V>(key, value) {\n   internal var

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next: ChainEntry<K, V>? = null\n        internal var prev: ChainEntry<K, V>? = null\n\n        override fun
setValue(newValue: V): V {\n            this@LinkedHashMap.checkIsMutable()\n            return
super.setValue(newValue)\n        }\n    }\n\n    private inner class EntrySet : AbstractMutableSet<MutableEntry<K,
V>>() {\n\n        private inner class EntryIterator : MutableIterator<MutableEntry<K, V>> {\n            // The last
entry that was returned from this iterator.\n            private var last: ChainEntry<K, V>? = null\n\n            // The next
entry to return from this iterator.\n            private var next: ChainEntry<K, V>? = null\n\n            init {\n
next = head\n//                recordLastKnownStructure(map, this)\n            }\n\n            override fun hasNext():
Boolean {\n                return next !== null\n            }\n\n            override fun next(): MutableEntry<K, V> {\n//
    checkStructuralChange(map, this)\n                if (!hasNext()) throw NoSuchElementException()\n\n                val
current = next!!\n                last = current\n                next = current.next.takeIf { it !== head }\n                return
current\n            }\n\n            override fun remove() {\n                check(last != null)\n
this@EntrySet.checkIsMutable()\n//                checkStructuralChange(map, this)\n\n                last!!.remove()\n
    map.remove(last!!.key)\n//                recordLastKnownStructure(map, this)\n                last = null\n            }\n
}\n\n        override fun add(element: MutableEntry<K, V>): Boolean = throw
UnsupportedOperationException(\"Add is not supported on entries\")\n        override fun clear() {\n
this@LinkedHashMap.clear()\n        }\n\n        override operator fun contains(element: MutableEntry<K, V>):
Boolean = containsEntry(element)\n\n        override operator fun iterator(): MutableIterator<MutableEntry<K, V>>
= EntryIterator()\n\n        override fun remove(element: MutableEntry<K, V>): Boolean {\n
checkIsMutable()\n            if (contains(element)) {\n                this@LinkedHashMap.remove(element.key)\n
  return true\n            }\n            return false\n        }\n\n        override val size: Int get() =
this@LinkedHashMap.size\n\n        override fun checkIsMutable(): Unit =
this@LinkedHashMap.checkIsMutable()\n    }\n\n\n    /*\n     * The head of the insert order chain, which is a doubly-
linked circular\n     * list.\n     *\n     * The most recently inserted node is at the end of the chain, ie.\n     * chain.prev.\n
*/\n    private var head: ChainEntry<K, V>? = null\n\n    /**\n     * Add this node to the end of the chain.\n     */\n
private fun ChainEntry<K, V>.addToEnd() {\n        // This entry is not in the list.\n        check(next == null && prev
== null)\n\n        val _head = head\n        if (_head == null) {\n            head = this\n            next = this\n            prev =
this\n        } else {\n            // Chain is valid.\n            val _tail = checkNotNull(_head.prev)\n            // Update me.\n
        prev = _tail\n            next = _head\n            // Update my new siblings: current head and old tail\n
_head.prev = this\n            _tail.next = this\n        }\n    }\n\n    /**\n     * Remove this node from the chain it is a part
of.\n     */\n    private fun ChainEntry<K, V>.remove() {\n        if (this.next === this) {\n            // if this is single
element, remove head\n            head = null\n        } else {\n            if (head === this) {\n                // if this is first
element, move head to next\n                head = next\n            }\n            next!!.prev = prev\n            prev!!.next =
next\n        }\n        next = null\n        prev = null\n    }\n\n    /*\n     * The hashmap that keeps track of our entries and
the chain. Note that we\n     * duplicate the key here to eliminate changes to HashMap and minimize the\n     * code
here, at the expense of additional space.\n     */\n    private val map: HashMap<K, ChainEntry<K, V>>\n\n    private
var isReadOnly: Boolean = false\n\n    /**\n     * Constructs an empty [LinkedHashMap] instance.\n     */\n    actual
constructor() : super() {\n        map = HashMap<K, ChainEntry<K, V>>()\n    }\n\n    internal
constructor(backingMap: HashMap<K, Any>) : super() {\n        @Suppress(\"UNCHECKED_CAST\") // expected
to work due to erasure\n        map = backingMap as HashMap<K, ChainEntry<K, V>>\n    }\n\n    /**\n     *
Constructs an empty [LinkedHashMap] instance.\n     *\n     * @param  initialCapacity the initial capacity
(ignored)\n     * @param  loadFactor      the load factor (ignored)\n     *\n     * @throws IllegalArgumentException if
the initial capacity or load factor are negative\n     */\n
@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n    actual constructor(initialCapacity:
Int, loadFactor: Float = 0.0f) : super(initialCapacity, loadFactor) {\n        map = HashMap<K, ChainEntry<K,
V>>()\n    }\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    /**\n     * Constructs an
instance of [LinkedHashMap] filled with the contents of the specified [original] map.\n     */\n    actual
constructor(original: Map<out K, V>) {\n        map = HashMap<K, ChainEntry<K, V>>()\n
this.putAll(original)\n    }\n\n    @PublishedApi\n    internal fun build(): Map<K, V> {\n        checkIsMutable()\n
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 isReadOnly = true\n        return this\n    }\n\n    actual override fun clear() {\n        checkIsMutable()\n
map.clear()\n        head = null\n    }\n\n\n//    override fun clone(): Any {\n//        return LinkedHashMap(this)\n//
}\n\n\n    actual override fun containsKey(key: K): Boolean = map.containsKey(key)\n\n    actual override fun
containsValue(value: V): Boolean {\n        var node: ChainEntry<K, V> = head ?: return false\n        do {\n            if
(node.value == value) {\n                return true\n            }\n            node = node.next!!\n        } while (node !==
head)\n        return false\n    }\n\n\n    override fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K,
V>> = EntrySet()\n\n    actual override operator fun get(key: K): V? = map.get(key)?.value\n\n    actual override fun
put(key: K, value: V): V? {\n        checkIsMutable()\n\n        val old = map.get(key)\n        if (old == null) {\n
val newEntry = ChainEntry(key, value)\n            map.put(key, newEntry)\n            newEntry.addToEnd()\n
return null\n        } else {\n            return old.setValue(value)\n        }\n    }\n\n    actual override fun remove(key: K):
V? {\n        checkIsMutable()\n\n        val entry = map.remove(key)\n        if (entry != null) {\n
entry.remove()\n            return entry.value\n        }\n        return null\n    }\n\n    actual override val size: Int get() =
map.size\n\n    internal override fun checkIsMutable() {\n        if (isReadOnly) throw
UnsupportedOperationException()\n    }\n}\n\n/**\n * Constructs the specialized implementation of
[LinkedHashMap] with [String] keys, which stores the keys as properties of\n * JS object without hashing them.\n
*/\npublic fun <V> linkedStringMapOf(vararg pairs: Pair<String, V>): LinkedHashMap<String, V> {\n    return
LinkedHashMap<String, V>(stringMapOf<Any>()).apply { putAll(pairs) }\n}","/*\n * Copyright 2010-2018
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Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n/*\n * Based on GWT LinkedHashSet\n
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interface, backed by a [LinkedHashMap] instance.\n *\n * This implementation preserves the insertion order of
elements during the iteration.\n */\npublic actual open class LinkedHashSet<E> : HashSet<E>, MutableSet<E>
{\n\n    internal constructor(map: LinkedHashMap<E, Any>) : super(map)\n\n    /**\n     * Constructs a new empty
[LinkedHashSet].\n     */\n    actual constructor() : super(LinkedHashMap<E, Any>())\n\n    /**\n     * Constructs a
new [LinkedHashSet] filled with the elements of the specified collection.\n     */\n    actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {\n        addAll(elements)\n    }\n\n    /**\n     * Constructs a
new empty [LinkedHashSet].\n     *\n     * @param  initialCapacity the initial capacity (ignored)\n     * @param
loadFactor      the load factor (ignored)\n     *\n     * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n     */\n    @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n
actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f) : super(LinkedHashMap<E, Any>(initialCapacity,
loadFactor))\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    @PublishedApi\n
internal fun build(): Set<E> {\n        (map as LinkedHashMap<E, Any>).build()\n        return this\n    }\n\n    internal
override fun checkIsMutable(): Unit = map.checkIsMutable()\n\n//    public override fun clone(): Any {\n//
return LinkedHashSet(this)\n//    }\n\n}\n\n/**\n * Creates a new instance of the specialized implementation of
[LinkedHashSet] with the specified [String] elements,\n * which elements the keys as properties of JS object
without hashing them.\n */\npublic fun linkedStringSetOf(vararg elements: String): LinkedHashSet<String> {\n
return LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements) }\n}\n","/*\n * Copyright 2010-2020
JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the
Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.contracts.*\n\n\n@kotlin.internal.InlineOnly\npublic actual inline fun <R> synchronized(lock: Any, block: ()
-> R): R {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return
block()\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use
of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.io\n\ninternal abstract class BaseOutput {\n    open fun println() {\n        print(\"\\n\")\n    }\n\n
open fun println(message: Any?) {\n        print(message)\n        println()\n    }\n\n    abstract fun print(message:
Any?)\n\n    open fun flush() {}\n}\n\n/** JsName used to make the declaration available outside of module to test it
*/\n@JsName(\"NodeJsOutput\")\ninternal class NodeJsOutput(val outputStream: dynamic) : BaseOutput() {\n
override fun print(message: Any?) {\n        // TODO: Using local variable because of bug in block decomposition
```

lowering in IR backend\n val messageString = String(message)\n outputStream.write(messageString)\n }\n}\n\n/** JsName used to make the declaration available outside of module to test it */\n@JsName(\"OutputToConsoleLog\")\ninternal class OutputToConsoleLog : BaseOutput() {\n override fun print(message: Any?) {\n console.log(message)\n }\n\n override fun println(message: Any?) {\n console.log(message)\n }\n\n override fun println() {\n console.log(\"\")\n }\n}\n\n/** JsName used to make the declaration available outside of module to test it and use at try.kotl.in */\n@JsName(\"BufferedOutput\")\ninternal open class BufferedOutput : BaseOutput() {\n var buffer = \"\"\n\n override fun print(message: Any?) {\n buffer += String(message)\n }\n\n override fun flush() {\n buffer = \"\"\n }\n}\n\n/** JsName used to make the declaration available outside of module to test it */\n@JsName(\"BufferedOutputToConsoleLog\")\ninternal class BufferedOutputToConsoleLog : BufferedOutput() {\n override fun print(message: Any?) {\n var s = String(message)\n val i = s.nativeLastIndexOf(\"\\n\", 0)\n if (i >= 0) {\n buffer += s.substring(0, i)\n flush()\n s = s.substring(i + 1)\n }\n buffer += s\n }\n\n override fun flush() {\n console.log(buffer)\n buffer = \"\"\n }\n}\n\n/** JsName used to make the declaration available outside of module to test it and use at try.kotl.in */\n@JsName(\"output\")\ninternal var output = run {\n val isNode: Boolean = js(\"typeof process !== 'undefined' && process.versions && !!process.versions.node\")\n if (isNode) NodeJsOutput(js(\"process.stdout\")) else BufferedOutputToConsoleLog()\n}\n\n@kotlin.internal.InlineOnly\nprivate inline fun String(value: Any?): String = js(\"String\")(value)\n\n/** Prints the line separator to the standard output stream. */\npublic actual fun println() {\n output.println()\n}\n\n/** Prints the given [message] and the line separator to the standard output stream. */\npublic actual fun println(message: Any?) {\n output.println(message)\n}\n\n/** Prints the given [message] to the standard output stream. */\npublic actual fun print(message: Any?) {\n output.print(message)\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.intrinsics.CoroutineSingletons.*\nimport kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal actual class SafeContinuation<in T>\ninternal actual constructor(\n private val delegate: Continuation<T>,\n initialResult: Any?\n) : Continuation<T> {\n @PublishedApi\n internal actual constructor(delegate: Continuation<T>) : this(delegate, UNDECIDED)\n\n public actual override val context: CoroutineContext\n get() = delegate.context\n\n private var result: Any? = initialResult\n\n public actual override fun resumeWith(result: Result<T>) {\n val cur = this.result\n when {\n cur === UNDECIDED -> {\n this.result = result.value\n }\n cur === COROUTINE_SUSPENDED -> {\n this.result = RESUMED\n delegate.resumeWith(result)\n }\n else -> throw IllegalStateException(\"Already resumed\")\n }\n }\n\n @PublishedApi\n internal actual fun getOrThrow(): Any? {\n if (result === UNDECIDED) {\n result = COROUTINE_SUSPENDED\n return COROUTINE_SUSPENDED\n }\n val result = this.result\n return when {\n result === RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED upstream\n result is Result.Failure -> throw result.exception\n else -> result // either COROUTINE_SUSPENDED or data\n }\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines.cancellation\n\n@ExperimentalStdlibApi\n@SinceKotlin(\"1.4\")\npublic actual open class CancellationException : IllegalStateException {\n actual constructor() : super()\n actual constructor(message: String?) : super(message)\n constructor(message: String?, cause: Throwable?) : super(message, cause)\n constructor(cause: Throwable?) : super(cause)\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines.js.internal\n\nimport kotlin.coroutines.Continuation\nimport kotlin.coroutines.EmptyCoroutineContext\n\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal val

EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->\n   result.getOrThrow()\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes the [Date API](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.\n */\n@Suppress(\"NOT_DOCUMENTED\")\npublic external class Date() {\n   public constructor(milliseconds: Number)\n\n   public constructor(dateString: String)\n\n   public constructor(year: Int, month: Int)\n\n   public constructor(year: Int, month: Int, day: Int)\n\n   public constructor(year: Int, month: Int, day: Int, hour: Int)\n\n   public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)\n\n   public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int)\n\n   public constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number)\n\n   public fun getDate(): Int\n\n   public fun getDay(): Int\n\n   public fun getFullYear(): Int\n\n   public fun getHours(): Int\n\n   public fun getMilliseconds(): Int\n\n   public fun getMinutes(): Int\n\n   public fun getMonth(): Int\n\n   public fun getSeconds(): Int\n\n   public fun getTime(): Double\n\n   public fun getTimezoneOffset(): Int\n\n   public fun getUTCDate(): Int\n\n   public fun getUTCDay(): Int\n\n   public fun getUTCFullYear(): Int\n\n   public fun getUTCHours(): Int\n\n   public fun getUTCMilliseconds(): Int\n\n   public fun getUTCMinutes(): Int\n\n   public fun getUTCMonth(): Int\n\n   public fun getUTCSeconds(): Int\n\n   public fun toDateString(): String\n\n   public fun toISOString(): String\n\n   public fun toJSON(): Json\n\n   public fun toLocaleDateString(locales: Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n\n   public fun toLocaleDateString(locales: String, options: LocaleOptions = definedExternally): String\n\n   public fun toLocaleString(locales: Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n\n   public fun toLocaleString(locales: String, options: LocaleOptions = definedExternally): String\n\n   public fun toLocaleTimeString(locales: Array<String> = definedExternally, options: LocaleOptions = definedExternally): String\n\n   public fun toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String\n\n   public fun toTimeString(): String\n\n   public fun toUTCString(): String\n\n   public companion object {\n   public fun now(): Double\n\n   public fun parse(dateString: String): Double\n\n   public fun UTC(year: Int, month: Int): Double\n\n   public fun UTC(year: Int, month: Int, day: Int): Double\n\n   public fun UTC(year: Int, month: Int, day: Int, hour: Int): Double\n\n   public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int): Double\n\n   public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n\n   public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n   }\n\n   public interface LocaleOptions {\n   public var localeMatcher: String?\n\n   public var timeZone: String?\n\n   public var hour12: Boolean?\n\n   public var formatMatcher: String?\n\n   public var weekday: String?\n\n   public var era: String?\n\n   public var year: String?\n\n   public var month: String?\n\n   public var day: String?\n\n   public var hour: String?\n\n   public var minute: String?\n\n   public var second: String?\n\n   public var timeZoneName: String?\n   }\n}\n\npublic inline fun dateLocaleOptions(init: Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n   val result = js(\"new Object()\").unsafeCast<Date.LocaleOptions>()\n   init(result)\n   return result\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Document\nimport org.w3c.dom.Element\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.appendElement as newAppendElement\nimport kotlinx.dom.createElement as newCreateElement\n\n/**\n * Creates a new element with the specified [name].\n *\n * The element is initialized with the specified [init] function.\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n   message = \"This API is moved to another package, use 'kotlinx.dom.createElement' instead.\",\n   replaceWith = ReplaceWith(\"this.createElement(name, init)\", \"kotlinx.dom.createElement\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun Document.createElement(name: String, noinline init: Element.() -> Unit): Element = this.newCreateElement(name, init)\n\n/**\n * Appends a newly created element with the specified [name] to this element.\n *\n * The element is

initialized with the specified [init] function.\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.appendElement' instead.\",\n replaceWith = ReplaceWith(\"this.appendElement(name, init)\", \"kotlinx.dom.appendElement\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun Element.appendElement(name: String, noinline init: Element.() -> Unit): Element = this.newAppendElement(name, init)\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.addClass as newAddClass\nimport kotlinx.dom.hasClass as newHasClass\nimport kotlinx.dom.removeClass as newRemoveClass\n\n/** Returns true if the element has the given CSS class style in its 'class' attribute */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.hasClass' instead.\",\n replaceWith = ReplaceWith(\"this.hasClass(cssClass)\", \"kotlinx.dom.hasClass\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\ninline fun Element.hasClass(cssClass: String): Boolean = this.newHasClass(cssClass)\n\n/**\n * Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element\n *\n * @return true if at least one class has been added\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.addClass' instead.\",\n replaceWith = ReplaceWith(\"this.addClass(cssClasses)\", \"kotlinx.dom.addClass\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\ninline fun Element.addClass(vararg cssClasses: String): Boolean = this.newAddClass(*cssClasses)\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n *\n * @return true if at least one class has been removed\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.removeClass' instead.\",\n replaceWith = ReplaceWith(\"this.removeClass(cssClasses)\", \"kotlinx.dom.removeClass\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\ninline fun Element.removeClass(vararg cssClasses: String): Boolean = this.newRemoveClass(*cssClasses)","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.isElement as newIsElement\nimport kotlinx.dom.isText as newIsText\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.isText' instead.\",\n replaceWith = ReplaceWith(\"this.isText\", \"kotlinx.dom.isText\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic val Node.isText: Boolean\n inline get() = this.newIsText\n\n/**\n * Gets a value indicating whether this node is an [Element].\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n message = \"This API is moved to another package, use 'kotlinx.dom.isElement' instead.\",\n replaceWith = ReplaceWith(\"this.isElement\", \"kotlinx.dom.isElement\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic val Node.isElement: Boolean\n inline get() = this.newIsElement\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom.events\n\npublic fun EventListener(handler: (Event) -> Unit): EventListener = EventListenerHandler(handler)\n\nprivate class EventListenerHandler(private val handler: (Event) -> Unit) : EventListener {\n public override fun handleEvent(event: Event) {\n handler(event)\n }\n\n public override fun toString(): String = \"EventListenerHandler($handler)\"\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external interface ItemArrayLike<out T> {\n val length: Int\n fun item(index: Int): T?\n}\n\n/**\n * Returns the view of this `ItemArrayLike<T>` collection as `List<T>`\n */\npublic fun <T>

ItemArrayLike<T>.asList(): List<T> = object : AbstractList<T>() {\n   override val size: Int get() = this@asList.length\n\n   override fun get(index: Int): T = when (index) {\n   in 0..lastIndex -> this@asList.item(index).unsafeCast<T>()\n   else -> throw IndexOutOfBoundsException(\"index $index is not in range [0..$lastIndex]\")\n   }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.Element\nimport org.w3c.dom.Node\nimport kotlin.internal.LowPriorityInOverloadResolution\nimport kotlinx.dom.appendText as newAppendText\nimport kotlinx.dom.clear as newClear\n\n/** Removes all the children from this node. */\n@LowPriorityInOverloadResolution\n@Deprecated(\n   message = \"This API is moved to another package, use 'kotlinx.dom.clear' instead.\",\n   replaceWith = ReplaceWith(\"this.clear()\", \"kotlinx.dom.clear\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\npublic inline fun Node.clear() = this.newClear()\n\n/**\n * Creates text node and append it to the element.\n *\n * @return this element\n */\n@LowPriorityInOverloadResolution\n@Deprecated(\n   message = \"This API is moved to another package, use 'kotlinx.dom.appendText' instead.\",\n   replaceWith = ReplaceWith(\"this.appendText(text)\", \"kotlinx.dom.appendText\")\n)\n@DeprecatedSinceKotlin(warningSince = \"1.4\")\ninline fun Element.appendText(text: String): Element = this.newAppendText(text)\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Reinterprets this value as a value of the [dynamic type](/docs/reference/dynamic-type.html).\n */\n@kotlin.internal.InlineOnly\npublic inline fun Any?.asDynamic(): dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T] without any actual type checking.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Any?.unsafeCast(): @kotlin.internal.NoInfer T = this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the specified type [T] without any actual type checking.\n */\n@kotlin.internal.DynamicExtension\n@JsName(\"unsafeCastDynamic\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic` object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an instance of [kotlin.collections.Iterable]\n */\n@kotlin.internal.DynamicExtension\npublic operator fun dynamic.iterator(): Iterator<dynamic> {\n   val r: Any? = this\n\n   return when {\n   this[\"iterator\"] != null -> \n   this[\"iterator\"]()\n   isArrayish(r) -> \n   r.unsafeCast<Array<*>>().iterator()\n\n   else -> \n   (r as Iterable<*>).iterator()\n   }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\n@JsName(\"throwNPE\")\ninternal fun throwNPE(message: String) {\n   throw NullPointerException(message)\n}\n\n@JsName(\"throwCCE\")\ninternal fun throwCCE() {\n   throw ClassCastException(\"Illegal cast\")\n}\n\n@JsName(\"throwISE\")\ninternal fun throwISE(message: String) {\n   throw IllegalStateException(message)\n}\n\n@JsName(\"throwUPAE\")\ninternal fun throwUPAE(propertyName: String) {\n   throw UninitializedPropertyAccessException(\"lateinit property ${propertyName} has not been initialized\")\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements in each group.\n *\n * @return a [Map] associating the key of each group with the count of element in the group.\n */\n@SinceKotlin(\"1.1\")\npublic actual fun <T, K> Grouping<T, K>.eachCount(): Map<K, Int> =\n   fold(0) { acc, _ -> acc + 1 }\n\n/*\n/**\n * Groups elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements in each group.\n *\n * @return a [Map] associating the key of each group with the count of element in the group.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K> Grouping<T, K>.eachSumOf(valueSelector: (T) -> Int): Map<K, Int> =\n   fold(0) { acc, e -> acc + valueSelector(e) }\n*/","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n

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*/\n\n@file:kotlin.jvm.JvmName(\"GroupingKt\")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin.collections\n\n/**\n * Represents a source of elements with a [keyOf] function, which can be applied to each element to get its key.\n *\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n * they group elements by their keys and then fold each group with some aggregating operation.\n *\n * It is created by attaching `keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * - [Array.groupingBy]\n * - [CharSequence.groupingBy]\n *\n * For the list of group-and-fold operations available, see the [extension functions](#extension-functions) for `Grouping`.\n */\n@SinceKotlin(\"1.1\")\npublic interface Grouping<T, out K> {\n    /** Returns an [Iterator] over the elements of the source of this grouping. */\n    fun sourceIterator(): Iterator<T>\n    /** Extracts the key of an [element]. */\n    fun keyOf(element: T): K\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the results in a new map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param operation function is invoked on each element with the following parameters:\n *  - `key`: the key of the group this element belongs to;\n *  - `accumulator`: the current value of the accumulator of the group, can be `null` if it's the first `element` encountered in the group;\n *  - `element`: the element from the source being aggregated;\n *  - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * @return a [Map] associating the key of each group with the result of aggregation of the group elements.\n * @sample samples.collections.Grouping.aggregateByRadix\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R> Grouping<T, K>.aggregate(\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): Map<K, R> {\n    return aggregateTo(mutableMapOf<K, R>(), operation)\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n *  - `key`: the key of the group this element belongs to;\n *  - `accumulator`: the current value of the accumulator of the group, can be `null` if it's the first `element` encountered in the group;\n *  - `element`: the element from the source being aggregated;\n *  - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * If the [destination] map already has a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as `first`.\n *\n * @return the [destination] map associating the key of each group with the result of aggregation of the group elements.\n * @sample samples.collections.Grouping.aggregateByRadixTo\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.aggregateTo(\n    destination: M,\n    operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): M {\n    for (e in this.sourceIterator()) {\n        val key = keyOf(e)\n        val accumulator = destination[key]\n        destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n    }\n    return destination\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the results in a new map.\n * An initial value of accumulator is provided by [initialValueSelector] function.\n *\n * @param initialValueSelector a function that provides an initial value of accumulator for each group.\n *  It's invoked with parameters:\n *  - `key`: the key of the group;\n *  - `element`: the first element being encountered in that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n *  - `key`: the key of the group this element belongs to;\n *  - `accumulator`: the current value of the accumulator of the group;\n *  - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithComputedInitialValue\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n    initialValueSelector: (key: K, element: T) -> R,\n    operation: (key: K, accumulator: R, element: T) -> R\n): Map<K, R> =\n    @Suppress(\"UNCHECKED_CAST\")\n    aggregate { key, acc, e, first -> operation(key, if (first)
```

initialValueSelector(key, e) else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is provided by [initialValueSelector] function.\n *\n * @param initialValueSelector a function that provides an initial value of accumulator for each group.\n * It's invoked with parameters:\n * - `key`: the key of the group;\n * - `element`: the first element being encountered in that group.\n *\n * If the [destination] map already has a value corresponding to some key, that value is used as an initial value of\n * the accumulator for that group and the [initialValueSelector] function is not called for that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithComputedInitialValueTo\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n   destination: M,\n   initialValueSelector: (key: K, element: T) -> R,\n   operation: (key: K, accumulator: R, element: T) -> R\n): M =\n   @Suppress(\"UNCHECKED_CAST\")\n   aggregateTo(destination) { key, acc, e, first -> operation(key, if (first) initialValueSelector(key, e) else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the results in a new map.\n * An initial value of accumulator is the same [initialValue] for each group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValue\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R> Grouping<T, K>.fold(\n   initialValue: R,\n   operation: (accumulator: R, element: T) -> R\n): Map<K, R> =\n   @Suppress(\"UNCHECKED_CAST\")\n   aggregate { _, acc, e, first -> operation(if (first) initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is the same [initialValue] for each group.\n *\n * If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial value of the accumulator for that group.\n *\n * @param operation a function that is invoked on each element with the following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.foldByEvenLengthWithConstantInitialValueTo\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n   destination: M,\n   initialValue: R,\n   operation: (accumulator: R, element: T) -> R\n): M =\n   @Suppress(\"UNCHECKED_CAST\")\n   aggregateTo(destination) { _, acc, e, first -> operation(if (first) initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new map.\n * An initial value of accumulator is the first element of the group.\n *\n * @param operation a function that is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being accumulated.\n *\n * @return a [Map] associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.reduceByMaxVowels\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <S, T : S, K> Grouping<T, K>.reduce(\n   operation: (key: K, accumulator: S, element: T) -> S\n): Map<K, S> =\n   aggregate { key, acc, e, first ->\n

@Suppress(\"UNCHECKED_CAST\")\n   if (first) e else operation(key, acc as S, e)\n   }\n\n/**\n * Groups elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of accumulator is the first element of the group.\n *\n * If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial value of the accumulator for that group and the first element of that group is also\n * subjected to the [operation].\n\n * @param operation a function that is invoked on each subsequent element of the group with the following parameters:\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the element from the source being folded;\n *\n * @return the [destination] map associating the key of each group with the result of accumulating the group elements.\n * @sample samples.collections.Grouping.reduceByMaxVowelsTo\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <S, T : S, K, M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(\n   destination: M,\n   operation: (key: K, accumulator: S, element: T) -> S\n): M =\n   aggregateTo(destination) { key, acc, e, first ->\n   @Suppress(\"UNCHECKED_CAST\")\n   if (first) e else operation(key, acc as S, e)\n   }\n\n\n/**\n * Groups elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.\n *\n * If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial value of the counter for that group.\n *\n * @return the [destination] map associating the key of each group with the count of elements in the group.\n *\n * @sample samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin(\"1.1\")\npublic fun <T, K, M : MutableMap<in K, Int>> Grouping<T, K>.eachCountTo(destination: M): M =\n   foldTo(destination, 0) { acc, _ -> acc + 1 }\n\n/*\n/**\n * Groups elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements in each group\n * to the given [destination] map.\n *\n *\n * If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an initial value of the sum for that group.\n *\n * @return the [destination] map associating the key of each group with the sum of elements in the group.\n */\n@SinceKotlin(\"1.1\")\npublic inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T, K>.eachSumOfTo(destination: M, valueSelector: (T) -> Int): M =\n   foldTo(destination, 0) { acc, e -> acc + valueSelector(e)}\n*/\n\n\n/*\n// TODO: sum by long and by double overloads\n\npublic inline fun <T, K, M : MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(destination: M, valueSelector: (T) -> Long): M =\n   foldTo(destination, 0L) { acc, e -> acc + valueSelector(e)}\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByLong(valueSelector: (T) -> Long): Map<K, Long> =\n   fold(0L) { acc, e -> acc + valueSelector(e)}\n\npublic inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T, K>.sumEachByDoubleTo(destination: M, valueSelector: (T) -> Double): M =\n   foldTo(destination, 0.0) { acc, e -> acc + valueSelector(e)}\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByDouble(valueSelector: (T) -> Double): Map<K, Double> =\n   fold(0.0) { acc, e -> acc + valueSelector(e)}\n*/\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes the JavaScript [Math object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Math) to Kotlin.\n */\n@Deprecated(\"Use top-level functions from kotlin.math package instead.\", level = DeprecationLevel.ERROR)\npublic external object Math {\n   @Deprecated(\"Use kotlin.math.PI instead.\", ReplaceWith(\"PI\", \"kotlin.math.PI\"), level = DeprecationLevel.ERROR)\n   public val PI: Double\n   @Deprecated(\"Use Random.nextDouble instead\", ReplaceWith(\"kotlin.random.Random.nextDouble()\", \"kotlin.random.Random\"), level = DeprecationLevel.ERROR)\n   public fun random(): Double\n   @Deprecated(\"Use kotlin.math.abs instead.\", ReplaceWith(\"abs(value)\", \"kotlin.math.abs\"), level = DeprecationLevel.ERROR)\n   public fun abs(value: Double): Double\n   @Deprecated(\"Use kotlin.math.acos instead.\", ReplaceWith(\"acos(value)\", \"kotlin.math.acos\"), level = DeprecationLevel.ERROR)\n   public fun acos(value: Double): Double\n   @Deprecated(\"Use kotlin.math.asin instead.\", ReplaceWith(\"asin(value)\", \"kotlin.math.asin\"), level = DeprecationLevel.ERROR)\n   public fun asin(value: Double): Double\n   @Deprecated(\"Use kotlin.math.atan instead.\", ReplaceWith(\"atan(value)\", \"kotlin.math.atan\"), level =

DeprecationLevel.ERROR)\n   public fun atan(value: Double): Double\n   @Deprecated(\"Use kotlin.math.atan2 instead.\", ReplaceWith(\"atan2(y, x)\", \"kotlin.math.atan2\"), level = DeprecationLevel.ERROR)\n   public fun atan2(y: Double, x: Double): Double\n   @Deprecated(\"Use kotlin.math.cos instead.\", ReplaceWith(\"cos(value)\", \"kotlin.math.cos\"), level = DeprecationLevel.ERROR)\n   public fun cos(value: Double): Double\n   @Deprecated(\"Use kotlin.math.sin instead.\", ReplaceWith(\"sin(value)\", \"kotlin.math.sin\"), level = DeprecationLevel.ERROR)\n   public fun sin(value: Double): Double\n   @Deprecated(\"Use kotlin.math.exp instead.\", ReplaceWith(\"exp(value)\", \"kotlin.math.exp\"), level = DeprecationLevel.ERROR)\n public fun exp(value: Double): Double\n   @Deprecated(\"Use maxOf or kotlin.math.max instead\", level = DeprecationLevel.ERROR)\n   public fun max(vararg values: Int): Int\n   @Deprecated(\"Use maxOf or kotlin.math.max instead\", level = DeprecationLevel.ERROR)\n   public fun max(vararg values: Float): Float\n @Deprecated(\"Use maxOf or kotlin.math.max instead\", level = DeprecationLevel.ERROR)\n   public fun max(vararg values: Double): Double\n   @Deprecated(\"Use minOf or kotlin.math.min instead\", level = DeprecationLevel.ERROR)\n   public fun min(vararg values: Int): Int\n   @Deprecated(\"Use minOf or kotlin.math.min instead\", level = DeprecationLevel.ERROR)\n   public fun min(vararg values: Float): Float\n @Deprecated(\"Use minOf or kotlin.math.min instead\", level = DeprecationLevel.ERROR)\n   public fun min(vararg values: Double): Double\n   @Deprecated(\"Use kotlin.math.sqrt instead.\", ReplaceWith(\"sqrt(value)\", \"kotlin.math.sqrt\"), level = DeprecationLevel.ERROR)\n   public fun sqrt(value: Double): Double\n   @Deprecated(\"Use kotlin.math.tan instead.\", ReplaceWith(\"tan(value)\", \"kotlin.math.tan\"), level = DeprecationLevel.ERROR)\n   public fun tan(value: Double): Double\n @Deprecated(\"Use kotlin.math.ln instead.\", ReplaceWith(\"ln(value)\", \"kotlin.math.ln\"), level = DeprecationLevel.ERROR)\n   public fun log(value: Double): Double\n   @Deprecated(\"Use kotlin.math.pow instead.\", ReplaceWith(\"base.pow(exp)\", \"kotlin.math.pow\"), level = DeprecationLevel.ERROR)\n   public fun pow(base: Double, exp: Double): Double\n   @Deprecated(\"Use kotlin.math.round instead.\", ReplaceWith(\"round(value)\", \"kotlin.math.round\"), level = DeprecationLevel.ERROR)\n   public fun round(value: Number): Int\n   @Deprecated(\"Use kotlin.math.floor instead.\", ReplaceWith(\"floor(value)\", \"kotlin.math.floor\"), level = DeprecationLevel.ERROR)\n   public fun floor(value: Number): Int\n @Deprecated(\"Use kotlin.math.ceil instead.\", ReplaceWith(\"ceil(value)\", \"kotlin.math.ceil\"), level = DeprecationLevel.ERROR)\n   public fun ceil(value: Number): Int\n\n   @PublishedApi\n   internal fun trunc(value: Number): Double\n   @PublishedApi\n   internal fun sign(value: Number): Double\n\n @PublishedApi\n   internal fun sinh(value: Double): Double\n   @PublishedApi\n   internal fun cosh(value: Double): Double\n   @PublishedApi\n   internal fun tanh(value: Double): Double\n   @PublishedApi\n   internal fun asinh(value: Double): Double\n   @PublishedApi\n   internal fun acosh(value: Double): Double\n @PublishedApi\n   internal fun atanh(value: Double): Double\n\n   @PublishedApi\n   internal fun hypot(x: Double, y: Double): Double\n\n   @PublishedApi\n   internal fun expm1(value: Double): Double\n\n @PublishedApi\n   internal fun log10(value: Double): Double\n   @PublishedApi\n   internal fun log2(value: Double): Double\n   @PublishedApi\n   internal fun log1p(value: Double): Double\n\n   @PublishedApi\n internal fun clz32(value: Int): Int\n}\n\n/**\n * Returns the smaller of two values.\n */\n@Suppress(\"DEPRECATION_ERROR\")\n@Deprecated(\"Use minOf or kotlin.math.min instead\", ReplaceWith(\"minOf(a, b)\"), level = DeprecationLevel.ERROR)\npublic fun Math.min(a: Long, b: Long): Long = if (a <= b) a else b\n\n/**\n * Returns the greater of two values.\n */\n@Suppress(\"DEPRECATION_ERROR\")\n@Deprecated(\"Use maxOf or kotlin.math.max instead\", ReplaceWith(\"maxOf(a, b)\"), level = DeprecationLevel.ERROR)\npublic fun Math.max(a: Long, b: Long): Long = if (a >= b) a else b\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * An interface for indexing access to a collection of key-value pairs, where type of key is [String] and type of value is [Any?][Any].\n */\npublic external interface Json {\n   /**\n   * Calls to the function will be translated to indexing operation (square brackets) on the receiver with [propertyName] as the argument.\n   *\n   * E.g. for next code:\n   * ```kotlin\n   * fun test(j: Json, p: String) =

j[\"prop\"] + j.get(p)\n * ```\n *\n * will be generated:\n * ```js\n * function test(j, p) {\n * return j[\"prop\"] + j[p];\n * }\n * ```\n */\n operator fun get(propertyName: String): Any?\n\n /**\n * Calls of the function will be translated to an assignment of [value] to the receiver indexed (with square brackets/index operation) with [propertyName].\n *\n * E.g. for the following code:\n * ```kotlin\n * fun test(j: Json, p: String, newValue: Any) {\n * j[\"prop\"] = 1\n * j.set(p, newValue)\n * }\n * ```\n *\n * will be generated:\n * ```js\n * function test(j, p, newValue) {\n * j[\"prop\"] = 1;\n * j[p] = newValue;\n * }\n * }\n * ```\n */\n operator fun set(propertyName: String, value: Any?): Unit\n}\n\n/**\n * Returns a simple JavaScript object (as [Json]) using provided key-value pairs as names and values of its properties.\n */\npublic fun json(vararg pairs: Pair<String, Any?>): Json {\n val res: dynamic = js(\"({})\")\n for ((name, value) in pairs) {\n res[name] = value\n }\n return res\n}\n\n/**\n * Adds key-value pairs from [other] to [this].\n * Returns the original receiver.\n */\npublic fun Json.add(other: Json): Json {\n val keys: Array<String> = js(\"Object\").keys(other)\n for (key in keys) {\n if (other.asDynamic().hasOwnProperty(key)) {\n this[key] = other[key];\n }\n }\n return this\n}\n\n/**\n * Exposes the JavaScript [JSON object](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/JSON) to Kotlin.\n */\n@Suppress(\"NOT_DOCUMENTED\")\npublic external object JSON {\n public fun stringify(o: Any?): String\n public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)): String\n public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: Int): String\n public fun stringify(o: Any?, replacer: ((key: String, value: Any?) -> Any?)? = definedExternally, space: String): String\n public fun stringify(o: Any?, replacer: Array<String>): String\n public fun stringify(o: Any?, replacer: Array<String>, space: Int): String\n public fun stringify(o: Any?, replacer: Array<String>, space: String): String\n\n public fun <T> parse(text: String): T\n public fun <T> parse(text: String, reviver: ((key: String, value: Any?) -> Any?)): T\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n@file:Suppress(\"DEPRECATION_ERROR\")\npackage kotlin.math\n\n\nimport kotlin.internal.InlineOnly\nimport kotlin.js.Math as nativeMath\n\n\n// region =============== Double Math ==\n\n/** Computes the sine of the angle [x] given in radians.\n *\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sin(x: Double): Double = nativeMath.sin(x)\n\n/** Computes the cosine of the angle [x] given in radians.\n *\n * Special cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun cos(x: Double): Double = nativeMath.cos(x)\n\n/** Computes the tangent of the angle [x] given in radians.\n *\n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun tan(x: Double): Double = nativeMath.tan(x)\n\n/**\n * Computes the arc sine of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun asin(x: Double): Double = nativeMath.asin(x)\n\n/**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the range from `0.0` to `PI` radians.\n *\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun acos(x: Double): Double = nativeMath.acos(x)\n\n/**\n * Computes the arc tangent of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n * - `atan(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atan(x: Double): Double = nativeMath.atan(x)\n\n/**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to `PI` radians.\n *\n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for 'x > 0` and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for '-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`y\n * - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n

*/\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atan2(y: Double, x: Double): Double = nativeMath.atan2(y, x)\n\n/**\n * Computes the hyperbolic sine of the value [x].\n *\n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n * - `sinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sinh(x: Double): Double = nativeMath.sinh(x)\n\n/**\n * Computes the hyperbolic cosine of the value [x].\n *\n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun cosh(x: Double): Double = nativeMath.cosh(x)\n\n/**\n * Computes the hyperbolic tangent of the value [x].\n *\n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is `1.0`\n * - `tanh(-Inf)` is `-1.0`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun tanh(x: Double): Double = nativeMath.tanh(x)\n\n/**\n * Computes the inverse hyperbolic sine of the value [x].\n *\n * The returned value is `y` such that `sinh(y) == x`.\n *\n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * - `asinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun asinh(x: Double): Double = nativeMath.asinh(x)\n\n/**\n * Computes the inverse hyperbolic cosine of the value [x].\n *\n * The returned value is positive `y` such that `cosh(y) == x`.\n *\n * Special cases:\n * - `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when `x < 1`\n * - `acosh(+Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun acosh(x: Double): Double = nativeMath.acosh(x)\n\n/**\n * Computes the inverse hyperbolic tangent of the value [x].\n *\n * The returned value is `y` such that `tanh(y) == x`.\n *\n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `tanh(1.0)` is `+Inf`\n * - `tanh(-1.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atanh(x: Double): Double = nativeMath.atanh(x)\n\n/**\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n *\n * Special cases:\n * - returns `+Inf` if any of arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun hypot(x: Double, y: Double): Double = nativeMath.hypot(x, y)\n\n/**\n * Computes the positive square root of the value [x].\n *\n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sqrt(x: Double): Double = nativeMath.sqrt(x)\n\n/**\n * Computes Euler's number `e` raised to the power of the value [x].\n *\n * Special cases:\n * - `exp(NaN)` is `NaN`\n * - `exp(+Inf)` is `+Inf`\n * - `exp(-Inf)` is `0.0`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun exp(x: Double): Double = nativeMath.exp(x)\n\n/**\n * Computes `exp(x) - 1`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n * - `expm1(-Inf)` is `-1.0`\n *\n * @see [exp] function.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun expm1(x: Double): Double = nativeMath.expm1(x)\n\n/**\n * Computes the logarithm of the value [x] to the given [base].\n *\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n *\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n */\n@SinceKotlin(\"1.2\")\npublic actual fun log(x: Double, base: Double): Double {\n   if (base <= 0.0 || base == 1.0) return Double.NaN\n   return nativeMath.log(x) / nativeMath.log(base)\n}\n\n/**\n * Computes the natural logarithm (base `E`) of the value [x].\n *\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ln(x: Double): Double = nativeMath.log(x)\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun log10(x: Double): Double = nativeMath.log10(x)\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun log2(x: Double): Double = nativeMath.log2(x)\n\n/**\n * Computes `ln(x + 1)`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x < -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n *\n * @see [ln] function\n * @see [expm1] function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ln1p(x: Double): Double =

nativeMath.log1p(x)\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n\n * @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ceil(x: Double): Double = nativeMath.ceil(x).unsafeCast<Double>() // TODO: Remove unsafe cast after removing public js.math\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n\n * @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun floor(x: Double): Double = nativeMath.floor(x).unsafeCast<Double>()\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n *\n * @return the value [x] having its fractional part truncated.\n *\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun truncate(x: Double): Double = nativeMath.trunc(x)\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n *\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun round(x: Double): Double {\n   if (x % 0.5 != 0.0) {\n   return nativeMath.round(x).unsafeCast<Double>()\n   }\n   val floor = floor(x)\n   return if (floor % 2 == 0.0) floor else ceil(x)\n}\n\n/**\n * Returns the absolute value of the given value [x].\n *\n * Special cases:\n * - `abs(NaN)` is `NaN`\n *\n * @see absoluteValue extension property for [Double]\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun abs(x: Double): Double = nativeMath.abs(x)\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `sign(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sign(x: Double): Double = nativeMath.sign(x)\n\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun min(a: Double, b: Double): Double = nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun max(a: Double, b: Double): Double = nativeMath.max(a, b)\n\n// extensions\n\n/**\n * Raises this value to the power [x].\n *\n * Special cases:\n * - `b.pow(0.0)` is `1.0`\n * - `b.pow(1.0) == b`\n * - `b.pow(NaN)` is `NaN`\n * - `NaN.pow(x)` is `NaN` for `x != 0.0`\n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Double.pow(x: Double): Double = nativeMath.pow(this, x)\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of [pow] for details.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Double.pow(n: Int): Double = nativeMath.pow(this, n.toDouble())\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Double.absoluteValue: Double get() = nativeMath.abs(this)\n\n/**\n * Returns the sign of this value:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `NaN.sign` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Double.sign: Double get() = nativeMath.sign(this)\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Double.withSign(sign: Int): Double = this.withSign(sign.toDouble())\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n *\n * An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n *\n * Special Cases:\n * - `NaN.ulp` is `NaN`\n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`\n * - `0.0.ulp` is `Double.MIN_VALUE`\n */\n@SinceKotlin(\"1.2\")\npublic actual val Double.ulp: Double get() = when {\n   this < 0 -> (-this).ulp\n   this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n   this == Double.MAX_VALUE -> this - this.nextDown()\n   else -> this.nextUp() - this\n}\n\n/**\n * Returns the [Double] value nearest to this value in direction of positive infinity.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Double.nextUp(): Double = when {\n   this.isNaN() || this == Double.POSITIVE_INFINITY -> this\n   this == 0.0 -> Double.MIN_VALUE\n   else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1)\n}\n\n/**\n *

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Returns the [Double] value nearest to this value in direction of negative infinity.\n
*/\n@SinceKotlin(\"1.2\")\npublic actual fun Double.nextDown(): Double = when {\n    this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this\n    this == 0.0 -> -Double.MIN_VALUE\n    else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1)\n}\n\n\n/**\n * Returns the [Double] value nearest to this
value in direction from this value towards the value [to].\n *\n * Special cases:\n *   - `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN`\n *   - `x.nextTowards(x) == x`\n *\n */\n@SinceKotlin(\"1.2\")\npublic actual fun
Double.nextTowards(to: Double): Double = when {\n    this.isNaN() || to.isNaN() -> Double.NaN\n    to == this ->
to\n    to > this -> this.nextUp()\n    else /* to < this */ -> this.nextDown()\n}\n\n\n/**\n * Rounds this [Double]
value to the nearest integer and converts the result to [Int].\n * Ties are rounded towards positive infinity.\n *\n *
Special cases:\n *   - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n *   - `x.roundToInt()
== Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is
`NaN`\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Double.roundToInt(): Int = when {\n    isNaN() -> throw
IllegalArgumentException(\"Cannot round NaN value.\")\n    this > Int.MAX_VALUE -> Int.MAX_VALUE\n
this < Int.MIN_VALUE -> Int.MIN_VALUE\n    else ->
nativeMath.round(this).unsafeCast<Double>().toInt()\n}\n\n/**\n * Rounds this [Double] value to the nearest
integer and converts the result to [Long].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n *   -
`x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n *   - `x.roundToLong() ==
Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value
is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Double.roundToLong(): Long = when {\n    isNaN() ->
throw IllegalArgumentException(\"Cannot round NaN value.\")\n    this > Long.MAX_VALUE ->
Long.MAX_VALUE\n    this < Long.MIN_VALUE -> Long.MIN_VALUE\n    else ->
nativeMath.round(this).unsafeCast<Double>().toLong()\n}\n\n// endregion\n\n\n\n// region ================
Float Math ======================================\n\n/** Computes the sine of the angle [x] given
in radians.\n *\n *  Special cases:\n *   - `sin(NaN|+Inf|-Inf)` is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sin(x: Float): Float =
nativeMath.sin(x.toDouble()).toFloat()\n\n/** Computes the cosine of the angle [x] given in radians.\n *\n *  Special
cases:\n *   - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun
cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()\n\n/** Computes the tangent of the angle [x] given in
radians.\n *\n *  Special cases:\n *   - `tan(NaN|+Inf|-Inf)` is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun tan(x: Float): Float =
nativeMath.tan(x.toDouble()).toFloat()\n\n/**\n * Computes the arc sine of the value [x];\n * the returned value is
an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n *    - `asin(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun asin(x: Float): Float =
nativeMath.asin(x.toDouble()).toFloat()\n\n/**\n * Computes the arc cosine of the value [x];\n * the returned value
is an angle in the range from `0.0` to `PI` radians.\n *\n * Special cases:\n *    - `acos(x)` is `NaN`, when `abs(x) >
1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun acos(x: Float): Float =
nativeMath.acos(x.toDouble()).toFloat()\n\n/**\n * Computes the arc tangent of the value [x];\n * the returned value
is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n *   - `atan(NaN)` is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atan(x: Float): Float =
nativeMath.atan(x.toDouble()).toFloat()\n\n/**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that
correspond\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n * the
returned value is an angle in the range from `-PI` to `PI` radians.\n *\n * Special cases:\n *   - `atan2(0.0, 0.0)` is
`0.0`\n *   - `atan2(0.0, x)` is  `0.0` for `x > 0` and `PI` for `x < 0`\n *   - `atan2(-0.0, x)` is `-0.0` for 'x > 0` and `-PI`
for `x < 0`\n *   - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for '-Inf < y < 0`\n *   - `atan2(y, -Inf)` is `PI`
for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n *   - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n *   -
`atan2(+Inf, x)` is `PI/2` for finite `x`y\n *   - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n *   - `atan2(NaN, x)` and
`atan2(y, NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atan2(y: Float, x:
Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()\n\n/**\n * Computes the hyperbolic sine of
```

the value [x].\n *\n * Special cases:\n *   - `sinh(NaN)` is `NaN`\n *   - `sinh(+Inf)` is `+Inf`\n *   - `sinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sinh(x: Float): Float = nativeMath.sinh(x.toDouble()).toFloat()\n\n/**\n * Computes the hyperbolic cosine of the value [x].\n *\n * Special cases:\n *   - `cosh(NaN)` is `NaN`\n *   - `cosh(+Inf|-Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun cosh(x: Float): Float = nativeMath.cosh(x.toDouble()).toFloat()\n\n/**\n * Computes the hyperbolic tangent of the value [x].\n *\n * Special cases:\n *   - `tanh(NaN)` is `NaN`\n *   - `tanh(+Inf)` is `1.0`\n *   - `tanh(-Inf)` is `-1.0`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun tanh(x: Float): Float = nativeMath.tanh(x.toDouble()).toFloat()\n\n/**\n * Computes the inverse hyperbolic sine of the value [x].\n *\n * The returned value is `y` such that `sinh(y) == x`.\n *\n * Special cases:\n *   - `asinh(NaN)` is `NaN`\n *   - `asinh(+Inf)` is `+Inf`\n *   - `asinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()\n\n/**\n * Computes the inverse hyperbolic cosine of the value [x].\n *\n * The returned value is positive `y` such that `cosh(y) == x`.\n *\n * Special cases:\n *   - `acosh(NaN)` is `NaN`\n *   - `acosh(x)` is `NaN` when `x < 1`\n *   - `acosh(+Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun acosh(x: Float): Float = nativeMath.acosh(x.toDouble()).toFloat()\n\n/**\n * Computes the inverse hyperbolic tangent of the value [x].\n *\n * The returned value is `y` such that `tanh(y) == x`.\n *\n * Special cases:\n *   - `tanh(NaN)` is `NaN`\n *   - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n *   - `tanh(1.0)` is `+Inf`\n *   - `tanh(-1.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun atanh(x: Float): Float = nativeMath.atanh(x.toDouble()).toFloat()\n\n/**\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n *\n * Special cases:\n *   - returns `+Inf` if any of arguments is infinite\n *   - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()\n\n/**\n * Computes the positive square root of the value [x].\n *\n * Special cases:\n *   - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sqrt(x: Float): Float = nativeMath.sqrt(x.toDouble()).toFloat()\n\n/**\n * Computes Euler's number `e` raised to the power of the value [x].\n *\n * Special cases:\n *   - `exp(NaN)` is `NaN`\n *   - `exp(+Inf)` is `+Inf`\n *   - `exp(-Inf)` is `0.0`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun exp(x: Float): Float = nativeMath.exp(x.toDouble()).toFloat()\n\n/**\n * Computes `exp(x) - 1`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n *   - `expm1(NaN)` is `NaN`\n *   - `expm1(+Inf)` is `+Inf`\n *   - `expm1(-Inf)` is `-1.0`\n *\n * @see [exp] function.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun expm1(x: Float): Float = nativeMath.expm1(x.toDouble()).toFloat()\n\n/**\n * Computes the logarithm of the value [x] to the given [base].\n *\n * Special cases:\n *   - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n *   - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n *   - `log(+Inf, +Inf)` is `NaN`\n *   - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n *   - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n *\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun log(x: Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()\n\n/**\n * Computes the natural logarithm (base `E`) of the value [x].\n *\n * Special cases:\n *   - `ln(NaN)` is `NaN`\n *   - `ln(x)` is `NaN` when `x < 0.0`\n *   - `ln(+Inf)` is `+Inf`\n *   - `ln(0.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ln(x: Float): Float = nativeMath.log(x.toDouble()).toFloat()\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun log10(x: Float): Float = nativeMath.log10(x.toDouble()).toFloat()\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun log2(x: Float): Float = nativeMath.log2(x.toDouble()).toFloat()\n\n/**\n * Computes `ln(a + 1)`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n *   - `ln1p(NaN)` is `NaN`\n *   - `ln1p(x)` is `NaN` where `x < -1.0`\n *   - `ln1p(-1.0)` is `-Inf`\n *   - `ln1p(+Inf)` is `+Inf`\n *\n * @see [ln] function\n *

@see [expm1] function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ln1p(x: Float): Float = nativeMath.log1p(x.toDouble()).toFloat()\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n\n * @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun ceil(x: Float): Float = nativeMath.ceil(x.toDouble()).toFloat()\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n\n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun floor(x: Float): Float = nativeMath.floor(x.toDouble()).toFloat()\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n *\n * @return the value [x] having its fractional part truncated.\n *\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun truncate(x: Float): Float = truncate(x.toDouble()).toFloat()\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n *\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun round(x: Float): Float = round(x.toDouble()).toFloat()\n\n\n/**\n * Returns the absolute value of the given value [x].\n *\n * Special cases:\n * - `abs(NaN)` is `NaN`\n *\n * @see absoluteValue extension property for [Float]\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun abs(x: Float): Float = nativeMath.abs(x.toDouble()).toFloat()\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `sign(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun sign(x: Float): Float = nativeMath.sign(x.toDouble()).toFloat()\n\n\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun min(a: Float, b: Float): Float = nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun max(a: Float, b: Float): Float = nativeMath.max(a, b)\n\n// extensions\n\n\n/**\n * Raises this value to the power [x].\n *\n * Special cases:\n * - `b.pow(0.0)` is `1.0`\n * - `b.pow(1.0) == b`\n * - `b.pow(NaN)` is `NaN`\n * - `NaN.pow(x)` is `NaN` for `x != 0.0`\n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.pow(x: Float): Float = nativeMath.pow(this.toDouble(), x.toDouble()).toFloat()\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of [pow] for details.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.pow(n: Int): Float = nativeMath.pow(this.toDouble(), n.toDouble()).toFloat()\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Float.absoluteValue: Float get() = nativeMath.abs(this.toDouble()).toFloat()\n\n/**\n * Returns the sign of this value:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `NaN.sign` is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Float.sign: Float get() = nativeMath.sign(this.toDouble()).toFloat()\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n *\n * If [sign] is `NaN` the sign of the result is undefined.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Float): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.withSign(sign: Int): Float = this.toDouble().withSign(sign.toDouble()).toFloat()\n\n\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.roundToInt(): Int =

toDouble().roundToInt()\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Long].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n *   - `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n *   - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun Float.roundToLong(): Long = toDouble().roundToLong()\n\n\n// endregion\n\n// region ================ Integer Math ==\n\n\n/**\n * Returns the absolute value of the given value [n].\n *\n * Special cases:\n *   - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n *\n * @see absoluteValue extension property for [Int]\n */\n// TODO: remove manual 'or' when KT-19290 is fixed\n@SinceKotlin(\"1.2\")\npublic actual fun abs(n: Int): Int = if (n < 0) (-n or 0) else n\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun min(a: Int, b: Int): Int = nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline fun max(a: Int, b: Int): Int = nativeMath.max(a, b)\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n *   - `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Int.absoluteValue: Int get() = abs(this)\n\n/**\n * Returns the sign of this value:\n *   - `-1` if the value is negative,\n *   - `0` if the value is zero,\n *   - `1` if the value is positive\n */\n@SinceKotlin(\"1.2\")\npublic actual val Int.sign: Int get() = when {\n   this < 0 -> -1\n   this > 0 -> 1\n   else -> 0\n}\n\n\n\n/**\n * Returns the absolute value of the given value [n].\n *\n * Special cases:\n *   - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n *\n * @see absoluteValue extension property for [Long]\n */\n@SinceKotlin(\"1.2\")\npublic actual fun abs(n: Long): Long = if (n < 0) -n else n\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.2\")\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun min(a: Long, b: Long): Long = if (a <= b) a else b\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.2\")\n@Suppress(\"NOTHING_TO_INLINE\")\npublic actual inline fun max(a: Long, b: Long): Long = if (a >= b) a else b\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n *   - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long get() = abs(this)\n\n/**\n * Returns the sign of this value:\n *   - `-1` if the value is negative,\n *   - `0` if the value is zero,\n *   - `1` if the value is positive\n */\n@SinceKotlin(\"1.2\")\npublic actual val Long.sign: Int get() = when {\n   this < 0 -> -1\n   this > 0 -> 1\n   else -> 0\n}\n\n\n// endregion\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n */\npublic actual fun Double.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n */\npublic actual fun Float.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n */\npublic actual fun Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this == Double.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n */\npublic actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this == Float.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns `false` otherwise (for `NaN` and infinity arguments).\n */\npublic actual fun Double.isFinite(): Boolean = !isInfinite() && !isNaN()\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns `false` otherwise (for `NaN` and infinity arguments).\n */\npublic actual fun Float.isFinite(): Boolean = !isInfinite() && !isNaN()\n\n\n/**\n * Counts the number of set bits in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Int.countOneBits(): Int {\n   // Hacker's Delight 5-1 algorithm\n   var v = this\n   v = (v and 0x55555555) + (v.ushr(1) and 0x55555555)\n   v = (v and 0x33333333) + (v.ushr(2) and 0x33333333)\n   v = (v and 0x0F0F0F0F) + (v.ushr(4) and 0x0F0F0F0F)\n   v = (v and 0x00FF00FF) + (v.ushr(8) and 0x00FF00FF)\n   v = (v and

0x0000FFFF) + (v.ushr(16))\n   return v\n}\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"DEPRECATION_ERROR\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Int.countLeadingZeroBits(): Int = kotlin.js.Math.clz32(this)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Int.countTrailingZeroBits(): Int =\n   // Hacker's Delight 5-4 algorithm for expressing countTrailingZeroBits with countLeadingZeroBits\n   Int.SIZE_BITS - (this or -this).inv().countLeadingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Int] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Int.takeHighestOneBit(): Int =\n   if (this == 0) 0 else 1.shl(Int.SIZE_BITS - 1 - countLeadingZeroBits())\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Int] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Int.takeLowestOneBit(): Int =\n   // Hacker's Delight 2-1 algorithm for isolating rightmost 1-bit\n   this and -this\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic actual fun Int.rotateLeft(bitCount: Int): Int =\n   shl(bitCount) or ushr(Int.SIZE_BITS - bitCount)\n\n/**\n * Rotates the binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic actual fun Int.rotateRight(bitCount: Int): Int =\n   shl(Int.SIZE_BITS - bitCount) or ushr(bitCount)\n\n/**\n * Counts the number of set bits in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Long.countOneBits(): Int =\n   high.countOneBits() + low.countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Long.countLeadingZeroBits(): Int =\n   when (val high = this.high) {\n   0 -> Int.SIZE_BITS + low.countLeadingZeroBits()\n   else -> high.countLeadingZeroBits()\n   }\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Long.countTrailingZeroBits(): Int =\n   when (val low = this.low) {\n   0 -> Int.SIZE_BITS + high.countTrailingZeroBits()\n   else -> low.countTrailingZeroBits()\n   }\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Long.takeHighestOneBit(): Long =\n   when (val high = this.high) {\n   0 -> Long(low.takeHighestOneBit(), 0)\n   else -> Long(0, high.takeHighestOneBit())\n   }\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual fun Long.takeLowestOneBit(): Long =\n   when (val low = this.low) {\n   0 -> Long(0, high.takeLowestOneBit())\n

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    else -> Long(low.takeLowestOneBit(), 0)\n    }\n\n/**\n * Rotates the binary representation of this [Long] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic actual fun Long.rotateLeft(bitCount: Int): Long {\n if ((bitCount and 31) != 0) {\n        val low = this.low\n        val high = this.high\n        val newLow = low.shl(bitCount) or high.ushr(-bitCount)\n        val newHigh = high.shl(bitCount) or low.ushr(-bitCount)\n        return if ((bitCount and 32) == 0) Long(newLow, newHigh) else Long(newHigh, newLow)\n    } else {\n        return if ((bitCount and 32) == 0) this else Long(high, low)\n    }\n}\n\n\n/**\n * Rotates the binary representation of this [Long] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@kotlin.internal.InlineOnly\npublic actual inline fun Long.rotateRight(bitCount: Int): Long = rotateLeft(-bitCount)\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n */\n@Suppress(\"NOT_DOCUMENTED\")\npublic open external class Promise<out T>(executor: (resolve: (T) -> Unit, reject: (Throwable) -> Unit) -> Unit) {\n    @LowPriorityInOverloadResolution\n    public open fun <S> then(onFulfilled: ((T) -> S)?): Promise<S>\n\n    @LowPriorityInOverloadResolution\n    public open fun <S> then(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n    public open fun <S> catch(onRejected: (Throwable) -> S): Promise<S>\n\n    companion object {\n        public fun <S> all(promise: Array<out Promise<S>>): Promise<Array<out S>>\n\n        public fun <S> race(promise: Array<out Promise<S>>): Promise<S>\n\n        public fun reject(e: Throwable): Promise<Nothing>\n\n        public fun <S> resolve(e: S): Promise<S>\n        public fun <S> resolve(e: Promise<S>): Promise<S>\n    }\n}\n\n// It's workaround for KT-19672 since we can fix it properly until KT-11265 isn't fixed.\ninline fun <T, S> Promise<Promise<T>>.then(\n    noinline onFulfilled: ((T) -> S)?\n): Promise<S> {\n    return this.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n\ninline fun <T, S> Promise<Promise<T>>.then(\n    noinline onFulfilled: ((T) -> S)?,\n    noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n    return this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport kotlin.math.pow\n\ninternal actual fun defaultPlatformRandom(): Random =\n    Random(js(\"(Math.random() * Math.pow(2, 32)) | 0\").unsafeCast<Int>())\n\n\nprivate val INV_2_26: Double = 2.0.pow(-26)\nprivate val INV_2_53: Double = 2.0.pow(-53)\ninternal actual fun doubleFromParts(hi26: Int, low27: Int): Double =\n    hi26 * INV_2_26 + low27 * INV_2_53","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\nimport findAssociatedObject\n\n/**\n * The experimental marker for associated objects API.\n *\n * Any usage of a declaration annotated with `@ExperimentalAssociatedObjects` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalAssociatedObjects::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.reflect.ExperimentalAssociatedObjects`.\n */\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@Retention(value = AnnotationRetention.BINARY)\npublic annotation class
```

ExperimentalAssociatedObjects\n\n/**\n * Makes the annotated annotation class an associated object key.\n *\n * An associated object key annotation should have single [KClass] parameter.\n * When applied to a class with reference to an object declaration as an argument, it binds\n * the object to the class, making this binding discoverable at runtime using [findAssociatedObject].\n */\n@ExperimentalAssociatedObjects\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class AssociatedObjectKey\n\n/**\n * If [T] is an @[AssociatedObjectKey]-annotated annotation class and [this] class is annotated with @[T] (`S::class`),\n * returns object `S`.\n *\n * Otherwise returns `null`.\n */\n@ExperimentalAssociatedObjects\npublic inline fun <reified T : Annotation> KClass<*>.findAssociatedObject(): Any? =\n   this.findAssociatedObject(T::class)","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport getKClass\nimport kotlin.reflect.KClass\nimport kotlin.reflect.js.internal.KClassImpl\n\n/**\n * Represents the constructor of a class. Instances of `JsClass` can be passed to JavaScript APIs that expect a constructor reference.\n */\nexternal interface JsClass<T : Any> {\n   /**\n   * Returns the unqualified name of the class represented by this instance.\n   */\n   val name: String\n}\n\n/**\n * Obtains a constructor reference for the given `KClass`.\n */\nval <T : Any> KClass<T>.js: JsClass<T>\n   get() = (this as KClassImpl<T>).jClass\n\n/**\n * Obtains a `KClass` instance for the given constructor reference.\n */\nval <T : Any> JsClass<T>.kotlin: KClass<T>\n   get() = getKClass(this)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal abstract class KClassImpl<T : Any>(\n   internal open val jClass: JsClass<T>\n) : KClass<T> {\n\n   override val qualifiedName: String?\n   get() = TODO()\n\n   override fun equals(other: Any?): Boolean {\n   return other is KClassImpl<*> && jClass == other.jClass\n   }\n\n   // TODO: use FQN\n   override fun hashCode(): Int = simpleName?.hashCode() ?: 0\n\n   override fun toString(): String {\n   // TODO: use FQN\n   return \"class $simpleName\"\n   }\n}\n\ninternal class SimpleKClassImpl<T : Any>(jClass: JsClass<T>) : KClassImpl<T>(jClass) {\n   override val simpleName: String? = jClass.asDynamic().`$metadata$`?.simpleName.unsafeCast<String?>()\n\n   override fun isInstance(value: Any?): Boolean {\n   return jsIsType(value, jClass)\n   }\n}\n\ninternal class PrimitiveKClassImpl<T : Any>(\n   jClass: JsClass<T>,\n   private val givenSimpleName: String,\n   private val isInstanceFunction: (Any?) -> Boolean\n) : KClassImpl<T>(jClass) {\n   override fun equals(other: Any?): Boolean {\n   if (other !is PrimitiveKClassImpl<*>) return false\n   return super.equals(other) && givenSimpleName == other.givenSimpleName\n   }\n\n   override val simpleName: String? get() = givenSimpleName\n\n   override fun isInstance(value: Any?): Boolean {\n   return isInstanceFunction(value)\n   }\n}\n\ninternal object NothingKClassImpl : KClassImpl<Nothing>(js(\"Object\")) {\n   override val simpleName: String = \"Nothing\"\n\n   override fun isInstance(value: Any?): Boolean = false\n\n   override val jClass: JsClass<Nothing>\n   get() = throw UnsupportedOperationException(\"There's no native JS class for Nothing type\")\n\n   override fun equals(other: Any?): Boolean = other === this\n\n   override fun hashCode(): Int = 0\n}\n\ninternal class ErrorKClass : KClass<Nothing> {\n   override val simpleName: String? get() = error(\"Unknown simpleName for ErrorKClass\")\n   override val qualifiedName: String? get() = error(\"Unknown qualifiedName for ErrorKClass\")\n\n   override fun isInstance(value: Any?): Boolean = error(\"Can's check isInstance on ErrorKClass\")\n\n   override fun equals(other: Any?): Boolean = other === this\n\n   override fun hashCode(): Int = 0\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\ninternal actual inline val KClass<*>.qualifiedOrSimpleName: String?\n   get() = simpleName","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\n// TODO: Remove once JsReflectionAPICallChecker supports more reflection

types\n@file:Suppress(\"Unsupported\")\n\nimport kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName(\"createKType\")\ninternal fun createKType(\n   classifier: KClassifier,\n   arguments: Array<KTypeProjection>,\n   isMarkedNullable: Boolean\n) =\n   KTypeImpl(classifier, arguments.asList(), isMarkedNullable)\n\n@JsName(\"createDynamicKType\")\ninternal fun createDynamicKType(): KType = DynamicKType\n\n@JsName(\"markKTypeNullable\")\ninternal fun markKTypeNullable(kType: KType) = KTypeImpl(kType.classifier!!, kType.arguments, true)\n\n@JsName(\"createKTypeParameter\")\ninternal fun createKTypeParameter(\n   name: String,\n   upperBounds: Array<KType>,\n   variance: String\n): KTypeParameter {\n   val kVariance = when (variance) {\n   \"in\" -> KVariance.IN\n   \"out\" -> KVariance.OUT\n   else -> KVariance.INVARIANT\n   }\n\n   return KTypeParameterImpl(name, upperBounds.asList(), kVariance, false)\n}\n\n@JsName(\"getStarKTypeProjection\")\ninternal fun getStarKTypeProjection(): KTypeProjection =\n   KTypeProjection.STAR\n\n@JsName(\"createCovariantKTypeProjection\")\ninternal fun createCovariantKTypeProjection(type: KType): KTypeProjection =\n   KTypeProjection.covariant(type)\n\n@JsName(\"createInvariantKTypeProjection\")\ninternal fun createInvariantKTypeProjection(type: KType): KTypeProjection =\n   KTypeProjection.invariant(type)\n\n@JsName(\"createContravariantKTypeProjection\")\ninternal fun createContravariantKTypeProjection(type: KType): KTypeProjection =\n   KTypeProjection.contravariant(type)\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal class KTypeImpl(\n   override val classifier: KClassifier,\n   override val arguments: List<KTypeProjection>,\n   override val isMarkedNullable: Boolean\n) : KType {\n   override fun equals(other: Any?): Boolean =\n   other is KTypeImpl &&\n   classifier == other.classifier && arguments == other.arguments && isMarkedNullable == other.isMarkedNullable\n\n   override fun hashCode(): Int =\n   (classifier.hashCode() * 31 + arguments.hashCode()) * 31 + isMarkedNullable.hashCode()\n\n   override fun toString(): String {\n   val kClass = (classifier as? KClass<*>)\n   val classifierName = when {\n   kClass == null -> classifier.toString()\n   kClass.simpleName != null -> kClass.simpleName\n   else -> \"(non-denotable type)\"\n   }\n\n   val args =\n   if (arguments.isEmpty()) \"\"\n   else arguments.joinToString(\", \", \"<\", \">\") { it.asString() }\n   val nullable = if (isMarkedNullable) \"?\" else \"\"\n\n   return classifierName + args + nullable\n   }\n\n   // TODO: this should be the implementation of KTypeProjection.toString, see KT-30071\n   private fun KTypeProjection.asString(): String {\n   if (variance == null) return \"*\"\n   return variance.prefixString() + type.toString()\n   }\n}\n\ninternal object DynamicKType : KType {\n   override val classifier: KClassifier? = null\n   override val arguments: List<KTypeProjection> = emptyList()\n   override val isMarkedNullable: Boolean = false\n   override fun toString(): String = \"dynamic\"\n}\n\ninternal fun KVariance.prefixString() =\n   when (this) {\n   KVariance.INVARIANT -> \"\"\n   KVariance.IN -> \"in \"\n   KVariance.OUT -> \"out \"\n   }\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal data class KTypeParameterImpl(\n   override val name: String,\n   override val upperBounds: List<KType>,\n   override val variance: KVariance,\n   override val isReified: Boolean\n) : KTypeParameter {\n   override fun toString(): String = name\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.js.JsClass\n\n@JsName(\"PrimitiveClasses\")\ninternal object PrimitiveClasses {\n   @JsName(\"anyClass\")\n   val anyClass = PrimitiveKClassImpl(js(\"Object\").unsafeCast<JsClass<Any>>(), \"Any\", { it is Any })\n\n   @JsName(\"numberClass\")\n   val numberClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Number>>(), \"Number\", { it is Number })\n\n   @JsName(\"nothingClass\")\n   val nothingClass = NothingKClassImpl\n\n   @JsName(\"booleanClass\")\n   val

booleanClass = PrimitiveKClassImpl(js(\"Boolean\").unsafeCast<JsClass<Boolean>>(), \"Boolean\", { it is Boolean })\n\n   @JsName(\"byteClass\")\n   val byteClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Byte>>(), \"Byte\", { it is Byte })\n\n   @JsName(\"shortClass\")\n   val shortClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Short>>(), \"Short\", { it is Short })\n\n   @JsName(\"intClass\")\n   val intClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Int>>(), \"Int\", { it is Int })\n\n   @JsName(\"floatClass\")\n   val floatClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Float>>(), \"Float\", { it is Float })\n\n   @JsName(\"doubleClass\")\n   val doubleClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Double>>(), \"Double\", { it is Double })\n\n   @JsName(\"arrayClass\")\n   val arrayClass = PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<Array<*>>>(), \"Array\", { it is Array<*> })\n\n   @JsName(\"stringClass\")\n   val stringClass = PrimitiveKClassImpl(js(\"String\").unsafeCast<JsClass<String>>(), \"String\", { it is String })\n\n   @JsName(\"throwableClass\")\n   val throwableClass = PrimitiveKClassImpl(js(\"Error\").unsafeCast<JsClass<Throwable>>(), \"Throwable\", { it is Throwable })\n\n   @JsName(\"booleanArrayClass\")\n   val booleanArrayClass = PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<BooleanArray>>(), \"BooleanArray\", { it is BooleanArray })\n\n   @JsName(\"charArrayClass\")\n   val charArrayClass = PrimitiveKClassImpl(js(\"Uint16Array\").unsafeCast<JsClass<CharArray>>(), \"CharArray\", { it is CharArray })\n\n   @JsName(\"byteArrayClass\")\n   val byteArrayClass = PrimitiveKClassImpl(js(\"Int8Array\").unsafeCast<JsClass<ByteArray>>(), \"ByteArray\", { it is ByteArray })\n\n   @JsName(\"shortArrayClass\")\n   val shortArrayClass = PrimitiveKClassImpl(js(\"Int16Array\").unsafeCast<JsClass<ShortArray>>(), \"ShortArray\", { it is ShortArray })\n\n   @JsName(\"intArrayClass\")\n   val intArrayClass = PrimitiveKClassImpl(js(\"Int32Array\").unsafeCast<JsClass<IntArray>>(), \"IntArray\", { it is IntArray })\n\n   @JsName(\"longArrayClass\")\n   val longArrayClass = PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<LongArray>>(), \"LongArray\", { it is LongArray })\n\n   @JsName(\"floatArrayClass\")\n   val floatArrayClass = PrimitiveKClassImpl(js(\"Float32Array\").unsafeCast<JsClass<FloatArray>>(), \"FloatArray\", { it is FloatArray })\n\n   @JsName(\"doubleArrayClass\")\n   val doubleArrayClass = PrimitiveKClassImpl(js(\"Float64Array\").unsafeCast<JsClass<DoubleArray>>(), \"DoubleArray\", { it is DoubleArray })\n\n   @JsName(\"functionClass\")\n   fun functionClass(arity: Int): KClassImpl<Any> {\n   return functionClasses.get(arity) ?: run {\n   val result = PrimitiveKClassImpl(js(\"Function\").unsafeCast<JsClass<Any>>(), \"Function$arity\",\n   { jsTypeOf(it) === \"function\" && it.asDynamic().length === arity })\n   functionClasses.asDynamic()[arity] = result\n   result\n   }\n   }\n}\n\nprivate val functionClasses = arrayOfNulls<KClassImpl<Any>>(0)","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// a package is omitted to get declarations directly under the module\n\nimport kotlin.reflect.*\nimport kotlin.reflect.js.internal.*\n\n@JsName(\"getKClass\")\ninternal fun <T : Any> getKClass(jClass: Any /* JsClass<T> | Array<JsClass<T>> */): KClass<T> {\n   return if (js(\"Array\").isArray(jClass)) {\n   getKClassM(jClass.unsafeCast<Array<JsClass<T>>>())\n   } else {\n   getKClass1(jClass.unsafeCast<JsClass<T>>())\n   }\n}\n\n@JsName(\"getKClassM\")\ninternal fun <T : Any> getKClassM(jClasses: Array<JsClass<T>>): KClass<T> = when (jClasses.size) {\n   1 -> getKClass1(jClasses[0])\n   0 -> NothingKClassImpl.unsafeCast<KClass<T>>()\n   else -> ErrorKClass().unsafeCast<KClass<T>>()\n}\n\n@JsName(\"getKClassFromExpression\")\ninternal fun <T : Any> getKClassFromExpression(e: T): KClass<T> =\n   when (jsTypeOf(e)) {\n   \"string\" -> PrimitiveClasses.stringClass\n   \"number\" -> if (jsBitwiseOr(e, 0).asDynamic() === e) PrimitiveClasses.intClass else PrimitiveClasses.doubleClass\n   \"boolean\" -> PrimitiveClasses.booleanClass\n

\"function\" -> PrimitiveClasses.functionClass(e.asDynamic().length)\n else -> {\n when {\n e is BooleanArray -> PrimitiveClasses.booleanArrayClass\n e is CharArray -> PrimitiveClasses.charArrayClass\n e is ByteArray -> PrimitiveClasses.byteArrayClass\n e is ShortArray -> PrimitiveClasses.shortArrayClass\n e is IntArray -> PrimitiveClasses.intArrayClass\n e is LongArray -> PrimitiveClasses.longArrayClass\n e is FloatArray -> PrimitiveClasses.floatArrayClass\n e is DoubleArray -> PrimitiveClasses.doubleArrayClass\n e is KClass<*> -> KClass::class\n e is Array<*> -> PrimitiveClasses.arrayClass\n else -> {\n val constructor = js(\"Object\").getPrototypeOf(e).constructor\n when {\n constructor === js(\"Object\") -> PrimitiveClasses.anyClass\n constructor === js(\"Error\") -> PrimitiveClasses.throwableClass\n else -> {\n val jsClass: JsClass<T> = constructor\n getKClass1(jsClass)\n }\n }\n }\n }\n }.unsafeCast<KClass<T>>()\n\n@JsName(\"getKClass1\")\ninternal fun <T : Any> getKClass1(jClass: JsClass<T>): KClass<T> {\n if (jClass === js(\"String\")) return PrimitiveClasses.stringClass.unsafeCast<KClass<T>>()\n\n val metadata = jClass.asDynamic().`$metadata$`\n\n return if (metadata != null) {\n if (metadata.`$kClass$` == null) {\n val kClass = SimpleKClassImpl(jClass)\n metadata.`$kClass$` = kClass\n kClass\n } else {\n metadata.`$kClass$`\n }\n } else {\n SimpleKClassImpl(jClass)\n }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Exposes the JavaScript [RegExp object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/RegExp) to Kotlin.\n */\n@Suppress(\"NOT_DOCUMENTED\")\npublic external class RegExp(pattern: String, flags: String? = definedExternally) {\n\n public fun test(str: String): Boolean\n\n public fun exec(str: String): RegExpMatch?\n\n public override fun toString(): String\n\n /**\n * The lastIndex is a read/write integer property of regular expressions that specifies the index at which to start the next match.\n */\n public var lastIndex: Int\n\n public val global: Boolean\n public val ignoreCase: Boolean\n public val multiline: Boolean\n}\n\n/**\n * Resets the regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning of the input string.\n */\npublic fun RegExp.reset() {\n lastIndex = 0\n}\n\n// TODO: Inherit from array or introduce asArray() extension\n/**\n * Represents the return value of [RegExp.exec].\n */\n@Suppress(\"NOT_DOCUMENTED\")\npublic external interface RegExpMatch {\n public val index: Int\n public val input: String\n public val length: Int\n}\n\n/**\n * Returns the entire text matched by [RegExp.exec] if the [index] parameter is 0, or the text matched by the capturing parenthesis\n * at the given index.\n */\npublic inline operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Converts the result of [RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n * element is the text matched by each capturing parenthesis.\n */\npublic inline fun RegExpMatch.asArray(): Array<out String?> = unsafeCast<Array<out String?>>()\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.sequences\n\ninternal actual class ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>) : Sequence<T> {\n private var sequenceRef: Sequence<T>? = sequence\n\n actual override fun iterator(): Iterator<T> {\n val sequence = sequenceRef ?: throw IllegalStateException(\"This sequence can be consumed only once.\")\n sequenceRef = null\n return sequence.iterator()\n }\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * The exception thrown when a character encoding or decoding error occurs.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic actual open class CharacterCodingException(message: String?) : Exception(message) {\n actual constructor() : this(null)\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code

is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * A mutable sequence of characters.\n *\n * String builder can be used to efficiently perform multiple string manipulation operations.\n */\npublic actual class StringBuilder actual constructor(content: String) : Appendable, CharSequence {\n /**\n * Constructs an empty string builder with the specified initial [capacity].\n *\n * In Kotlin/JS implementation of StringBuilder the initial capacity has no effect on the further performance of operations.\n */\n actual constructor(capacity: Int) : this() {\n }\n\n /** Constructs a string builder that contains the same characters as the specified [content] char sequence. */\n actual constructor(content: CharSequence) : this(content.toString()) {}\n\n /** Constructs an empty string builder. */\n actual constructor() : this(\"\")\n\n private var string: String = if (content !== undefined) content else \"\"\n\n actual override val length: Int\n get() = string.asDynamic().length\n\n actual override fun get(index: Int): Char =\n string.getOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, length: $length}\") }\n\n actual override fun subSequence(startIndex: Int, endIndex: Int): CharSequence = string.substring(startIndex, endIndex)\n\n actual override fun append(value: Char): StringBuilder {\n string += value\n return this\n }\n\n actual override fun append(value: CharSequence?): StringBuilder {\n string += value.toString()\n return this\n }\n\n actual override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder =\n this.appendRange(value ?: \"null\", startIndex, endIndex)\n\n /**\n * Reverses the contents of this string builder and returns this instance.\n *\n * Surrogate pairs included in this string builder are treated as single characters.\n * Therefore, the order of the high-low surrogates is never reversed.\n *\n * Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the operation.\n * For example, reversing `\"\\uDC00\\uD800\"` produces `\"\\uD800\\uDC00\"` which is a valid surrogate pair.\n */\n actual fun reverse(): StringBuilder {\n var reversed = \"\"\n var index = string.length - 1\n while (index >= 0) {\n val low = string[index--]\n if (low.isLowSurrogate() && index >= 0) {\n val high = string[index--]\n if (high.isHighSurrogate()) {\n reversed = reversed + high + low\n } else {\n reversed = reversed + low + high\n }\n } else {\n reversed += low\n }\n }\n string = reversed\n return this\n }\n\n /**\n * Appends the string representation of the specified object [value] to this string builder and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then that string was appended to this string builder.\n */\n actual fun append(value: Any?): StringBuilder {\n string += value.toString()\n return this\n }\n\n /**\n * Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then that string was appended to this string builder.\n */\n @SinceKotlin(\"1.3\")\n actual fun append(value: Boolean): StringBuilder {\n string += value\n return this\n }\n\n /**\n * Appends characters in the specified character array [value] to this string builder and returns this instance.\n *\n * Characters are appended in order, starting at the index 0.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun append(value: CharArray): StringBuilder {\n @OptIn(ExperimentalStdlibApi::class)\n string += value.concatToString()\n return this\n }\n\n @Deprecated(\"Provided for binary compatibility.\", level = DeprecationLevel.HIDDEN)\n fun append(value: String): StringBuilder = append(value)\n\n /**\n * Appends the specified string [value] to this string builder and returns this instance.\n *\n * If [value] is `null`, then the four characters `\"null\"` are appended.\n */\n @SinceKotlin(\"1.3\")\n actual fun append(value: String?): StringBuilder {\n this.string += value ?: \"null\"\n return this\n }\n\n /**\n * Returns the current capacity of this string builder.\n *\n * The capacity is the maximum length this string builder can have before an allocation occurs.\n *\n * In Kotlin/JS implementation of StringBuilder the value returned from this method may not indicate the actual size of the backing storage.\n */\n @SinceKotlin(\"1.3\")\n// @ExperimentalStdlibApi\n @Deprecated(\"Obtaining StringBuilder capacity is not supported in JS and common code.\", level = DeprecationLevel.ERROR)\n actual fun capacity(): Int = length\n\n /**\n * Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].\n *\n * If the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n *

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Otherwise, this method takes no action and simply returns.\n     *\n     * In Kotlin/JS implementation of StringBuilder the size of the backing storage is not extended to comply the given [minimumCapacity],\n     * thus calling this method has no effect on the further performance of operations.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun ensureCapacity(minimumCapacity: Int) {\n    }\n\n    /**\n     * Returns the index within this string builder of the first occurrence of the specified [string].\n     *\n     * Returns `-1` if the specified [string] does not occur in this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun indexOf(string: String): Int = this.string.asDynamic().indexOf(string)\n\n    /**\n     * Returns the index within this string builder of the first occurrence of the specified [string],\n     * starting at the specified [startIndex].\n     *\n     * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun indexOf(string: String, startIndex: Int): Int = this.string.asDynamic().indexOf(string, startIndex)\n\n    /**\n     * Returns the index within this string builder of the last occurrence of the specified [string].\n     * The last occurrence of empty string `\"\"` is considered to be at the index equal to `this.length`.\n     *\n     * Returns `-1` if the specified [string] does not occur in this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun lastIndexOf(string: String): Int = this.string.asDynamic().lastIndexOf(string)\n\n    /**\n     * Returns the index within this string builder of the last occurrence of the specified [string],\n     * starting from the specified [startIndex] toward the beginning.\n     *\n     * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun lastIndexOf(string: String, startIndex: Int): Int {\n        if (string.isEmpty() && startIndex < 0) return -1\n        return this.string.asDynamic().lastIndexOf(string, startIndex)\n    }\n\n    /**\n     * Inserts the string representation of the specified boolean [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n     * and then that string was inserted into this string builder at the specified [index].\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: Boolean): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0, index) + value + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts the specified character [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: Char): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0, index) + value + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts characters in the specified character array [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * The inserted characters go in same order as in the [value] character array, starting at [index].\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: CharArray): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        @OptIn(ExperimentalStdlibApi::class)\n        string = string.substring(0, index) + value.concatToString() + string.substring(index)\n        return this\n    }\n\n    /**\n     * Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n     *\n     * The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n     *\n     * @param index the position in this string builder to insert at.\n     * @param value the character sequence from which characters are inserted. If [value] is `null`, then the four characters `\"null\"` are inserted.\n     *\n     * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n     */\n    @SinceKotlin(\"1.4\")\n    @WasExperimental(ExperimentalStdlibApi::class)\n    actual fun insert(index: Int, value: CharSequence?): StringBuilder {\n        AbstractList.checkPositionIndex(index, length)\n\n        string = string.substring(0, index) +
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value.toString() + string.substring(index)\n return this\n }\n\n /**\n * Inserts the string representation of the specified object [value] into this string builder at the specified [index] and returns this instance.\n *\n * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n * and then that string was inserted into this string builder at the specified [index].\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: Any?): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n string = string.substring(0, index) + value.toString() + string.substring(index)\n return this\n }\n\n @Deprecated(\"Provided for binary compatibility.\", level = DeprecationLevel.HIDDEN)\n fun insert(index: Int, value: String): StringBuilder = insert(index, value)\n\n /**\n * Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n *\n * If [value] is `null`, then the four characters `\"null\"` are inserted.\n *\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun insert(index: Int, value: String?): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n val toInsert = value ?: \"null\"\n this.string = this.string.substring(0, index) + toInsert + this.string.substring(index)\n return this\n }\n\n /**\n * Sets the length of this string builder to the specified [newLength].\n *\n * If the [newLength] is less than the current length, it is changed to the specified [newLength].\n * Otherwise, null characters '\\u0000' are appended to this string builder until its length is less than the [newLength].\n *\n * Note that in Kotlin/JS [set] operator function has non-constant execution time complexity.\n * Therefore, increasing length of this string builder and then updating each character by index may slow down your program.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun setLength(newLength: Int) {\n if (newLength < 0) {\n throw IllegalArgumentException(\"Negative new length: $newLength.\")\n }\n\n if (newLength <= length) {\n string = string.substring(0, newLength)\n } else {\n for (i in length until newLength) {\n string += '\\u0000'\n }\n }\n }\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [length] (exclusive).\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int): String {\n AbstractList.checkPositionIndex(startIndex, length)\n\n return string.substring(startIndex)\n }\n\n /**\n * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex] (exclusive).\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun substring(startIndex: Int, endIndex: Int): String {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n\n return string.substring(startIndex, endIndex)\n }\n\n /**\n * Attempts to reduce storage used for this string builder.\n *\n * If the backing storage of this string builder is larger than necessary to hold its current contents,\n * then it may be resized to become more space efficient.\n * Calling this method may, but is not required to, affect the value of the [capacity] property.\n *\n * In Kotlin/JS implementation of StringBuilder the size of the backing storage is always equal to the length of the string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n actual fun trimToSize() {\n }\n\n override fun toString(): String = string\n\n /**\n * Clears the content of this string builder making it empty and returns this instance.\n *\n * @sample samples.text.Strings.clearStringBuilder\n */\n @SinceKotlin(\"1.3\")\n public fun clear(): StringBuilder {\n string = \"\"\n return this\n }\n\n /**\n * Sets the character at the specified [index] to the specified [value].\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public operator fun set(index: Int, value: Char) {\n AbstractList.checkElementIndex(index, length)\n\n string = string.substring(0, index) + value + string.substring(index + 1)\n }\n\n /**\n * Replaces characters in the

specified range of this string builder with characters in the specified string [value] and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param value the string to replace with.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder {\n checkReplaceRange(startIndex, endIndex, length)\n\n this.string = this.string.substring(0, startIndex) + value + this.string.substring(endIndex)\n return this\n }\n\n private fun checkReplaceRange(startIndex: Int, endIndex: Int, length: Int) {\n if (startIndex < 0 || startIndex > length) {\n throw IndexOutOfBoundsException(\"startIndex: $startIndex, length: $length\")\n }\n if (startIndex > endIndex) {\n throw IllegalArgumentException(\"startIndex($startIndex) > endIndex($endIndex)\")\n }\n }\n\n /**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n *\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n *\n * @param index the index of `Char` to remove.\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun deleteAt(index: Int): StringBuilder {\n AbstractList.checkElementIndex(index, length)\n\n string = string.substring(0, index) + string.substring(index + 1)\n return this\n }\n\n /**\n * Removes characters in the specified range from this string builder and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun deleteRange(startIndex: Int, endIndex: Int): StringBuilder {\n checkReplaceRange(startIndex, endIndex, length)\n\n string = string.substring(0, startIndex) + string.substring(endIndex)\n return this\n }\n\n /**\n * Copies characters from this string builder into the [destination] character array.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) {\n AbstractList.checkBoundsIndexes(startIndex, endIndex, length)\n AbstractList.checkBoundsIndexes(destinationOffset, destinationOffset + endIndex - startIndex, destination.size)\n\n var dstIndex = destinationOffset\n for (index in startIndex until endIndex) {\n destination[dstIndex++] = string[index]\n }\n }\n\n /**\n * Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.\n *\n * Characters are appended in order, starting at specified [startIndex].\n *\n * @param value the array from which characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder {\n @OptIn(ExperimentalStdlibApi::class)\n string += value.concatToString(startIndex, endIndex)\n return this\n }\n\n /**\n * Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.\n *\n * @param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning (inclusive)

of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder {\n val stringCsq = value.toString()\n AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n string += stringCsq.substring(startIndex, endIndex)\n return this\n }\n\n /**\n * Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in same order as in the [value] array, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder {\n AbstractList.checkPositionIndex(index, this.length)\n\n @OptIn(ExperimentalStdlibApi::class)\n string = string.substring(0, index) + value.concatToString(startIndex, endIndex) + string.substring(index)\n return this\n }\n\n /**\n * Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n @SinceKotlin(\"1.4\")\n @WasExperimental(ExperimentalStdlibApi::class)\n public fun insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder {\n AbstractList.checkPositionIndex(index, length)\n\n val stringCsq = value.toString()\n AbstractList.checkBoundsIndexes(startIndex, endIndex, stringCsq.length)\n\n string = string.substring(0, index) + stringCsq.substring(startIndex, endIndex) + string.substring(index)\n return this\n }\n}\n\n\n/**\n * Clears the content of this string builder making it empty and returns this instance.\n *\n * @sample samples.text.Strings.clearStringBuilder\n */\n@SinceKotlin(\"1.3\")\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.clear(): StringBuilder = this.clear()\n\n/**\n * Sets the character at the specified [index] to the specified [value].\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline operator fun StringBuilder.set(index: Int, value: Char) = this.set(index, value)\n\n/**\n * Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param value the string to replace with.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder =\n this.setRange(startIndex,

endIndex, value)\n\n/**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n *\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n *\n * @param index the index of `Char` to remove.\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.deleteAt(index: Int): StringBuilder = this.deleteAt(index)\n\n/**\n * Removes characters in the specified range from this string builder and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder = this.deleteRange(startIndex, endIndex)\n\n/**\n * Copies characters from this string builder into the [destination] character array.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\", \"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual inline fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length) =\n   this.toCharArray(destination, destinationOffset, startIndex, endIndex)\n\n/**\n * Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.\n *\n * Characters are appended in order, starting at specified [startIndex].\n *\n * @param value the array from which characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n   this.appendRange(value, startIndex, endIndex)\n\n/**\n * Appends a subsequence of the specified character sequence [value] to this string builder and returns this instance.\n *\n * @param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n   this.appendRange(value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in same order as in the [value] array, starting at [index].\n *\n * @param index the position in this string builder

to insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder =\n this.insertRange(index, value, startIndex, endIndex)\n\n/**\n * Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\", \"NOTHING_TO_INLINE\")\npublic actual inline fun StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder =\n this.insertRange(index, value, startIndex, endIndex)\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n// actually \\s is enough to match all whitespace, but \\xA0 added because of different regexp behavior of Rhino used in Selenium tests\npublic actual fun Char.isWhitespace(): Boolean = toString().matches(\"[\\\\s\\\\xA0]\")\n\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toLowerCase(): Char = js(\"String.fromCharCode\")(toInt()).toLowerCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n@kotlin.internal.InlineOnly\npublic actual inline fun Char.toUpperCase(): Char = js(\"String.fromCharCode\")(toInt()).toUpperCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n/**\n * Returns `true` if this character is a Unicode high-surrogate code unit (also known as leading-surrogate code unit).\n */\npublic actual fun Char.isHighSurrogate(): Boolean = this in Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n/**\n * Returns `true` if this character is a Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n */\npublic actual fun Char.isLowSurrogate(): Boolean = this in Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n\n/**\n * Returns `true` if the content of this string is equal to the word \"true\", ignoring case, and `false` otherwise.\n */\n@Deprecated(\"Use Kotlin compiler 1.4 to avoid deprecation warning.\")\n@DeprecatedSinceKotlin(hiddenSince = \"1.4\")\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toBoolean(): Boolean = this.toBoolean()\n\n/**\n * Returns `true` if this string is not `null` and its content is equal to the word \"true\", ignoring case, and `false` otherwise.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun String?.toBoolean(): Boolean = this != null && this.toLowerCase() == \"true\"\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toByte(): Byte = toByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toByte(radix: Int): Byte = toByteOrNull(radix) ?:

numberFormatError(this)\n\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toShort(): Short = toShortOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toShort(radix: Int): Short = toShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toInt(): Int = toIntOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Double] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun String.toDouble(): Double = (+(this.asDynamic())).unsafeCast<Double>().also {\n   if (it.isNaN() && !this.isNaN() || it == 0.0 && this.isBlank())\n   numberFormatError(this)\n}\n\n/**\n * Parses the string as a [Float] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float = toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\npublic actual fun String.toDoubleOrNull(): Double? = (+(this.asDynamic())).unsafeCast<Double>().takeIf {\n   !(it.isNaN() && !this.isNaN() || it == 0.0 && this.isBlank())\n}\n\n/**\n * Parses the string as a [Float] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation of this [Byte] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.2\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Short] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.2\")\n@kotlin.internal.InlineOnly\npublic actual inline fun Short.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Int] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.2\")\npublic actual fun Int.toString(radix: Int): String = asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.toLowerCase()) {\n   \"nan\", \"+nan\", \"-nan\" -> true\n   else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for string to number and number to string conversion.\n */\n@PublishedApi\ninternal actual fun checkRadix(radix: Int): Int {\n   if (radix !in 2..36) {\n   throw IllegalArgumentException(\"radix $radix was not in valid range 2..36\")\n   }\n   return radix\n}\n\ninternal actual fun digitOf(char: Char, radix: Int): Int = when {\n   char >= '0' && char <= '9' -> char - '0'\n   char >= 'A' && char <= 'Z' -> char - 'A' + 10\n   char >= 'a' && char <= 'z' -> char - 'a' + 10\n   else -> -1\n}.let { if (it >= radix) -1 else it }\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Provides enumeration values to use to set regular expression options.\n */\npublic actual enum class RegexOption(val value: String) {\n   /** Enables case-insensitive matching. */\n   IGNORE_CASE(\"i\"),\n   /** Enables multiline

mode.\n *\n * In multiline mode the expressions `^` and `$` match just after or just before,\n * respectively, a line terminator or the end of the input sequence. */\n MULTILINE(\"m\")\n}\n\n\n/**\n * Represents the results from a single capturing group within a [MatchResult] of [Regex].\n *\n * @param value The value of captured group.\n */\npublic actual data class MatchGroup(actual val value: String)\n\n\n/**\n * Represents a compiled regular expression.\n * Provides functions to match strings in text with a pattern, replace the found occurrences and split text around matches.\n *\n * For pattern syntax reference see [MDN RegExp](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/RegExp#Special_characters_meaning_in_regular_expressions)\n * and
[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).\n *\n * @constructor Creates a regular expression from the specified [pattern] string and the specified set of [options].\n */\npublic actual class Regex actual constructor(pattern: String, options: Set<RegexOption>) {\n\n /** Creates a regular expression from the specified [pattern] string and the specified single [option]. */\n public actual constructor(pattern: String, option: RegexOption) : this(pattern, setOf(option))\n\n /** Creates a regular expression from the specified [pattern] string and the default options. */\n public actual constructor(pattern: String) : this(pattern, emptySet())\n\n\n /** The pattern string of this regular expression. */\n public actual val pattern: String = pattern\n /** The set of options that were used to create this regular expression. */\n public actual val options: Set<RegexOption> = options.toSet()\n private val nativePattern: RegExp = RegExp(pattern, options.map { it.value }.joinToString(separator = \"\") + \"g\")\n\n /** Indicates whether the regular expression matches the entire [input]. */\n public actual infix fun matches(input: CharSequence): Boolean {\n nativePattern.reset()\n val match = nativePattern.exec(input.toString())\n return match != null && match.index == 0 && nativePattern.lastIndex == input.length\n }\n\n /** Indicates whether the regular expression can find at least one match in the specified [input]. */\n public actual fun containsMatchIn(input: CharSequence): Boolean {\n nativePattern.reset()\n return nativePattern.test(input.toString())\n }\n\n /** Returns the first match of a regular expression in the [input], beginning at the specified [startIndex].\n *\n * @param startIndex An index to start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n * @return An instance of [MatchResult] if match was found or `null` otherwise.\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of the [input] char sequence.\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n public actual fun find(input: CharSequence, startIndex: Int = 0): MatchResult? {\n if (startIndex < 0 || startIndex > input.length) {\n throw IndexOutOfBoundsException(\"Start index out of bounds: $startIndex, input length: ${input.length}\")\n }\n return nativePattern.findNext(input.toString(), startIndex)\n }\n\n /**\n * Returns a sequence of all occurrences of a regular expression within the [input] string, beginning at the specified [startIndex].\n *\n * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of the [input] char sequence.\n *\n * @sample samples.text.Regexps.findAll\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n public actual fun findAll(input: CharSequence, startIndex: Int = 0): Sequence<MatchResult> {\n if (startIndex < 0 || startIndex > input.length) {\n throw IndexOutOfBoundsException(\"Start index out of bounds: $startIndex, input length: ${input.length}\")\n }\n return generateSequence({ find(input, startIndex) }, { match -> match.next() })\n }\n\n /**\n * Attempts to match the entire [input] CharSequence against the pattern.\n *\n * @return An instance of [MatchResult] if the entire input matches or `null` otherwise.\n */\n public actual fun matchEntire(input: CharSequence): MatchResult? {\n if (pattern.startsWith('^') && pattern.endsWith('$'))\n return find(input)\n else\n return Regex(\"^${pattern.trimStart('^').trimEnd('$')}$\", options).find(input)\n }\n\n /**\n * Replaces all occurrences of this regular expression in the specified [input] string with specified [replacement] expression.\n *\n * @param replacement A replacement expression that can include substitutions. See [String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n */\n public actual fun replace(input: CharSequence, replacement: String): String = input.toString().nativeReplace(nativePattern, replacement)\n\n /**\n * Replaces all occurrences of this regular expression in the specified [input] string with

the result of\n * the given function [transform] that takes [MatchResult] and returns a string to be used as a\n * replacement for that match.\n */\n public actual inline fun replace(input: CharSequence, transform: (MatchResult) -> CharSequence): String {\n var match = find(input)\n if (match == null) return input.toString()\n\n var lastStart = 0\n val length = input.length\n val sb = StringBuilder(length)\n do {\n val foundMatch = match!!\n sb.append(input, lastStart, foundMatch.range.start)\n sb.append(transform(foundMatch))\n lastStart = foundMatch.range.endInclusive + 1\n match = foundMatch.next()\n } while (lastStart < length && match != null)\n\n if (lastStart < length) {\n sb.append(input, lastStart, length)\n }\n\n return sb.toString()\n }\n\n /**\n * Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.\n *\n * @param replacement A replacement expression that can include substitutions. See [String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n */\n public actual fun replaceFirst(input: CharSequence, replacement: String): String {\n val nonGlobalOptions = options.map { it.value }.joinToString(separator = \"\")\n return input.toString().nativeReplace(RegExp(pattern, nonGlobalOptions), replacement)\n }\n\n /**\n * Splits the [input] CharSequence around matches of this regular expression.\n *\n * @param limit Non-negative value specifying the maximum number of substrings the string can be split to.\n * Zero by default means no limit is set.\n */\n @Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\n public actual fun split(input: CharSequence, limit: Int = 0): List<String> {\n require(limit >= 0) { \"Limit must be non-negative, but was $limit\" }\n val matches = findAll(input).let { if (limit == 0) it else it.take(limit - 1) }\n val result = mutableListOf<String>()\n var lastStart = 0\n\n for (match in matches) {\n result.add(input.subSequence(lastStart, match.range.start).toString())\n lastStart = match.range.endInclusive + 1\n }\n result.add(input.subSequence(lastStart, input.length).toString())\n return result\n }\n\n\n /**\n * Returns the string representation of this regular expression, namely the [pattern] of this regular expression.\n *\n * Note that another regular expression constructed from the same pattern string may have different [options]\n * and may match strings differently.\n */\n public override fun toString(): String = nativePattern.toString()\n\n actual companion object {\n /**\n * Returns a regular expression that matches the specified [literal] string literally.\n * No characters of that string will have special meaning when searching for an occurrence of the regular expression.\n */\n public actual fun fromLiteral(literal: String): Regex = Regex(escape(literal))\n\n /**\n * Returns a regular expression pattern string that matches the specified [literal] string literally.\n * No characters of that string will have special meaning when searching for an occurrence of the regular expression.\n */\n public actual fun escape(literal: String): String = literal.nativeReplace(patternEscape, \"\\\\$&\")\n\n /**\n * Returns a literal replacement expression for the specified [literal] string.\n * No characters of that string will have special meaning when it is used as a replacement string in [Regex.replace] function.\n */\n public actual fun escapeReplacement(literal: String): String = literal.nativeReplace(replacementEscape, \"$$$$\")\n\n private val patternEscape = RegExp(\"\"\"[-\\\\^$*+?.()|[\\]{}]\"\"\", \"g\")\n private val replacementEscape = RegExp(\"\"\"\\$\"\"\", \"g\")\n }\n}\n\n/** Creates a regular expression from the specified [pattern] string and the specified single [option]. */\n@Deprecated(\"Provided for binary compatibility\", level = DeprecationLevel.HIDDEN)\n@JsName(\"Regex_sb3q2\\$\")\npublic fun Regex_0(pattern: String, option: RegexOption): Regex = Regex(pattern, setOf(option))\n\n/** Creates a regular expression from the specified [pattern] string and the default options. */\n@Deprecated(\"Provided for binary compatibility\", level = DeprecationLevel.HIDDEN)\n@JsName(\"Regex_61zpoe\\$\")\npublic fun Regex_1(pattern: String): Regex = Regex(pattern, emptySet())\n\n\n\n\nprivate fun RegExp.findNext(input: String, from: Int): MatchResult? {\n this.lastIndex = from\n val match = exec(input)\n if (match == null) return null\n val range = match.index..lastIndex - 1\n\n return object : MatchResult {\n override val range: IntRange = range\n override val value: String\n get() = match[0]!!\n\n override val groups: MatchGroupCollection = object : MatchGroupCollection, AbstractCollection<MatchGroup?>() {\n override val size: Int get() = match.length\n

override fun iterator(): Iterator<MatchGroup?> = indices.asSequence().map { this[it] }.iterator()\n override fun get(index: Int): MatchGroup? = match[index]?.let { MatchGroup(it) }\n }\n\n\n private var groupValues_: List<String>? = null\n\n override val groupValues: List<String>\n get() {\n if (groupValues_ == null) {\n groupValues_ = object : AbstractList<String>() {\n override val size: Int get() = match.length\n override fun get(index: Int): String = match[index] ?: \"\"\n }\n }\n return groupValues_!!\n }\n\n override fun next(): MatchResult? = this@findNext.findNext(input, if (range.isEmpty()) range.start + 1 else range.endInclusive + 1)\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeIndexOf(ch: Char, fromIndex: Int): Int = nativeIndexOf(ch.toString(), fromIndex)\n\n@kotlin.internal.InlineOnly\ninternal actual inline fun String.nativeLastIndexOf(ch: Char, fromIndex: Int): Int = nativeLastIndexOf(ch.toString(), fromIndex)\n\n/**\n * Returns `true` if this string starts with the specified prefix.\n */\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return nativeStartsWith(prefix, 0)\n else\n return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n */\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return nativeStartsWith(prefix, startIndex)\n else\n return regionMatches(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with the specified suffix.\n */\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n if (!ignoreCase)\n return nativeEndsWith(suffix)\n else\n return regionMatches(length - suffix.length, suffix, 0, suffix.length, ignoreCase)\n}\n\n\npublic fun String.matches(regex: String): Boolean {\n val result = this.match(regex)\n return result != null && result.size != 0\n}\n\npublic actual fun CharSequence.isBlank(): Boolean = length == 0 || (if (this is String) this else this.toString()).matches(\"^[\\\\s\\\\xA0]+$\")\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String?.equals(other: String?, ignoreCase: Boolean = false): Boolean =\n if (this == null)\n other == null\n else if (!ignoreCase)\n this == other\n else\n other != null && this.toLowerCase() == other.toLowerCase()\n\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int, ignoreCase: Boolean = false): Boolean =\n regionMatchesImpl(thisOffset, other, otherOffset, length, ignoreCase)\n\n\n/**\n * Returns a copy of this string having its first letter titlecased using the rules of the default locale,\n * or the original string if it's empty or already starts with a title case letter.\n *\n * The title case of a character is usually the same as its upper case with several exceptions.\n * The particular list of characters with the special title case form depends on the underlying platform.\n *\n * @sample samples.text.Strings.capitalize\n */\npublic actual fun String.capitalize(): String {\n return if (isNotEmpty()) substring(0, 1).toUpperCase() + substring(1) else this\n}\n\n/**\n * Returns a copy of this string having its first letter lowercased using the rules of the default locale,\n * or the original string if it's empty or already starts with a lower case letter.\n *\n * @sample samples.text.Strings.decapitalize\n */\npublic actual fun String.decapitalize(): String {\n return if (isNotEmpty()) substring(0, 1).toLowerCase() + substring(1) else this\n}\n\n/**\n * Returns a string containing this char sequence repeated [n] times.\n * @throws [IllegalArgumentException] when n < 0.\n */\npublic actual fun CharSequence.repeat(n: Int): String {\n require(n >= 0) { \"Count 'n' must be non-negative, but was $n.\" }\n return when (n) {\n 0 -> \"\"\n 1 -> this.toString()\n else -> {\n var result = \"\"\n if (!isEmpty()) {\n var s = this.toString()\n var count = n\n while (true) {\n if ((count and 1) == 1) {\n result += s\n }\n count = count ushr 1\n if

(count == 0) {\n break\n }\n s += s\n }\n }\n return result\n }\n }\n}\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) \"gi\" else \"g\"), Regex.escapeReplacement(newValue))\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) \"gi\" else \"g\"), newChar.toString())\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replaceFirst(oldValue: String, newValue: String, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldValue), if (ignoreCase) \"i\" else \"\"), Regex.escapeReplacement(newValue))\n\n@Suppress(\"ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS\")\npublic actual fun String.replaceFirst(oldChar: Char, newChar: Char, ignoreCase: Boolean = false): String =\n nativeReplace(RegExp(Regex.escape(oldChar.toString()), if (ignoreCase) \"i\" else \"\"), newChar.toString())\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/** Returns the negative [size] if [throwOnMalformed] is false, throws [CharacterCodingException] otherwise. */\n@OptIn(ExperimentalStdlibApi::class)\nprivate fun malformed(size: Int, index: Int, throwOnMalformed: Boolean): Int {\n if (throwOnMalformed) throw CharacterCodingException(\"Malformed sequence starting at ${index - 1}\")\n return -size\n}\n\n/**\n * Returns code point corresponding to UTF-16 surrogate pair,\n * where the first of the pair is the [high] and the second is in the [string] at the [index].\n * Returns zero if the pair is malformed and [throwOnMalformed] is false.\n *\n * @throws CharacterCodingException if the pair is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFromSurrogate(string: String, high: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (high !in 0xD800..0xDBFF || index >= endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n val low = string[index].toInt()\n if (low !in 0xDC00..0xDFFF) {\n return malformed(0, index, throwOnMalformed)\n }\n return 0x10000 + ((high and 0x3FF) shl 10) or (low and 0x3FF)\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of two bytes,\n * where the first byte of the sequence is the [byte1] and the second byte is in the [bytes] array at the [index].\n * Returns zero if the sequence is malformed and [throwOnMalformed] is false.\n *\n * @throws CharacterCodingException if the sequence of two bytes is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFrom2(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (byte1 and 0x1E == 0 || index >= endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n val byte2 = bytes[index].toInt()\n if (byte2 and 0xC0 != 0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n return (byte1 shl 6) xor byte2 xor 0xF80\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of three bytes,\n * where the first byte of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n * Returns a non-positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is false.\n *\n * @throws CharacterCodingException if the sequence of three bytes is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFrom3(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (index >= endIndex) {\n return malformed(0, index, throwOnMalformed)\n }\n\n val byte2 = bytes[index].toInt()\n if (byte1 and 0xF == 0) {\n if (byte2 and 0xE0 != 0xA0) {\n // Non-shortest form\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte1 and 0xF == 0xD) {\n if (byte2 and 0xE0 != 0x80) {\n // Surrogate code point\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte2 and 0xC0 != 0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n\n if (index + 1 == endIndex) {\n return malformed(1, index, throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and 0xC0 != 0x80) {\n return malformed(1, index, throwOnMalformed)\n }\n\n return (byte1 shl 12) xor (byte2 shl 6) xor byte3 xor -0x1E080\n}\n\n/**\n * Returns code point corresponding to UTF-8 sequence of four bytes,\n * where the first byte of the sequence is the [byte1] and the others are in the [bytes] array starting from the [index].\n *

Returns a non-positive value indicating number of bytes from [bytes] included in malformed sequence\n * if the sequence is malformed and [throwOnMalformed] is false.\n *\n * @throws CharacterCodingException if the sequence of four bytes is malformed and [throwOnMalformed] is true.\n */\nprivate fun codePointFrom4(bytes: ByteArray, byte1: Int, index: Int, endIndex: Int, throwOnMalformed: Boolean): Int {\n if (index >= endIndex) {\n malformed(0, index, throwOnMalformed)\n }\n\n val byte2 = bytes[index].toInt()\n if (byte1 and 0xF == 0x0) {\n if (byte2 and 0xF0 <= 0x80) {\n // Non-shortest form\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte1 and 0xF == 0x4) {\n if (byte2 and 0xF0 != 0x80) {\n // Out of Unicode code points domain (larger than U+10FFFF)\n return malformed(0, index, throwOnMalformed)\n }\n } else if (byte1 and 0xF > 0x4) {\n return malformed(0, index, throwOnMalformed)\n } else if (byte2 and 0xC0 != 0x80) {\n return malformed(0, index, throwOnMalformed)\n }\n\n if (index + 1 == endIndex) {\n return malformed(1, index, throwOnMalformed)\n }\n val byte3 = bytes[index + 1].toInt()\n if (byte3 and 0xC0 != 0x80) {\n return malformed(1, index, throwOnMalformed)\n }\n\n if (index + 2 == endIndex) {\n return malformed(2, index, throwOnMalformed)\n }\n val byte4 = bytes[index + 2].toInt()\n if (byte4 and 0xC0 != 0x80) {\n return malformed(2, index, throwOnMalformed)\n }\n return (byte1 shl 18) xor (byte2 shl 12) xor (byte3 shl 6) xor byte4 xor 0x381F80\n}\n\n/**\n * Maximum number of bytes needed to encode a single char.\n *\n * Code points in `0..0x7F` are encoded in a single byte.\n * Code points in `0x80..0x7FF` are encoded in two bytes.\n * Code points in `0x800..0xD7FF` or in `0xE000..0xFFFF` are encoded in three bytes.\n * Surrogate code points in `0xD800..0xDFFF` are not Unicode scalar values, therefore aren't encoded.\n * Code points in `0x10000..0x10FFFF` are represented by a pair of surrogate `Char`s and are encoded in four bytes.\n */\nprivate const val MAX_BYTES_PER_CHAR = 3\n\n/**\n * The byte sequence a malformed UTF-16 char sequence is replaced by.\n */\nprivate val REPLACEMENT_BYTE_SEQUENCE: ByteArray = byteArrayOf(0xEF.toByte(), 0xBF.toByte(), 0xBD.toByte())\n\n/**\n * Encodes the [string] using UTF-8 and returns the resulting [ByteArray].\n *\n * @param string the string to encode.\n * @param startIndex the start offset (inclusive) of the substring to encode.\n * @param endIndex the end offset (exclusive) of the substring to encode.\n * @param throwOnMalformed whether to throw on malformed char sequence or replace by the [REPLACEMENT_BYTE_SEQUENCE].\n *\n * @throws CharacterCodingException if the char sequence is malformed and [throwOnMalformed] is true.\n */\ninternal fun encodeUtf8(string: String, startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): ByteArray {\n require(startIndex >= 0 && endIndex <= string.length && startIndex <= endIndex)\n\n val bytes = ByteArray((endIndex - startIndex) * MAX_BYTES_PER_CHAR)\n var byteIndex = 0\n var charIndex = startIndex\n\n while (charIndex < endIndex) {\n val code = string[charIndex++].toInt()\n when {\n code < 0x80 ->\n bytes[byteIndex++] = code.toByte()\n code < 0x800 -> {\n bytes[byteIndex++] = ((code shr 6) or 0xC0).toByte()\n bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n }\n code < 0xD800 || code >= 0xE000 -> {\n bytes[byteIndex++] = ((code shr 12) or 0xE0).toByte()\n bytes[byteIndex++] = (((code shr 6) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = ((code and 0x3F) or 0x80).toByte()\n }\n else -> { // Surrogate char value\n val codePoint = codePointFromSurrogate(string, code, charIndex, endIndex, throwOnMalformed)\n if (codePoint <= 0) {\n bytes[byteIndex++] = REPLACEMENT_BYTE_SEQUENCE[0]\n bytes[byteIndex++] = REPLACEMENT_BYTE_SEQUENCE[1]\n bytes[byteIndex++] = REPLACEMENT_BYTE_SEQUENCE[2]\n } else {\n bytes[byteIndex++] = ((codePoint shr 18) or 0xF0).toByte()\n bytes[byteIndex++] = (((codePoint shr 12) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = (((codePoint shr 6) and 0x3F) or 0x80).toByte()\n bytes[byteIndex++] = ((codePoint and 0x3F) or 0x80).toByte()\n charIndex++\n }\n }\n }\n }\n\n return if (bytes.size == byteIndex) bytes else bytes.copyOf(byteIndex)\n}\n\n/**\n * The character a malformed UTF-8 byte sequence is replaced by.\n */\nprivate const val REPLACEMENT_CHAR = '\\uFFFD'\n\n/**\n * Decodes the UTF-8 [bytes] array and returns the resulting [String].\n *\n * @param bytes the byte array to decode.\n * @param startIndex the start offset (inclusive) of the array to be decoded.\n * @param endIndex the end offset

(exclusive) of the array to be encoded.\n * @param throwOnMalformed whether to throw on malformed byte sequence or replace by the [REPLACEMENT_CHAR].\n *\n * @throws CharacterCodingException if the array is malformed UTF-8 byte sequence and [throwOnMalformed] is true.\n */\ninternal fun decodeUtf8(bytes: ByteArray, startIndex: Int, endIndex: Int, throwOnMalformed: Boolean): String {\n require(startIndex >= 0 && endIndex <= bytes.size && startIndex <= endIndex)\n\n var byteIndex = startIndex\n val stringBuilder = StringBuilder()\n\n while (byteIndex < endIndex) {\n val byte = bytes[byteIndex++].toInt()\n when {\n byte >= 0 ->\n stringBuilder.append(byte.toChar())\n byte shr 5 == -2 -> {\n val code = codePointFrom2(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n byteIndex += -code\n } else {\n stringBuilder.append(code.toChar())\n byteIndex += 1\n }\n }\n byte shr 4 == -2 -> {\n val code = codePointFrom3(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n byteIndex += -code\n } else {\n stringBuilder.append(code.toChar())\n byteIndex += 2\n }\n }\n byte shr 3 == -2 -> {\n val code = codePointFrom4(bytes, byte, byteIndex, endIndex, throwOnMalformed)\n if (code <= 0) {\n stringBuilder.append(REPLACEMENT_CHAR)\n byteIndex += -code\n } else {\n val high = (code - 0x10000) shr 10 or 0xD800\n val low = (code and 0x3FF) or 0xDC00\n stringBuilder.append(high.toChar())\n stringBuilder.append(low.toChar())\n byteIndex += 3\n }\n }\n else -> {\n malformed(0, byteIndex, throwOnMalformed)\n stringBuilder.append(REPLACEMENT_CHAR)\n }\n }\n }\n\n return stringBuilder.toString()\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Returns the detailed description of this throwable with its stack trace.\n *\n * The detailed description includes:\n * - the short description (see [Throwable.toString]) of this throwable;\n * - the complete stack trace;\n * - detailed descriptions of the exceptions that were [suppressed][suppressedExceptions] in order to deliver this exception;\n * - the detailed description of each throwable in the [Throwable.cause] chain.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun Throwable.stackTraceToString(): String = ExceptionTraceBuilder().buildFor(this)\n\n/**\n * Prints the [detailed description][Throwable.stackTraceToString] of this throwable to console error output.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun Throwable.printStackTrace() {\n console.error(this.stackTraceToString())\n}\n\n/**\n * Adds the specified exception to the list of exceptions that were\n * suppressed in order to deliver this exception.\n */\n@SinceKotlin(\"1.4\")\npublic actual fun Throwable.addSuppressed(exception: Throwable) {\n if (this !== exception) {\n val suppressed = this.asDynamic()._suppressed.unsafeCast<MutableList<Throwable>?>()\n if (suppressed == null) {\n this.asDynamic()._suppressed = mutableListOf(exception)\n } else {\n suppressed.add(exception)\n }\n }\n}\n\n/**\n * Returns a list of all exceptions that were suppressed in order to deliver this exception.\n */\n@SinceKotlin(\"1.4\")\npublic actual val Throwable.suppressedExceptions: List<Throwable>\n get() {\n return this.asDynamic()._suppressed?.unsafeCast<List<Throwable>>() ?: emptyList()\n }\n\n\nprivate class ExceptionTraceBuilder {\n private val target = StringBuilder()\n private val visited = arrayOf<Throwable>()\n private var topStack: String = \"\"\n private var topStackStart: Int = 0\n\n fun buildFor(exception: Throwable): String {\n exception.dumpFullTrace(\"\", \"\")\n return target.toString()\n }\n\n private fun hasSeen(exception: Throwable): Boolean = visited.any { it === exception }\n\n private fun Throwable.dumpFullTrace(indent: String, qualifier: String) {\n this.dumpSelfTrace(indent, qualifier) || return\n\n var cause = this.cause\n while (cause != null) {\n cause.dumpSelfTrace(indent, \"Caused by: \") || return\n cause = cause.cause\n }\n }\n\n private fun Throwable.dumpSelfTrace(indent: String, qualifier: String): Boolean {\n target.append(indent).append(qualifier)\n val shortInfo = this.toString()\n if (hasSeen(this)) {\n target.append(\"[CIRCULAR REFERENCE, SEE ABOVE: \").append(shortInfo).append(\"]\\n\")\n return false\n }\n visited.asDynamic().push(this)\n\n var stack = this.asDynamic().stack as String?\n if (stack != null) {\n val stackStart =

```
stack.indexOf(shortInfo).let { if (it < 0) 0 else it + shortInfo.length }\n            if (stackStart == 0)
target.append(shortInfo).append(\"\\n\")\n            if (topStack.isEmpty()) {\n                topStack = stack\n
topStackStart = stackStart\n            } else {\n                stack = dropCommonFrames(stack, stackStart)\n            }\n
    if (indent.isNotEmpty()) {\n                // indent stack, but avoid indenting exception message lines\n                val
messageLines = if (stackStart == 0) 0 else 1 + shortInfo.count { c -> c == '\\n' }\n
stack.lineSequence().forEachIndexed { index: Int, line: String ->\n                if (index >= messageLines)
target.append(indent)\n                target.append(line).append(\"\\n\")\n            }\n        } else {\n
target.append(stack).append(\"\\n\")\n        }\n    } else {\n        target.append(shortInfo).append(\"\\n\")\n
}\n\n    val suppressed = suppressedExceptions\n    if (suppressed.isNotEmpty()) {\n        val
suppressedIndent = indent + \"    \"\n        for (s in suppressed) {\n            s.dumpFullTrace(suppressedIndent,
\"Suppressed: \")\n        }\n    }\n    return true\n  }\n\n  private fun dropCommonFrames(stack: String,
stackStart: Int): String {\n    var commonFrames: Int = 0\n    var lastBreak: Int = 0\n    var preLastBreak: Int
= 0\n    for (pos in 0 until minOf(topStack.length - topStackStart, stack.length - stackStart)) {\n        val c =
stack[stack.lastIndex - pos]\n        if (c != topStack[topStack.lastIndex - pos]) break\n        if (c == '\\n') {\n
    commonFrames += 1\n            preLastBreak = lastBreak\n            lastBreak = pos\n        }\n    }\n
if (commonFrames <= 1) return stack\n    while (preLastBreak > 0 && stack[stack.lastIndex - (preLastBreak - 1)]
== ' ')\n        preLastBreak -= 1\n\n    // leave 1 common frame to ease matching with the top exception stack\n
  return stack.dropLast(preLastBreak) + \"... and ${commonFrames - 1} more common stack frames skipped\"\n
}\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this
source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.time\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic actual enum class
DurationUnit(internal val scale: Double) {\n    /**\n     * Time unit representing one nanosecond, which is 1/1000 of
a microsecond.\n     */\n    NANOSECONDS(1e0),\n    /**\n     * Time unit representing one microsecond, which is
1/1000 of a millisecond.\n     */\n    MICROSECONDS(1e3),\n    /**\n     * Time unit representing one millisecond,
which is 1/1000 of a second.\n     */\n    MILLISECONDS(1e6),\n    /**\n     * Time unit representing one second.\n
  */\n    SECONDS(1e9),\n    /**\n     * Time unit representing one minute.\n     */\n    MINUTES(60e9),\n    /**\n
* Time unit representing one hour.\n     */\n    HOURS(3600e9),\n    /**\n     * Time unit representing one day,
which is always equal to 24 hours.\n     */\n
DAYS(86400e9);\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal actual fun
convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double {\n    val
sourceCompareTarget = sourceUnit.scale.compareTo(targetUnit.scale)\n    return when {\n
sourceCompareTarget > 0 -> value * (sourceUnit.scale / targetUnit.scale)\n        sourceCompareTarget < 0 -> value /
(targetUnit.scale / sourceUnit.scale)\n        else -> value\n    }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o.
and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport
org.w3c.performance.GlobalPerformance\nimport
org.w3c.performance.Performance\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal actual object
MonotonicTimeSource : TimeSource {\n\n    private val actualSource: TimeSource = run {\n        val isNode:
Boolean = js(\"typeof process !== 'undefined' && process.versions && !!process.versions.node\")\n\n        if
(isNode)\n            HrTimeSource(js(\"process\").unsafeCast<Process>())\n        else\n
js(\"self\").unsafeCast<GlobalPerformance?>()?.performance?.let(::PerformanceTimeSource)\n                ?:
DateNowTimeSource\n\n    }\n\n    override fun markNow(): TimeMark = actualSource.markNow()\n}\n\ninternal
external interface Process {\n    fun hrtime(time: Array<Double> = definedExternally):
Array<Double>\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal class HrTimeSource(val process:
Process) : TimeSource {\n\n    override fun markNow(): TimeMark = object : TimeMark() {\n        val startedAt =
process.hrtime()\n        override fun elapsedNow(): Duration =\n            process.hrtime(startedAt).let { (seconds,
nanos) -> seconds.seconds + nanos.nanoseconds }\n    }\n\n    override fun toString(): String =
\"TimeSource(process.hrtime())\"\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal class
```

PerformanceTimeSource(val performance: Performance) : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {\n   override fun read(): Double = performance.now()\n   override fun toString(): String = \"TimeSource(self.performance.now())\"\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal object DateNowTimeSource : AbstractDoubleTimeSource(unit = DurationUnit.MILLISECONDS) {\n   override fun read(): Double = kotlin.js.Date.now()\n   override fun toString(): String = \"TimeSource(Date.now())\"\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.js.json\nimport kotlin.math.*\n\ninternal actual fun formatToExactDecimals(value: Double, decimals: Int): String {\n   val rounded = if (decimals == 0) {\n   value\n   } else {\n   val pow = 10.0.pow(decimals)\n   @Suppress(\"DEPRECATION\", \"DEPRECATION_ERROR\")\n   kotlin.js.Math.round(abs(value) * pow) / pow * sign(value)\n   }\n   return rounded.asDynamic().toFixed(decimals).unsafeCast<String>()\n}\n\ninternal actual fun formatUpToDecimals(value: Double, decimals: Int): String {\n   return value.asDynamic().toLocaleString(\"en-us\", json(\"maximumFractionDigits\" to decimals)).unsafeCast<String>()\n}\n\ninternal actual fun formatScientific(value: Double): String {\n   return value.asDynamic().toExponential(2).unsafeCast<String>()\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\nimport kotlin.contracts.*\n\n/**\n * Creates a new element with the specified [name].\n *\n * The element is initialized with the specified [init] function.\n */\n@SinceKotlin(\"1.4\")\npublic fun Document.createElement(name: String, init: Element.() -> Unit): Element {\n   contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }\n   return createElement(name).apply(init)\n}\n\n/**\n * Appends a newly created element with the specified [name] to this element.\n *\n * The element is initialized with the specified [init] function.\n */\n@SinceKotlin(\"1.4\")\npublic fun Element.appendElement(name: String, init: Element.() -> Unit): Element {\n   contract { callsInPlace(init, InvocationKind.EXACTLY_ONCE) }\n   return ownerDocument!!.createElement(name, init).also { appendChild(it) }\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/** Returns true if the element has the given CSS class style in its 'class' attribute */\n@SinceKotlin(\"1.4\")\nfun Element.hasClass(cssClass: String): Boolean = className.matches(\"\"\"(^|.*\\s+)$cssClass($|\\s+.*)\"\"\".toRegex())\n\n/**\n * Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element\n *\n * @return true if at least one class has been added\n */\n@SinceKotlin(\"1.4\")\nfun Element.addClass(vararg cssClasses: String): Boolean {\n   val missingClasses = cssClasses.filterNot { hasClass(it) }\n   if (missingClasses.isNotEmpty()) {\n   val presentClasses = className.trim()\n   className = buildString {\n   append(presentClasses)\n   if (!presentClasses.isEmpty()) {\n   append(\" \")\n   }\n   missingClasses.joinTo(this, \" \")\n   }\n   return true\n   }\n\n   return false\n}\n\n/**\n * Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n *\n * @return true if at least one class has been removed\n */\n@SinceKotlin(\"1.4\")\nfun Element.removeClass(vararg cssClasses: String): Boolean {\n   if (cssClasses.any { hasClass(it) }) {\n   val toBeRemoved = cssClasses.toSet()\n   className = className.trim().split(\"\\\\s+\".toRegex()).filter { it !in toBeRemoved }.joinToString(\" \")\n   return true\n   }\n\n   return false\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\n/**\n * Converts the string into a regular expression [Regex] with the default options.\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(): Regex = Regex(this)\n\n/**\n * Converts the string into a regular expression [Regex] with the specified single [option].\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n\n/**\n * Converts the string into a

regular expression [Regex] with the specified set of [options].\n */\n@kotlin.internal.InlineOnly\npublic inline fun String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\nimport kotlin.contracts.*\n\n/**\n * A mutable sequence of characters.\n *\n * String builder can be used to efficiently perform multiple string manipulation operations.\n */\nexpect class StringBuilder : Appendable, CharSequence {\n   /** Constructs an empty string builder. */\n   constructor()\n\n   /** Constructs an empty string builder with the specified initial [capacity]. */\n   constructor(capacity: Int)\n\n   /** Constructs a string builder that contains the same characters as the specified [content] char sequence. */\n   constructor(content: CharSequence)\n\n   /** Constructs a string builder that contains the same characters as the specified [content] string. */\n   @SinceKotlin(\"1.3\")\n//   @ExperimentalStdlibApi\n   constructor(content: String)\n\n   override val length: Int\n\n   override operator fun get(index: Int): Char\n\n   override fun subSequence(startIndex: Int, endIndex: Int): CharSequence\n\n   override fun append(value: Char): StringBuilder\n   override fun append(value: CharSequence?): StringBuilder\n   override fun append(value: CharSequence?, startIndex: Int, endIndex: Int): StringBuilder\n\n   /**\n   * Reverses the contents of this string builder and returns this instance.\n   *\n   * Surrogate pairs included in this string builder are treated as single characters.\n   * Therefore, the order of the high-low surrogates is never reversed.\n   *\n   * Note that the reverse operation may produce new surrogate pairs that were unpaired low-surrogates and high-surrogates before the operation.\n   * For example, reversing `\"\\uDC00\\uD800\"` produces `\"\\uD800\\uDC00\"` which is a valid surrogate pair.\n   */\n   fun reverse(): StringBuilder\n\n   /**\n   * Appends the string representation of the specified object [value] to this string builder and returns this instance.\n   *\n   * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n   * and then that string was appended to this string builder.\n   */\n   fun append(value: Any?): StringBuilder\n\n   /**\n   * Appends the string representation of the specified boolean [value] to this string builder and returns this instance.\n   *\n   * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n   * and then that string was appended to this string builder.\n   */\n   @SinceKotlin(\"1.3\")\n   fun append(value: Boolean): StringBuilder\n\n   /**\n   * Appends characters in the specified character array [value] to this string builder and returns this instance.\n   *\n   * Characters are appended in order, starting at the index 0.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun append(value: CharArray): StringBuilder\n\n   /**\n   * Appends the specified string [value] to this string builder and returns this instance.\n   *\n   * If [value] is `null`, then the four characters `\"null\"` are appended.\n   */\n   @SinceKotlin(\"1.3\")\n   fun append(value: String?): StringBuilder\n\n   /**\n   * Returns the current capacity of this string builder.\n   *\n   * The capacity is the maximum length this string builder can have before an allocation occurs.\n   */\n   @SinceKotlin(\"1.3\")\n//   @ExperimentalStdlibApi\n   @Deprecated(\"Obtaining StringBuilder capacity is not supported in JS and common code.\", level = DeprecationLevel.ERROR)\n   fun capacity(): Int\n\n   /**\n   * Ensures that the capacity of this string builder is at least equal to the specified [minimumCapacity].\n   *\n   * If the current capacity is less than the [minimumCapacity], a new backing storage is allocated with greater capacity.\n   * Otherwise, this method takes no action and simply returns.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun ensureCapacity(minimumCapacity: Int)\n\n   /**\n   * Returns the index within this string builder of the first occurrence of the specified [string].\n   *\n   * Returns `-1` if the specified [string] does not occur in this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun indexOf(string: String): Int\n\n   /**\n   * Returns the index within this string builder of the first occurrence of the specified [string],\n   * starting at the specified [startIndex].\n   *\n   * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun indexOf(string: String, startIndex: Int): Int\n\n   /**\n   * Returns the index within this string builder of the last occurrence of the specified [string].\n   * The last occurrence of empty string `\"\"` is considered to be at the index

equal to `this.length`.\n   *\n   * Returns `-1` if the specified [string] does not occur in this string builder.\n   */\n @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun lastIndexOf(string: String): Int\n\n   /**\n   * Returns the index within this string builder of the last occurrence of the specified [string],\n   * starting from the specified [startIndex] toward the beginning.\n   *\n   * Returns `-1` if the specified [string] does not occur in this string builder starting at the specified [startIndex].\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun lastIndexOf(string: String, startIndex: Int): Int\n\n   /**\n   * Inserts the string representation of the specified boolean [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n   * and then that string was inserted into this string builder at the specified [index].\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: Boolean): StringBuilder\n\n   /**\n   * Inserts the specified character [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: Char): StringBuilder\n\n   /**\n   * Inserts characters in the specified character array [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * The inserted characters go in same order as in the [value] character array, starting at [index].\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: CharArray): StringBuilder\n\n   /**\n   * Inserts characters in the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n   *\n   * @param index the position in this string builder to insert at.\n   * @param value the character sequence from which characters are inserted. If [value] is `null`, then the four characters `\"null\"` are inserted.\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: CharSequence?): StringBuilder\n\n   /**\n   * Inserts the string representation of the specified object [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * The overall effect is exactly as if the [value] were converted to a string by the `value.toString()` method,\n   * and then that string was inserted into this string builder at the specified [index].\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: Any?): StringBuilder\n\n   /**\n   * Inserts the string [value] into this string builder at the specified [index] and returns this instance.\n   *\n   * If [value] is `null`, then the four characters `\"null\"` are inserted.\n   *\n   * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun insert(index: Int, value: String?): StringBuilder\n\n   /**\n   * Sets the length of this string builder to the specified [newLength].\n   *\n   * If the [newLength] is less than the current length, it is changed to the specified [newLength].\n   * Otherwise, null characters '\\u0000' are appended to this string builder until its length is less than the [newLength].\n   *\n   * Note that in Kotlin/JS [set] operator function has non-constant execution time complexity.\n   * Therefore, increasing length of this string builder and then updating each character by index may slow down your program.\n   *\n   * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [newLength] is less than zero.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun setLength(newLength: Int)\n\n   /**\n   * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [length] (exclusive).\n   *\n   * @throws IndexOutOfBoundsException if [startIndex] is less than zero or greater than the length of this string builder.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun substring(startIndex: Int): String\n\n   /**\n   * Returns a new [String] that contains characters in this string builder at [startIndex] (inclusive) and up to the [endIndex]

(exclusive).\n   *\n   * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n   */\n @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun substring(startIndex: Int, endIndex: Int): String\n\n   /**\n   * Attempts to reduce storage used for this string builder.\n   *\n   * If the backing storage of this string builder is larger than necessary to hold its current contents,\n   * then it may be resized to become more space efficient.\n   * Calling this method may, but is not required to, affect the value of the [capacity] property.\n   */\n   @SinceKotlin(\"1.4\")\n   @WasExperimental(ExperimentalStdlibApi::class)\n   fun trimToSize()\n}\n\n\n/**\n * Clears the content of this string builder making it empty and returns this instance.\n *\n * @sample samples.text.Strings.clearStringBuilder\n */\n@SinceKotlin(\"1.3\")\npublic expect fun StringBuilder.clear(): StringBuilder\n\n/**\n * Sets the character at the specified [index] to the specified [value].\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect operator fun StringBuilder.set(index: Int, value: Char)\n\n/**\n * Replaces characters in the specified range of this string builder with characters in the specified string [value] and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to replace.\n * @param endIndex the end (exclusive) of the range to replace.\n * @param value the string to replace with.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] if [startIndex] is less than zero, greater than the length of this string builder, or `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.setRange(startIndex: Int, endIndex: Int, value: String): StringBuilder\n\n/**\n * Removes the character at the specified [index] from this string builder and returns this instance.\n *\n * If the `Char` at the specified [index] is part of a supplementary code point, this method does not remove the entire supplementary character.\n *\n * @param index the index of `Char` to remove.\n *\n * @throws IndexOutOfBoundsException if [index] is out of bounds of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.deleteAt(index: Int): StringBuilder\n\n/**\n * Removes characters in the specified range from this string builder and returns this instance.\n *\n * @param startIndex the beginning (inclusive) of the range to remove.\n * @param endIndex the end (exclusive) of the range to remove.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.deleteRange(startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Copies characters from this string builder into the [destination] character array.\n *\n * @param destination the array to copy to.\n * @param destinationOffset the position in the array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the range to copy, 0 by default.\n * @param endIndex the end (exclusive) of the range to copy, length of this string builder by default.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this string builder indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.toCharArray(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = this.length)\n\n/**\n * Appends characters in a subarray of the specified character array [value] to this string builder and returns this instance.\n *\n * Characters are appended in order, starting at specified [startIndex].\n *\n * @param value the array from which characters are appended.\n * @param startIndex the beginning (inclusive) of the subarray to append.\n * @param endIndex the end (exclusive) of the subarray to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.appendRange(value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Appends a

subsequence of the specified character sequence [value] to this string builder and returns this instance.\n *\n * @param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Inserts characters in a subarray of the specified character array [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in same order as in the [value] array, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value the array from which characters are inserted.\n * @param startIndex the beginning (inclusive) of the subarray to insert.\n * @param endIndex the end (exclusive) of the subarray to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.insertRange(index: Int, value: CharArray, startIndex: Int, endIndex: Int): StringBuilder\n\n/**\n * Inserts characters in a subsequence of the specified character sequence [value] into this string builder at the specified [index] and returns this instance.\n *\n * The inserted characters go in the same order as in the [value] character sequence, starting at [index].\n *\n * @param index the position in this string builder to insert at.\n * @param value the character sequence from which a subsequence is inserted.\n * @param startIndex the beginning (inclusive) of the subsequence to insert.\n * @param endIndex the end (exclusive) of the subsequence to insert.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException if [index] is less than zero or greater than the length of this string builder.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun StringBuilder.insertRange(index: Int, value: CharSequence, startIndex: Int, endIndex: Int): StringBuilder\n\n@Suppress(\"EXTENSION_SHADOWED_BY_MEMBER\")\n@Deprecated(\"Use append(value: Any?) instead\", ReplaceWith(\"append(value = obj)\"), DeprecationLevel.WARNING)\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.append(obj: Any?): StringBuilder = this.append(obj)\n\n/**\n * Builds new string by populating newly created [StringBuilder] using provided [builderAction]\n * and then converting it to [String].\n */\n@kotlin.internal.InlineOnly\npublic inline fun buildString(builderAction: StringBuilder.() -> Unit): String {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return StringBuilder().apply(builderAction).toString()\n}\n\n/**\n * Builds new string by populating newly created [StringBuilder] initialized with the given [capacity]\n * using provided [builderAction] and then converting it to [String].\n */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int, builderAction: StringBuilder.() -> Unit): String {\n   contract { callsInPlace(builderAction, InvocationKind.EXACTLY_ONCE) }\n   return StringBuilder(capacity).apply(builderAction).toString()\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n */\npublic fun StringBuilder.append(vararg value: String?): StringBuilder {\n   for (item in value)\n   append(item)\n   return this\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n */\npublic fun StringBuilder.append(vararg value: Any?): StringBuilder {\n   for (item in value)\n   append(item)\n   return this\n}\n\n/** Appends a line feed character (`\\n`) to this StringBuilder. */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(): StringBuilder = append('\\n')\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`). */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: CharSequence?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`). */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun

StringBuilder.appendLine(value: String?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`).
*/\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Any?): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`). */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: CharArray): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`).
*/\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Char): StringBuilder = append(value).appendLine()\n\n/** Appends [value] to this [StringBuilder], followed by a line feed character (`\\n`). */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun StringBuilder.appendLine(value: Boolean): StringBuilder = append(value).appendLine()\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.\n */\n@SinceKotlin(\"1.4\")\npublic val Node.isText: Boolean\n get() = nodeType == Node.TEXT_NODE || nodeType == Node.CDATA_SECTION_NODE\n\n/**\n * Gets a value indicating whether this node is an [Element].\n */\n@SinceKotlin(\"1.4\")\npublic val Node.isElement: Boolean\n get() = nodeType == Node.ELEMENT_NODE\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlinx.dom\n\nimport org.w3c.dom.*\n\n/** Removes all the children from this node. */\n@SinceKotlin(\"1.4\")\npublic fun Node.clear() {\n while (hasChildNodes()) {\n removeChild(firstChild!!)\n }\n}\n\n/**\n * Creates text node and append it to the element.\n *\n * @return this element\n */\n@SinceKotlin(\"1.4\")\nfun Element.appendText(text: String): Element {\n appendChild(ownerDocument!!.createTextNode(text))\n return this\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\n@Deprecated(\"Use UnionMessagePortOrWindowProxy instead.\", ReplaceWith(\"UnionMessagePortOrWindowProxy\"))\ntypealias UnionMessagePortOrWindow = UnionMessagePortOrWindowProxy\n\n@Deprecated(\"Use `as` instead.\", ReplaceWith(\"`as`\"))\nvar HTMLLinkElement.as_\n get() = `as`\n set(value) {\n `as` = value\n }\n\n@Deprecated(\"Use `is` instead.\", ReplaceWith(\"`is`\"))\nvar ElementCreationOptions.is_\n get() = `is`\n set(value) {\n `is` = value\n }","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.khronos.webgl\n\nimport kotlin.js.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface WebGLContextAttributes {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var depth: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var stencil: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var antialias: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var premultipliedAlpha: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var preserveDrawingBuffer: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var preferLowPowerToHighPerformance: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var failIfMajorPerformanceCaveat: Boolean? /* = false */\n get() = definedExternally\n

```
  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
WebGLContextAttributes(alpha: Boolean? = true, depth: Boolean? = true, stencil: Boolean? = false, antialias:
Boolean? = true, premultipliedAlpha: Boolean? = true, preserveDrawingBuffer: Boolean? = false,
preferLowPowerToHighPerformance: Boolean? = false, failIfMajorPerformanceCaveat: Boolean? = false):
WebGLContextAttributes {\n    val o = js(\"({})\")\n    o[\"alpha\"] = alpha\n    o[\"depth\"] = depth\n    o[\"stencil\"]
= stencil\n    o[\"antialias\"] = antialias\n    o[\"premultipliedAlpha\"] = premultipliedAlpha\n
o[\"preserveDrawingBuffer\"] = preserveDrawingBuffer\n    o[\"preferLowPowerToHighPerformance\"] =
preferLowPowerToHighPerformance\n    o[\"failIfMajorPerformanceCaveat\"] = failIfMajorPerformanceCaveat\n
return o\n}\n\npublic external abstract class WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\npublic external
abstract class WebGLBuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\npublic
external abstract class WebGLFramebuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\npublic external
abstract class WebGLProgram : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\npublic
external abstract class WebGLRenderbuffer : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\npublic external
abstract class WebGLShader : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\npublic external
abstract class WebGLTexture : WebGLObject\n\n/**\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n
*/\npublic external abstract class WebGLUniformLocation\n\n/**\n * Exposes the JavaScript
[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin\n */\npublic
external abstract class WebGLActiveInfo {\n    open val size: Int\n    open val type: Int\n    open val name:
String\n}\n\n/**\n * Exposes the JavaScript
[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to
Kotlin\n */\npublic external abstract class WebGLShaderPrecisionFormat {\n    open val rangeMin: Int\n    open val
rangeMax: Int\n    open val precision:
Int\n}\n\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
WebGLRenderingContextBase {\n    val canvas: HTMLCanvasElement\n    val drawingBufferWidth: Int\n    val
drawingBufferHeight: Int\n    fun getContextAttributes(): WebGLContextAttributes?\n    fun isContextLost():
Boolean\n    fun getSupportedExtensions(): Array<String>?\n    fun getExtension(name: String): dynamic\n    fun
activeTexture(texture: Int)\n    fun attachShader(program: WebGLProgram?, shader: WebGLShader?)\n    fun
bindAttribLocation(program: WebGLProgram?, index: Int, name: String)\n    fun bindBuffer(target: Int, buffer:
WebGLBuffer?)\n    fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?)\n    fun
bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?)\n    fun bindTexture(target: Int, texture:
WebGLTexture?)\n    fun blendColor(red: Float, green: Float, blue: Float, alpha: Float)\n    fun
blendEquation(mode: Int)\n    fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int)\n    fun
blendFunc(sfactor: Int, dfactor: Int)\n    fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha:
Int)\n    fun bufferData(target: Int, size: Int, usage: Int)\n    fun bufferData(target: Int, data: BufferDataSource?,
usage: Int)\n    fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?)\n    fun
checkFramebufferStatus(target: Int): Int\n    fun clear(mask: Int)\n    fun clearColor(red: Float, green: Float, blue:
Float, alpha: Float)\n    fun clearDepth(depth: Float)\n    fun clearStencil(s: Int)\n    fun colorMask(red: Boolean,
green: Boolean, blue: Boolean, alpha: Boolean)\n    fun compileShader(shader: WebGLShader?)\n    fun
compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data:
ArrayBufferView)\n    fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int,
height: Int, format: Int, data: ArrayBufferView)\n    fun copyTexImage2D(target: Int, level: Int, internalformat: Int,
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x: Int, y: Int, width: Int, height: Int, border: Int)\n fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, x: Int, y: Int, width: Int, height: Int)\n fun createBuffer(): WebGLBuffer?\n fun createFramebuffer(): WebGLFramebuffer?\n fun createProgram(): WebGLProgram?\n fun createRenderbuffer(): WebGLRenderbuffer?\n fun createShader(type: Int): WebGLShader?\n fun createTexture(): WebGLTexture?\n fun cullFace(mode: Int)\n fun deleteBuffer(buffer: WebGLBuffer?)\n fun deleteFramebuffer(framebuffer: WebGLFramebuffer?)\n fun deleteProgram(program: WebGLProgram?)\n fun deleteRenderbuffer(renderbuffer: WebGLRenderbuffer?)\n fun deleteShader(shader: WebGLShader?)\n fun deleteTexture(texture: WebGLTexture?)\n fun depthFunc(func: Int)\n fun depthMask(flag: Boolean)\n fun depthRange(zNear: Float, zFar: Float)\n fun detachShader(program: WebGLProgram?, shader: WebGLShader?)\n fun disable(cap: Int)\n fun disableVertexAttribArray(index: Int)\n fun drawArrays(mode: Int, first: Int, count: Int)\n fun drawElements(mode: Int, count: Int, type: Int, offset: Int)\n fun enable(cap: Int)\n fun enableVertexAttribArray(index: Int)\n fun finish()\n fun flush()\n fun framebufferRenderbuffer(target: Int, attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?)\n fun framebufferTexture2D(target: Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int)\n fun frontFace(mode: Int)\n fun generateMipmap(target: Int)\n fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n fun getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n fun getAttribLocation(program: WebGLProgram?, name: String): Int\n fun getBufferParameter(target: Int, pname: Int): Any?\n fun getParameter(pname: Int): Any?\n fun getError(): Int\n fun getFramebufferAttachmentParameter(target: Int, attachment: Int, pname: Int): Any?\n fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n fun getProgramInfoLog(program: WebGLProgram?): String?\n fun getRenderbufferParameter(target: Int, pname: Int): Any?\n fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n fun getShaderPrecisionFormat(shadertype: Int, precisiontype: Int): WebGLShaderPrecisionFormat?\n fun getShaderInfoLog(shader: WebGLShader?): String?\n fun getShaderSource(shader: WebGLShader?): String?\n fun getTexParameter(target: Int, pname: Int): Any?\n fun getUniform(program: WebGLProgram?, location: WebGLUniformLocation?): Any?\n fun getUniformLocation(program: WebGLProgram?, name: String): WebGLUniformLocation?\n fun getVertexAttrib(index: Int, pname: Int): Any?\n fun getVertexAttribOffset(index: Int, pname: Int): Int\n fun hint(target: Int, mode: Int)\n fun isBuffer(buffer: WebGLBuffer?): Boolean\n fun isEnabled(cap: Int): Boolean\n fun isFramebuffer(framebuffer: WebGLFramebuffer?): Boolean\n fun isProgram(program: WebGLProgram?): Boolean\n fun isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n fun isShader(shader: WebGLShader?): Boolean\n fun isTexture(texture: WebGLTexture?): Boolean\n fun lineWidth(width: Float)\n fun linkProgram(program: WebGLProgram?)\n fun pixelStorei(pname: Int, param: Int)\n fun polygonOffset(factor: Float, units: Float)\n fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun renderbufferStorage(target: Int, internalformat: Int, width: Int, height: Int)\n fun sampleCoverage(value: Float, invert: Boolean)\n fun scissor(x: Int, y: Int, width: Int, height: Int)\n fun shaderSource(shader: WebGLShader?, source: String)\n fun stencilFunc(func: Int, ref: Int, mask: Int)\n fun stencilFuncSeparate(face: Int, func: Int, ref: Int, mask: Int)\n fun stencilMask(mask: Int)\n fun stencilMaskSeparate(face: Int, mask: Int)\n fun stencilOp(fail: Int, zfail: Int, zpass: Int)\n fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int)\n fun texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source: TexImageSource?)\n fun texParameterf(target: Int, pname: Int, param: Float)\n fun texParameteri(target: Int, pname: Int, param: Int)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?)\n fun texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, format: Int, type: Int, source: TexImageSource?)\n fun uniform1f(location: WebGLUniformLocation?, x: Float)\n fun uniform1fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform1fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform1i(location: WebGLUniformLocation?, x: Int)\n fun uniform1iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform1iv(location:

WebGLUniformLocation?, v: Array<Int>)\n fun uniform2f(location: WebGLUniformLocation?, x: Float, y: Float)\n fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform2fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform2i(location: WebGLUniformLocation?, x: Int, y: Int)\n fun uniform2iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform2iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniform3f(location: WebGLUniformLocation?, x: Float, y: Float, z: Float)\n fun uniform3fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform3fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z: Int)\n fun uniform3iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform3iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniform4f(location: WebGLUniformLocation?, x: Float, y: Float, z: Float, w: Float)\n fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array)\n fun uniform4fv(location: WebGLUniformLocation?, v: Array<Float>)\n fun uniform4i(location: WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int)\n fun uniform4iv(location: WebGLUniformLocation?, v: Int32Array)\n fun uniform4iv(location: WebGLUniformLocation?, v: Array<Int>)\n fun uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Float32Array)\n fun uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value: Array<Float>)\n fun useProgram(program: WebGLProgram?)\n fun validateProgram(program: WebGLProgram?)\n fun vertexAttrib1f(index: Int, x: Float)\n fun vertexAttrib1fv(index: Int, values: dynamic)\n fun vertexAttrib2f(index: Int, x: Float, y: Float)\n fun vertexAttrib2fv(index: Int, values: dynamic)\n fun vertexAttrib3f(index: Int, x: Float, y: Float, z: Float)\n fun vertexAttrib3fv(index: Int, values: dynamic)\n fun vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float)\n fun vertexAttrib4fv(index: Int, values: dynamic)\n fun vertexAttribPointer(index: Int, size: Int, type: Int, normalized: Boolean, stride: Int, offset: Int)\n fun viewport(x: Int, y: Int, width: Int, height: Int)\n\n companion object {\n val DEPTH_BUFFER_BIT: Int\n val STENCIL_BUFFER_BIT: Int\n val COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES: Int\n val LINE_LOOP: Int\n val LINE_STRIP: Int\n val TRIANGLES: Int\n val TRIANGLE_STRIP: Int\n val TRIANGLE_FAN: Int\n val ZERO: Int\n val ONE: Int\n val SRC_COLOR: Int\n val ONE_MINUS_SRC_COLOR: Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val BLEND_EQUATION_RGB: Int\n val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT: Int\n val FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val CONSTANT_COLOR: Int\n val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA: Int\n val ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val ARRAY_BUFFER: Int\n val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING: Int\n val ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val STATIC_DRAW: Int\n val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val BUFFER_USAGE: Int\n val CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW: Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val ALIASED_LINE_WIDTH_RANGE: Int\n val

CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS: Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK: Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE: Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS: Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR: Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val

TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n val CLAMP_TO_EDGE: Int\n val MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val FLOAT_VEC3: Int\n val FLOAT_VEC4: Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val INT_VEC4: Int\n val BOOL: Int\n val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n val SAMPLER_2D: Int\n val SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED: Int\n val VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n val VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n val VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING: Int\n val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER: Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16: Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL: Int\n val RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0: Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n val FRAMEBUFFER_BINDING: Int\n val RENDERBUFFER_BINDING: Int\n val MAX_RENDERBUFFER_SIZE: Int\n val INVALID_FRAMEBUFFER_OPERATION: Int\n val UNPACK_FLIP_Y_WEBGL: Int\n val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n val CONTEXT_LOST_WEBGL: Int\n val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n val BROWSER_DEFAULT_WEBGL: Int\n }\n}\n\n/**\n * Exposes the JavaScript [WebGLRenderingContext](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderingContext) to Kotlin\n */\npublic external abstract class WebGLRenderingContext : WebGLRenderingContextBase, RenderingContext {\n companion object {\n val DEPTH_BUFFER_BIT: Int\n val STENCIL_BUFFER_BIT: Int\n val COLOR_BUFFER_BIT: Int\n val POINTS: Int\n val LINES: Int\n val LINE_LOOP: Int\n val LINE_STRIP: Int\n val TRIANGLES: Int\n val TRIANGLE_STRIP: Int\n val TRIANGLE_FAN: Int\n val ZERO: Int\n val ONE: Int\n val SRC_COLOR: Int\n val ONE_MINUS_SRC_COLOR: Int\n val SRC_ALPHA: Int\n val ONE_MINUS_SRC_ALPHA: Int\n val DST_ALPHA: Int\n val ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val BLEND_EQUATION_RGB: Int\n val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT: Int\n val FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val CONSTANT_COLOR: Int\n val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA:

Int\n val ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val ARRAY_BUFFER: Int\n val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING: Int\n val ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val STATIC_DRAW: Int\n val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val BUFFER_USAGE: Int\n val CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK: Int\n val FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER: Int\n val STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW: Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS: Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK: Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE: Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS: Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR: Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n

val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n val CLAMP_TO_EDGE: Int\n val MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val FLOAT_VEC3: Int\n val FLOAT_VEC4: Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val INT_VEC4: Int\n val BOOL: Int\n val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n val SAMPLER_2D: Int\n val SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED: Int\n val VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n val VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n val VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING: Int\n val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER: Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16: Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL: Int\n val RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0: Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n val FRAMEBUFFER_BINDING: Int\n val RENDERBUFFER_BINDING: Int\n val MAX_RENDERBUFFER_SIZE: Int\n val INVALID_FRAMEBUFFER_OPERATION: Int\n val UNPACK_FLIP_Y_WEBGL: Int\n val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n val CONTEXT_LOST_WEBGL: Int\n val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n val BROWSER_DEFAULT_WEBGL: Int\n }\n}\n\n/**\n * Exposes the JavaScript [WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n */\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =

definedExternally) : Event {\n   open val statusMessage: String\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface WebGLContextEventInit : EventInit {\n   var statusMessage: String? /* = \"\" */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): WebGLContextEventInit {\n   val o = js(\"({})\")\n   o[\"statusMessage\"] = statusMessage\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n */\npublic external open class ArrayBuffer(length: Int) : BufferDataSource {\n   open val byteLength: Int\n   fun slice(begin: Int, end: Int = definedExternally): ArrayBuffer\n\n   companion object {\n   fun isView(value: Any?): Boolean\n   }\n}\n\n/**\n * Exposes the JavaScript [ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n */\npublic external interface ArrayBufferView : BufferDataSource {\n   val buffer: ArrayBuffer\n   val byteOffset: Int\n   val byteLength: Int\n}\n\n/**\n * Exposes the JavaScript [Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n */\npublic external open class Int8Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Int8Array)\n   constructor(array: Array<Byte>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Int8Array, offset: Int = definedExternally)\n   fun set(array: Array<Byte>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Int8Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int8Array.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n */\npublic external open class Uint8Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Uint8Array)\n   constructor(array: Array<Byte>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Uint8Array, offset: Int = definedExternally)\n   fun set(array: Array<Byte>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Uint8Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8Array.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin\n */\npublic external open class Uint8ClampedArray : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Uint8ClampedArray)\n   constructor(array: Array<Byte>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Uint8ClampedArray, offset: Int = definedExternally)\n   fun set(array: Array<Byte>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Uint8ClampedArray\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint8ClampedArray.set(index: Int, value: Byte) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin\n */\npublic external open class Int16Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Int16Array)\n   constructor(array: Array<Short>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Int16Array, offset: Int = definedExternally)\n   fun set(array:

Array<Short>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Int16Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.get(index: Int): Short = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin\n */\npublic external open class Uint16Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Uint16Array)\n   constructor(array: Array<Short>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Uint16Array, offset: Int = definedExternally)\n   fun set(array: Array<Short>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Uint16Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.get(index: Int): Short = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint16Array.set(index: Int, value: Short) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin\n */\npublic external open class Int32Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Int32Array)\n   constructor(array: Array<Int>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Int32Array, offset: Int = definedExternally)\n   fun set(array: Array<Int>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Int32Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.get(index: Int): Int = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Int32Array.set(index: Int, value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin\n */\npublic external open class Uint32Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Uint32Array)\n   constructor(array: Array<Int>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Uint32Array, offset: Int = definedExternally)\n   fun set(array: Array<Int>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Uint32Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint32Array.get(index: Int): Int = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Uint32Array.set(index: Int, value: Int) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin\n */\npublic external open class Float32Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Float32Array)\n   constructor(array: Array<Float>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Float32Array, offset: Int = definedExternally)\n   fun set(array: Array<Float>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Float32Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.get(index: Int): Float = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Float32Array.set(index: Int, value: Float) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin\n */\npublic external open class Float64Array : ArrayBufferView {\n   constructor(length: Int)\n   constructor(array: Float64Array)\n   constructor(array: Array<Double>)\n   constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)\n   open val length: Int\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun set(array: Float64Array, offset: Int = definedExternally)\n   fun set(array: Array<Double>, offset: Int = definedExternally)\n   fun subarray(start: Int, end: Int): Float64Array\n\n   companion object {\n   val BYTES_PER_ELEMENT: Int\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.get(index: Int): Double =

asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Float64Array.set(index: Int, value: Double) { asDynamic()[index] = value }\n\n/**\n * Exposes the JavaScript [DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin\n */\npublic external open class DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) : ArrayBufferView {\n   override val buffer: ArrayBuffer\n   override val byteOffset: Int\n   override val byteLength: Int\n   fun getInt8(byteOffset: Int): Byte\n   fun getUint8(byteOffset: Int): Byte\n   fun getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short\n   fun getUint16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short\n   fun getInt32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int\n   fun getUint32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int\n   fun getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float\n   fun getFloat64(byteOffset: Int, littleEndian: Boolean = definedExternally): Double\n   fun setInt8(byteOffset: Int, value: Byte)\n   fun setUint8(byteOffset: Int, value: Byte)\n   fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)\n   fun setUint16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally)\n   fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)\n   fun setUint32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally)\n   fun setFloat32(byteOffset: Int, value: Float, littleEndian: Boolean = definedExternally)\n   fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean = definedExternally)\n}\n\npublic external interface BufferDataSource\n\npublic external interface TexImageSource","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.clipboard\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface ClipboardEventInit : EventInit {\n   var clipboardData: DataTransfer? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ClipboardEventInit(clipboardData: DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ClipboardEventInit {\n   val o = js(\"({})\")\n   o[\"clipboardData\"] = clipboardData\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\npublic external open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n   open val clipboardData: DataTransfer?\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to Kotlin\n */\npublic external abstract class Clipboard : EventTarget {\n   fun read(): Promise<DataTransfer>\n   fun readText(): Promise<String>\n   fun write(data: DataTransfer): Promise<Unit>\n   fun writeText(data: String): Promise<Unit>\n}\n\npublic external interface ClipboardPermissionDescriptor {\n   var allowWithoutGesture: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n   val o = js(\"({})\")\n   o[\"allowWithoutGesture\"] = allowWithoutGesture\n   return o\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.css\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport

org.w3c.dom.clipboard.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class MediaList : ItemArrayLike<String> {\n open var mediaText: String\n fun appendMedium(medium: String)\n fun deleteMedium(medium: String)\n override fun item(index: Int): String?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun MediaList.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n */\npublic external abstract class StyleSheet {\n open val type: String\n open val href: String?\n open val ownerNode: UnionElementOrProcessingInstruction?\n open val parentStyleSheet: StyleSheet?\n open val title: String?\n open val media: MediaList\n open var disabled: Boolean\n}\n\n/**\n * Exposes the JavaScript [CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n */\npublic external abstract class CSSStyleSheet : StyleSheet {\n open val ownerRule: CSSRule?\n open val cssRules: CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n}\n\n/**\n * Exposes the JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n */\npublic external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n override fun item(index: Int): StyleSheet?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun StyleSheetList.get(index: Int): StyleSheet? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin\n */\npublic external interface LinkStyle {\n val sheet: StyleSheet?\n get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript [CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n */\npublic external abstract class CSSRuleList : ItemArrayLike<CSSRule> {\n override fun item(index: Int): CSSRule?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun CSSRuleList.get(index: Int): CSSRule? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n */\npublic external abstract class CSSRule {\n open val type: Short\n open var cssText: String\n open val parentRule: CSSRule?\n open val parentStyleSheet: CSSStyleSheet?\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n */\npublic external abstract class CSSStyleRule : CSSRule {\n open var selectorText: String\n open val style: CSSStyleDeclaration\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n open val href: String\n open val media: MediaList\n open val styleSheet: CSSStyleSheet\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n */\npublic external abstract class CSSGroupingRule : CSSRule {\n open val cssRules: CSSRuleList\n fun insertRule(rule: String, index: Int): Int\n fun deleteRule(index: Int)\n\n companion object {\n val STYLE_RULE: Short\n val CHARSET_RULE: Short\n val IMPORT_RULE: Short\n val MEDIA_RULE: Short\n val FONT_FACE_RULE: Short\n val PAGE_RULE: Short\n val MARGIN_RULE: Short\n val NAMESPACE_RULE: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n */\npublic external

abstract class CSSMediaRule : CSSGroupingRule {\n   open val media: MediaList\n\n   companion object {\n   val STYLE_RULE: Short\n   val CHARSET_RULE: Short\n   val IMPORT_RULE: Short\n   val MEDIA_RULE: Short\n   val FONT_FACE_RULE: Short\n   val PAGE_RULE: Short\n   val MARGIN_RULE: Short\n   val NAMESPACE_RULE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n */\npublic external abstract class CSSPageRule : CSSGroupingRule {\n   open var selectorText: String\n   open val style: CSSStyleDeclaration\n\n   companion object {\n   val STYLE_RULE: Short\n   val CHARSET_RULE: Short\n   val IMPORT_RULE: Short\n   val MEDIA_RULE: Short\n   val FONT_FACE_RULE: Short\n   val PAGE_RULE: Short\n   val MARGIN_RULE: Short\n   val NAMESPACE_RULE: Short\n   }\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n   open val name: String\n   open val style: CSSStyleDeclaration\n\n   companion object {\n   val STYLE_RULE: Short\n   val CHARSET_RULE: Short\n   val IMPORT_RULE: Short\n   val MEDIA_RULE: Short\n   val FONT_FACE_RULE: Short\n   val PAGE_RULE: Short\n   val MARGIN_RULE: Short\n   val NAMESPACE_RULE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n */\npublic external abstract class CSSNamespaceRule : CSSRule {\n   open val namespaceURI: String\n   open val prefix: String\n\n   companion object {\n   val STYLE_RULE: Short\n   val CHARSET_RULE: Short\n   val IMPORT_RULE: Short\n   val MEDIA_RULE: Short\n   val FONT_FACE_RULE: Short\n   val PAGE_RULE: Short\n   val MARGIN_RULE: Short\n   val NAMESPACE_RULE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n */\npublic external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n   open var cssText: String\n   open val parentRule: CSSRule?\n   open var cssFloat: String\n   open var alignContent: String\n   open var alignItems: String\n   open var alignSelf: String\n   open var animation: String\n   open var animationDelay: String\n   open var animationDirection: String\n   open var animationDuration: String\n   open var animationFillMode: String\n   open var animationIterationCount: String\n   open var animationName: String\n   open var animationPlayState: String\n   open var animationTimingFunction: String\n   open var backfaceVisibility: String\n   open var background: String\n   open var backgroundAttachment: String\n   open var backgroundClip: String\n   open var backgroundColor: String\n   open var backgroundImage: String\n   open var backgroundOrigin: String\n   open var backgroundPosition: String\n   open var backgroundRepeat: String\n   open var backgroundSize: String\n   open var border: String\n   open var borderBottom: String\n   open var borderBottomColor: String\n   open var borderBottomLeftRadius: String\n   open var borderBottomRightRadius: String\n   open var borderBottomStyle: String\n   open var borderBottomWidth: String\n   open var borderCollapse: String\n   open var borderColor: String\n   open var borderImage: String\n   open var borderImageOutset: String\n   open var borderImageRepeat: String\n   open var borderImageSlice: String\n   open var borderImageSource: String\n   open var borderImageWidth: String\n   open var borderLeft: String\n   open var borderLeftColor: String\n   open var borderLeftStyle: String\n   open var borderLeftWidth: String\n   open var borderRadius: String\n   open var borderRight: String\n   open var borderRightColor: String\n   open var borderRightStyle: String\n   open var borderRightWidth: String\n   open var borderSpacing: String\n   open var borderStyle: String\n   open var borderTop: String\n   open var borderTopColor: String\n   open var borderTopLeftRadius: String\n   open var borderTopRightRadius: String\n   open var borderTopStyle: String\n   open var borderTopWidth: String\n   open var borderWidth: String\n   open var bottom: String\n   open var boxDecorationBreak: String\n   open var boxShadow: String\n   open var boxSizing: String\n   open var breakAfter: String\n   open var breakBefore: String\n   open var breakInside: String\n   open var captionSide: String\n   open var clear: String\n   open var clip: String\n   open var color: String\n   open var columnCount: String\n   open var columnFill: String\n   open var columnGap: String\n   open var columnRule: String\n   open var columnRuleColor: String\n   open var columnRuleStyle: String\n   open var columnRuleWidth: String\n   open var columnSpan: String\n   open var columnWidth: String\n   open var columns: String\n   open var content: String\n   open var counterIncrement:

String\n open var counterReset: String\n open var cursor: String\n open var direction: String\n open var display: String\n open var emptyCells: String\n open var filter: String\n open var flex: String\n open var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n open var flexGrow: String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n open var fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant: String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom: String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight: String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding: String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n open var textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor: String\n open var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent: String\n open var textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n open var textShadow: String\n open var textTransform: String\n open var textUnderlinePosition: String\n open var top: String\n open var transform: String\n open var transformOrigin: String\n open var transformStyle: String\n open var transition: String\n open var transitionDelay: String\n open var transitionDuration: String\n open var transitionProperty: String\n open var transitionTimingFunction: String\n open var unicodeBidi: String\n open var verticalAlign: String\n open var visibility: String\n open var voiceBalance: String\n open var voiceDuration: String\n open var voicePitch: String\n open var voicePitchRange: String\n open var voiceRate: String\n open var voiceStress: String\n open var voiceVolume: String\n open var whiteSpace: String\n open var widows: String\n open var width: String\n open var wordBreak: String\n open var wordSpacing: String\n open var wordWrap: String\n open var writingMode: String\n open var zIndex: String\n open var _dashed_attribute: String\n open var _camel_cased_attribute: String\n open var _webkit_cased_attribute: String\n fun getPropertyValue(property: String): String\n fun getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String, priority: String = definedExternally)\n fun setPropertyValue(property: String, value: String)\n fun setPropertyPriority(property: String, priority: String)\n fun removeProperty(property: String): String\n override fun item(index: Int):

String\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun CSSStyleDeclaration.get(index: Int): String? = asDynamic()[index]\n\npublic external interface ElementCSSInlineStyle {\n val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript [CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n */\npublic external abstract class CSS {\n companion object {\n fun escape(ident: String): String\n }\n}\n\npublic external interface UnionElementOrProcessingInstruction","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.encryptedmedia\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface MediaKeySystemConfiguration {\n var label: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var initDataTypes: Array<String>? /* = arrayOf() */\n get() = definedExternally\n set(value) = definedExternally\n var audioCapabilities: Array<MediaKeySystemMediaCapability>? /* = arrayOf() */\n get() = definedExternally\n set(value) = definedExternally\n var videoCapabilities: Array<MediaKeySystemMediaCapability>? /* = arrayOf() */\n get() = definedExternally\n set(value) = definedExternally\n var distinctiveIdentifier: MediaKeysRequirement? /* = MediaKeysRequirement.OPTIONAL */\n get() = definedExternally\n set(value) = definedExternally\n var persistentState: MediaKeysRequirement? /* = MediaKeysRequirement.OPTIONAL */\n get() = definedExternally\n set(value) = definedExternally\n var sessionTypes: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeySystemConfiguration(label: String? = \"\", initDataTypes: Array<String>? = arrayOf(), audioCapabilities: Array<MediaKeySystemMediaCapability>? = arrayOf(), videoCapabilities: Array<MediaKeySystemMediaCapability>? = arrayOf(), distinctiveIdentifier: MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, persistentState: MediaKeysRequirement? = MediaKeysRequirement.OPTIONAL, sessionTypes: Array<String>? = undefined): MediaKeySystemConfiguration {\n val o = js(\"({})\")\n o[\"label\"] = label\n o[\"initDataTypes\"] = initDataTypes\n o[\"audioCapabilities\"] = audioCapabilities\n o[\"videoCapabilities\"] = videoCapabilities\n o[\"distinctiveIdentifier\"] = distinctiveIdentifier\n o[\"persistentState\"] = persistentState\n o[\"sessionTypes\"] = sessionTypes\n return o\n}\n\npublic external interface MediaKeySystemMediaCapability {\n var contentType: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var robustness: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeySystemMediaCapability(contentType: String? = \"\", robustness: String? = \"\"): MediaKeySystemMediaCapability {\n val o = js(\"({})\")\n o[\"contentType\"] = contentType\n o[\"robustness\"] = robustness\n return o\n}\n\npublic external abstract class MediaKeySystemAccess {\n open val keySystem: String\n fun getConfiguration(): MediaKeySystemConfiguration\n fun createMediaKeys(): Promise<MediaKeys>\n}\n\npublic external abstract class MediaKeys {\n fun createSession(sessionType: MediaKeySessionType = definedExternally): MediaKeySession\n fun setServerCertificate(serverCertificate: dynamic): Promise<Boolean>\n}\n\npublic external abstract class MediaKeySession : EventTarget {\n open val sessionId: String\n open val expiration: Double\n open val closed: Promise<Unit>\n open val keyStatuses: MediaKeyStatusMap\n open var onkeystatuseschange: ((Event) -> dynamic)?\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun generateRequest(initDataType: String, initData: dynamic): Promise<Unit>\n fun load(sessionId: String): Promise<Boolean>\n fun update(response: dynamic): Promise<Unit>\n fun close():

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Promise<Unit>\n    fun remove(): Promise<Unit>\n}\n\npublic external abstract class MediaKeyStatusMap {\n    open val size: Int\n    fun has(keyId: dynamic): Boolean\n    fun get(keyId: dynamic): Any?\n}\n\npublic external open class MediaKeyMessageEvent(type: String, eventInitDict: MediaKeyMessageEventInit) : Event {\n    open val messageType: MediaKeyMessageType\n    open val message: ArrayBuffer\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface MediaKeyMessageEventInit : EventInit {\n    var messageType: MediaKeyMessageType?\n        get() = definedExternally\n        set(value) = definedExternally\n    var message: ArrayBuffer?\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaKeyMessageEventInit(messageType: MediaKeyMessageType?, message: ArrayBuffer?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MediaKeyMessageEventInit {\n    val o = js(\"({})\")\n    o[\"messageType\"] = messageType\n    o[\"message\"] = message\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\npublic external open class MediaEncryptedEvent(type: String, eventInitDict: MediaEncryptedEventInit = definedExternally) : Event {\n    open val initDataType: String\n    open val initData: ArrayBuffer?\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface MediaEncryptedEventInit : EventInit {\n    var initDataType: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var initData: ArrayBuffer? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaEncryptedEventInit(initDataType: String? = \"\", initData: ArrayBuffer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MediaEncryptedEventInit {\n    val o = js(\"({})\")\n    o[\"initDataType\"] = initDataType\n    o[\"initData\"] = initData\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaKeysRequirement {\n    companion object\n}\n\npublic inline val MediaKeysRequirement.Companion.REQUIRED: MediaKeysRequirement get() = \"required\".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val MediaKeysRequirement.Companion.OPTIONAL: MediaKeysRequirement get() = \"optional\".asDynamic().unsafeCast<MediaKeysRequirement>()\n\npublic inline val MediaKeysRequirement.Companion.NOT_ALLOWED: MediaKeysRequirement get() = \"not-allowed\".asDynamic().unsafeCast<MediaKeysRequirement>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaKeySessionType {\n    companion object\n}\n\npublic inline val MediaKeySessionType.Companion.TEMPORARY: MediaKeySessionType get() = \"temporary\".asDynamic().unsafeCast<MediaKeySessionType>()\n\npublic inline val MediaKeySessionType.Companion.PERSISTENT_LICENSE: MediaKeySessionType get() = \"persistent-license\".asDynamic().unsafeCast<MediaKeySessionType>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaKeyStatus {\n    companion object\n}\n\npublic inline val MediaKeyStatus.Companion.USABLE: MediaKeyStatus get() = \"usable\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val MediaKeyStatus.Companion.EXPIRED: MediaKeyStatus get() = \"expired\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val MediaKeyStatus.Companion.RELEASED: MediaKeyStatus get() = \"released\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val MediaKeyStatus.Companion.OUTPUT_RESTRICTED: MediaKeyStatus get() = \"output-restricted\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val MediaKeyStatus.Companion.OUTPUT_DOWNSCALED: MediaKeyStatus get() = \"output-downscaled\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val
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MediaKeyStatus.Companion.STATUS_PENDING: MediaKeyStatus get() = \"status-pending\".asDynamic().unsafeCast<MediaKeyStatus>()\n\npublic inline val MediaKeyStatus.Companion.INTERNAL_ERROR: MediaKeyStatus get() = \"internal-error\".asDynamic().unsafeCast<MediaKeyStatus>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaKeyMessageType {\n   companion object\n}\n\npublic inline val MediaKeyMessageType.Companion.LICENSE_REQUEST: MediaKeyMessageType get() = \"license-request\".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val MediaKeyMessageType.Companion.LICENSE_RENEWAL: MediaKeyMessageType get() = \"license-renewal\".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val MediaKeyMessageType.Companion.LICENSE_RELEASE: MediaKeyMessageType get() = \"license-release\".asDynamic().unsafeCast<MediaKeyMessageType>()\n\npublic inline val MediaKeyMessageType.Companion.INDIVIDUALIZATION_REQUEST: MediaKeyMessageType get() = \"individualization-request\".asDynamic().unsafeCast<MediaKeyMessageType>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n */\npublic external open class UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n   open val view: Window?\n   open val detail: Int\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface UIEventInit : EventInit {\n   var view: Window? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n   var detail: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun UIEventInit(view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): UIEventInit {\n   val o = js(\"({})\")\n   o[\"view\"] = view\n   o[\"detail\"] = detail\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent) to Kotlin\n */\npublic external open class FocusEvent(type: String, eventInitDict: FocusEventInit = definedExternally) : UIEvent {\n   open val relatedTarget: EventTarget?\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface FocusEventInit : UIEventInit {\n   var relatedTarget: EventTarget? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun FocusEventInit(relatedTarget: EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): FocusEventInit {\n   val o = js(\"({})\")\n   o[\"relatedTarget\"] = relatedTarget\n   o[\"view\"] = view\n   o[\"detail\"] = detail\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n */\npublic external open class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent, UnionElementOrMouseEvent {\n   open val screenX: Int\n   open val screenY: Int\n   open val clientX: Int\n   open val clientY: Int\n   open val ctrlKey: Boolean\n   open val shiftKey: Boolean\n   open val altKey: Boolean\n   open val metaKey: Boolean\n   open val button: Short\n   open val buttons: Short\n   open val relatedTarget:

EventTarget?\n   open val region: String?\n   open val pageX: Double\n   open val pageY: Double\n   open val x: Double\n   open val y: Double\n   open val offsetX: Double\n   open val offsetY: Double\n   fun getModifierState(keyArg: String): Boolean\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface MouseEventInit : EventModifierInit {\n   var screenX: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var screenY: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var clientX: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var clientY: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var button: Short? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var buttons: Short? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var relatedTarget: EventTarget? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n   var region: String? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MouseEventInit(screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit {\n   val o = js(\"({})\")\n   o[\"screenX\"] = screenX\n   o[\"screenY\"] = screenY\n   o[\"clientX\"] = clientX\n   o[\"clientY\"] = clientY\n   o[\"button\"] = button\n   o[\"buttons\"] = buttons\n   o[\"relatedTarget\"] = relatedTarget\n   o[\"region\"] = region\n   o[\"ctrlKey\"] = ctrlKey\n   o[\"shiftKey\"] = shiftKey\n   o[\"altKey\"] = altKey\n   o[\"metaKey\"] = metaKey\n   o[\"modifierAltGraph\"] = modifierAltGraph\n   o[\"modifierCapsLock\"] = modifierCapsLock\n   o[\"modifierFn\"] = modifierFn\n   o[\"modifierFnLock\"] = modifierFnLock\n   o[\"modifierHyper\"] = modifierHyper\n   o[\"modifierNumLock\"] = modifierNumLock\n   o[\"modifierScrollLock\"] = modifierScrollLock\n   o[\"modifierSuper\"] = modifierSuper\n   o[\"modifierSymbol\"] = modifierSymbol\n   o[\"modifierSymbolLock\"] = modifierSymbolLock\n   o[\"view\"] = view\n   o[\"detail\"] = detail\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\npublic external interface EventModifierInit : UIEventInit {\n   var ctrlKey: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var shiftKey: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var altKey: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var metaKey: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierAltGraph: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierCapsLock: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierFn: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierFnLock: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierHyper: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierNumLock: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierScrollLock: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierSuper: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierSymbol: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var modifierSymbolLock: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventModifierInit(ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,

modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): EventModifierInit {\n val o = js(\"({})\")\n o[\"ctrlKey\"] = ctrlKey\n o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] = modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"] = modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] = modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent) to Kotlin\n */\npublic external open class WheelEvent(type: String, eventInitDict: WheelEventInit = definedExternally) : MouseEvent {\n open val deltaX: Double\n open val deltaY: Double\n open val deltaZ: Double\n open val deltaMode: Int\n\n companion object {\n val DOM_DELTA_PIXEL: Int\n val DOM_DELTA_LINE: Int\n val DOM_DELTA_PAGE: Int\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface WheelEventInit : MouseEventInit {\n var deltaX: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaY: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaZ: Double? /* = 0.0 */\n get() = definedExternally\n set(value) = definedExternally\n var deltaMode: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WheelEventInit(deltaX: Double? = 0.0, deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n val o = js(\"({})\")\n o[\"deltaX\"] = deltaX\n o[\"deltaY\"] = deltaY\n o[\"deltaZ\"] = deltaZ\n o[\"deltaMode\"] = deltaMode\n o[\"screenX\"] = screenX\n o[\"screenY\"] = screenY\n o[\"clientX\"] = clientX\n o[\"clientY\"] = clientY\n o[\"button\"] = button\n o[\"buttons\"] = buttons\n o[\"relatedTarget\"] = relatedTarget\n o[\"region\"] = region\n o[\"ctrlKey\"] = ctrlKey\n o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] = modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"] = modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] = modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to Kotlin\n */\npublic external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) : UIEvent {\n open val data: String\n open val isComposing: Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface InputEventInit : UIEventInit {\n var data: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var isComposing: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun InputEventInit(data: String? = \"\", isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): InputEventInit {\n val o =

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js(\"({})\")\n    o[\"data\"] = data\n    o[\"isComposing\"] = isComposing\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n */\npublic external open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n    open val key: String\n    open val code: String\n    open val location: Int\n    open val ctrlKey: Boolean\n    open val shiftKey: Boolean\n    open val altKey: Boolean\n    open val metaKey: Boolean\n    open val repeat: Boolean\n    open val isComposing: Boolean\n    open val charCode: Int\n    open val keyCode: Int\n    open val which: Int\n    fun getModifierState(keyArg: String): Boolean\n\n    companion object {\n        val DOM_KEY_LOCATION_STANDARD: Int\n        val DOM_KEY_LOCATION_LEFT: Int\n        val DOM_KEY_LOCATION_RIGHT: Int\n        val DOM_KEY_LOCATION_NUMPAD: Int\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface KeyboardEventInit : EventModifierInit {\n    var key: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var code: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var location: Int? /* = 0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    var repeat: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var isComposing: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun KeyboardEventInit(key: String? = \"\", code: String? = \"\", location: Int? = 0, repeat: Boolean? = false, isComposing: Boolean? = false, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): KeyboardEventInit {\n    val o = js(\"({})\")\n    o[\"key\"] = key\n    o[\"code\"] = code\n    o[\"location\"] = location\n    o[\"repeat\"] = repeat\n    o[\"isComposing\"] = isComposing\n    o[\"ctrlKey\"] = ctrlKey\n    o[\"shiftKey\"] = shiftKey\n    o[\"altKey\"] = altKey\n    o[\"metaKey\"] = metaKey\n    o[\"modifierAltGraph\"] = modifierAltGraph\n    o[\"modifierCapsLock\"] = modifierCapsLock\n    o[\"modifierFn\"] = modifierFn\n    o[\"modifierFnLock\"] = modifierFnLock\n    o[\"modifierHyper\"] = modifierHyper\n    o[\"modifierNumLock\"] = modifierNumLock\n    o[\"modifierScrollLock\"] = modifierScrollLock\n    o[\"modifierSuper\"] = modifierSuper\n    o[\"modifierSymbol\"] = modifierSymbol\n    o[\"modifierSymbolLock\"] = modifierSymbolLock\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n */\npublic external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) : UIEvent {\n    open val data: String\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n    var data: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? = \"\", view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CompositionEventInit {\n    val o = js(\"({})\")\n    o[\"data\"] = data\n    o[\"view\"] = view\n    o[\"detail\"] = detail\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n */\npublic external open class Event(type: String, eventInitDict: EventInit = definedExternally) {\n    open val type: String\n    open val target: EventTarget?\n    open val currentTarget: EventTarget?\n    open val eventPhase: Short\n    open val bubbles: Boolean\n    open val cancelable: Boolean\n    open val defaultPrevented: Boolean\n    open val composed:
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Boolean\n   open val isTrusted: Boolean\n   open val timeStamp: Number\n   fun composedPath(): Array<EventTarget>\n   fun stopPropagation()\n   fun stopImmediatePropagation()\n   fun preventDefault()\n   fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean)\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n */\npublic external abstract class EventTarget {\n   fun addEventListener(type: String, callback: EventListener?, options: dynamic = definedExternally)\n   fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic = definedExternally)\n   fun removeEventListener(type: String, callback: EventListener?, options: dynamic = definedExternally)\n   fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic = definedExternally)\n   fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript [EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n */\npublic external interface EventListener {\n   fun handleEvent(event: Event)\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external abstract class HTMLAllCollection {\n   open val length: Int\n   fun item(nameOrIndex: String = definedExternally): UnionElementOrHTMLCollection?\n   fun namedItem(name: String): UnionElementOrHTMLCollection?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(index: Int): Element? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection) to Kotlin\n */\npublic external abstract class HTMLFormControlsCollection : HTMLCollection\n\n/**\n * Exposes the JavaScript [RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n */\npublic external abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n   open var value: String\n}\n\n/**\n * Exposes the JavaScript [HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n */\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n   override var length: Int\n   open var selectedIndex: Int\n   fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n   fun remove(index: Int)\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n * Exposes the JavaScript [HTMLElement](https://developer.mozilla.org/en/docs/Web/API/HTMLElement) to Kotlin\n */\npublic external abstract class HTMLElement : Element, GlobalEventHandlers, DocumentAndElementEventHandlers, ElementContentEditable, ElementCSSInlineStyle {\n   open var title: String\n   open var lang: String\n   open var translate: Boolean\n   open var dir: String\n   open val dataset: DOMStringMap\n   open var hidden: Boolean\n   open var tabIndex: Int\n   open var accessKey: String\n   open val accessKeyLabel: String\n   open var draggable: Boolean\n   open val dropzone: DOMTokenList\n   open var contextMenu: HTMLMenuElement?\n   open var spellcheck: Boolean\n   open var innerText: String\n   open val offsetParent: Element?\n   open val offsetTop: Int\n   open val offsetLeft: Int\n   open val offsetWidth: Int\n   open val offsetHeight: Int\n   fun click()\n   fun focus()\n   fun blur()\n   fun forceSpellCheck()\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val

ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n */\npublic external abstract class HTMLUnknownElement : HTMLElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n */\npublic external abstract class DOMStringMap\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMStringMap.get(name: String): String? = asDynamic()[name]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMStringMap.set(name: String, value: String) { asDynamic()[name] = value }\n\n/**\n * Exposes the JavaScript [HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement) to Kotlin\n */\npublic external abstract class HTMLHtmlElement : HTMLElement {\n open var version: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement) to Kotlin\n */\npublic external abstract class HTMLHeadElement : HTMLElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n */\npublic external abstract class HTMLTitleElement : HTMLElement {\n open var text: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val

CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement) to Kotlin\n */\npublic external abstract class HTMLBaseElement : HTMLElement {\n open var href: String\n open var target: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement) to Kotlin\n */\npublic external abstract class HTMLLinkElement : HTMLElement, LinkStyle {\n open var href: String\n open var crossOrigin: String?\n open var rel: String\n open var `as`: RequestDestination\n open val relList: DOMTokenList\n open var media: String\n open var nonce: String\n open var hreflang: String\n open var type: String\n open val sizes: DOMTokenList\n open var referrerPolicy: String\n open var charset: String\n open var rev: String\n open var target: String\n open var scope: String\n open var workerType: WorkerType\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to Kotlin\n */\npublic external abstract class HTMLMetaElement : HTMLElement {\n open var name: String\n open var httpEquiv: String\n open var content: String\n open var scheme: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n */\npublic

external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n   open var media: String\n   open var nonce: String\n   open var type: String\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n */\npublic external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n   open var text: String\n   open var link: String\n   open var vLink: String\n   open var aLink: String\n   open var bgColor: String\n   open var background: String\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n */\npublic external abstract class HTMLHeadingElement : HTMLElement {\n   open var align: String\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n */\npublic external abstract class HTMLParagraphElement : HTMLElement {\n   open var align: String\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement) to Kotlin\n */\npublic external abstract class HTMLHRElement : HTMLElement {\n   open var align: String\n   open var color: String\n

open var noShade: Boolean\n open var size: String\n open var width: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n */\npublic external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n */\npublic external abstract class HTMLQuoteElement : HTMLElement {\n open var cite: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOListElement) to Kotlin\n */\npublic external abstract class HTMLOListElement : HTMLElement {\n open var reversed: Boolean\n open var start: Int\n open var type: String\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLUListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUListElement) to Kotlin\n */\npublic external abstract class HTMLUListElement : HTMLElement {\n open var compact: Boolean\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:

Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin\n */\npublic external abstract class HTMLLIElement : HTMLElement {\n open var value: Int\n open var type: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin\n */\npublic external abstract class HTMLDListElement : HTMLElement {\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin\n */\npublic external abstract class HTMLDivElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n */\npublic external abstract class HTMLAnchorElement : HTMLElement, HTMLHyperlinkElementUtils {\n open var target: String\n open var download: String\n open var ping: String\n open var rel: String\n open val relList: DOMTokenList\n open var hreflang: String\n open var type: String\n open var text: String\n open var referrerPolicy: String\n open var coords: String\n open var charset: String\n open var name: String\n open var rev: String\n open var shape: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val

PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n */\npublic external abstract class HTMLDataElement : HTMLElement {\n open var value: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n */\npublic external abstract class HTMLTimeElement : HTMLElement {\n open var dateTime: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n */\npublic external abstract class HTMLSpanElement : HTMLElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n */\npublic external abstract class HTMLBRElement : HTMLElement {\n open var clear: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n

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    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to
Kotlin\n */\npublic external interface HTMLHyperlinkElementUtils {\n    var href: String\n    val origin: String\n
var protocol: String\n    var username: String\n    var password: String\n    var host: String\n    var hostname:
String\n    var port: String\n    var pathname: String\n    var search: String\n    var hash: String\n}\n\n/**\n * Exposes
the JavaScript [HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to
Kotlin\n */\npublic external abstract class HTMLModElement : HTMLElement {\n    open var cite: String\n    open
var dateTime: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to Kotlin\n
*/\npublic external abstract class HTMLPictureElement : HTMLElement {\n    companion object {\n        val
ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val
CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE:
Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin\n
*/\npublic external abstract class HTMLSourceElement : HTMLElement {\n    open var src: String\n    open var
type: String\n    open var srcset: String\n    open var sizes: String\n    open var media: String\n\n    companion object
{\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n
val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val
ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE:
Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin\n
*/\npublic external abstract class HTMLImageElement : HTMLElement, HTMLOrSVGImageElement,
TexImageSource {\n    open var alt: String\n    open var src: String\n    open var srcset: String\n    open var sizes:
String\n    open var crossOrigin: String?\n    open var useMap: String\n    open var isMap: Boolean\n    open var
width: Int\n    open var height: Int\n    open val naturalWidth: Int\n    open val naturalHeight: Int\n    open val
complete: Boolean\n    open val currentSrc: String\n    open var referrerPolicy: String\n    open var name: String\n
```

open var lowsrc: String\n   open var align: String\n   open var hspace: Int\n   open var vspace: Int\n   open var longDesc: String\n   open var border: String\n   open val x: Int\n   open val y: Int\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n */\npublic external abstract class HTMLIFrameElement : HTMLElement {\n   open var src: String\n   open var srcdoc: String\n   open var name: String\n   open val sandbox: DOMTokenList\n   open var allowFullscreen: Boolean\n   open var allowUserMedia: Boolean\n   open var width: String\n   open var height: String\n   open var referrerPolicy: String\n   open val contentDocument: Document?\n   open val contentWindow: Window?\n   open var align: String\n   open var scrolling: String\n   open var frameBorder: String\n   open var longDesc: String\n   open var marginHeight: String\n   open var marginWidth: String\n   fun getSVGDocument(): Document?\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin\n */\npublic external abstract class HTMLEmbedElement : HTMLElement {\n   open var src: String\n   open var type: String\n   open var width: String\n   open var height: String\n   open var align: String\n   open var name: String\n   fun getSVGDocument(): Document?\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLObjectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLObjectElement) to Kotlin\n */\npublic external abstract class HTMLObjectElement : HTMLElement {\n   open var data: String\n   open var type: String\n   open var typeMustMatch: Boolean\n   open var name: String\n   open var useMap: String\n   open val form: HTMLFormElement?\n   open var width: String\n   open var height: String\n   open val contentDocument: Document?\n   open val contentWindow: Window?\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open var align: String\n   open var archive: String\n   open var code: String\n   open var declare: Boolean\n   open var hspace: Int\n   open var standby: String\n   open var vspace: Int\n   open var codeBase: String\n   open var codeType: String\n   open var border:

String\n fun getSVGDocument(): Document?\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to Kotlin\n */\npublic external abstract class HTMLParamElement : HTMLElement {\n open var name: String\n open var value: String\n open var type: String\n open var valueType: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n */\npublic external abstract class HTMLVideoElement : HTMLMediaElement, CanvasImageSource, TexImageSource {\n open var width: Int\n open var height: Int\n open val videoWidth: Int\n open val videoHeight: Int\n open var poster: String\n open var playsInline: Boolean\n\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement) to Kotlin\n */\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n

val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n */\npublic external abstract class HTMLTrackElement : HTMLElement {\n open var kind: String\n open var src: String\n open var srclang: String\n open var label: String\n open var default: Boolean\n open val readyState: Short\n open val track: TextTrack\n\n companion object {\n val NONE: Short\n val LOADING: Short\n val LOADED: Short\n val ERROR: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLMediaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMediaElement) to Kotlin\n */\npublic external abstract class HTMLMediaElement : HTMLElement {\n open val error: MediaError?\n open var src: String\n open var srcObject: MediaProvider?\n open val currentSrc: String\n open var crossOrigin: String?\n open val networkState: Short\n open var preload: String\n open val buffered: TimeRanges\n open val readyState: Short\n open val seeking: Boolean\n open var currentTime: Double\n open val duration: Double\n open val paused: Boolean\n open var defaultPlaybackRate: Double\n open var playbackRate: Double\n open val played: TimeRanges\n open val seekable: TimeRanges\n open val ended: Boolean\n open var autoplay: Boolean\n open var loop: Boolean\n open var controls: Boolean\n open var volume: Double\n open var muted: Boolean\n open var defaultMuted: Boolean\n open val audioTracks: AudioTrackList\n open val videoTracks: VideoTrackList\n open val textTracks: TextTrackList\n open val mediaKeys: MediaKeys?\n open var onencrypted: ((Event) -> dynamic)?\n open var onwaitingforkey: ((Event) -> dynamic)?\n fun load()\n fun canPlayType(type: String): CanPlayTypeResult\n fun fastSeek(time: Double)\n fun getStartDate(): dynamic\n fun play(): Promise<Unit>\n fun pause()\n fun addTextTrack(kind: TextTrackKind, label: String = definedExternally, language: String = definedExternally): TextTrack\n fun setMediaKeys(mediaKeys: MediaKeys?): Promise<Unit>\n\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [MediaError](https://developer.mozilla.org/en/docs/Web/API/MediaError) to Kotlin\n */\npublic external abstract class MediaError {\n open val code: Short\n\n companion object {\n val MEDIA_ERR_ABORTED: Short\n

val MEDIA_ERR_NETWORK: Short\n val MEDIA_ERR_DECODE: Short\n val MEDIA_ERR_SRC_NOT_SUPPORTED: Short\n }\n}\n\n/**\n * Exposes the JavaScript [AudioTrackList](https://developer.mozilla.org/en/docs/Web/API/AudioTrackList) to Kotlin\n */\npublic external abstract class AudioTrackList : EventTarget {\n open val length: Int\n open var onchange: ((Event) -> dynamic)?\n open var onaddtrack: ((TrackEvent) -> dynamic)?\n open var onremovetrack: ((TrackEvent) -> dynamic)?\n fun getTrackById(id: String): AudioTrack?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun AudioTrackList.get(index: Int): AudioTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [AudioTrack](https://developer.mozilla.org/en/docs/Web/API/AudioTrack) to Kotlin\n */\npublic external abstract class AudioTrack : UnionAudioTrackOrTextTrackOrVideoTrack {\n open val id: String\n open val kind: String\n open val label: String\n open val language: String\n open var enabled: Boolean\n open val sourceBuffer: SourceBuffer?\n}\n\n/**\n * Exposes the JavaScript [VideoTrackList](https://developer.mozilla.org/en/docs/Web/API/VideoTrackList) to Kotlin\n */\npublic external abstract class VideoTrackList : EventTarget {\n open val length: Int\n open val selectedIndex: Int\n open var onchange: ((Event) -> dynamic)?\n open var onaddtrack: ((TrackEvent) -> dynamic)?\n open var onremovetrack: ((TrackEvent) -> dynamic)?\n fun getTrackById(id: String): VideoTrack?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun VideoTrackList.get(index: Int): VideoTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [VideoTrack](https://developer.mozilla.org/en/docs/Web/API/VideoTrack) to Kotlin\n */\npublic external abstract class VideoTrack : UnionAudioTrackOrTextTrackOrVideoTrack {\n open val id: String\n open val kind: String\n open val label: String\n open val language: String\n open var selected: Boolean\n open val sourceBuffer: SourceBuffer?\n}\n\npublic external abstract class TextTrackList : EventTarget {\n open val length: Int\n open var onchange: ((Event) -> dynamic)?\n open var onaddtrack: ((TrackEvent) -> dynamic)?\n open var onremovetrack: ((TrackEvent) -> dynamic)?\n fun getTrackById(id: String): TextTrack?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackList.get(index: Int): TextTrack? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [TextTrack](https://developer.mozilla.org/en/docs/Web/API/TextTrack) to Kotlin\n */\npublic external abstract class TextTrack : EventTarget, UnionAudioTrackOrTextTrackOrVideoTrack {\n open val kind: TextTrackKind\n open val label: String\n open val language: String\n open val id: String\n open val inBandMetadataTrackDispatchType: String\n open var mode: TextTrackMode\n open val cues: TextTrackCueList?\n open val activeCues: TextTrackCueList?\n open var oncuechange: ((Event) -> dynamic)?\n open val sourceBuffer: SourceBuffer?\n fun addCue(cue: TextTrackCue)\n fun removeCue(cue: TextTrackCue)\n}\n\npublic external abstract class TextTrackCueList {\n open val length: Int\n fun getCueById(id: String): TextTrackCue?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun TextTrackCueList.get(index: Int): TextTrackCue? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [TextTrackCue](https://developer.mozilla.org/en/docs/Web/API/TextTrackCue) to Kotlin\n */\npublic external abstract class TextTrackCue : EventTarget {\n open val track: TextTrack?\n open var id: String\n open var startTime: Double\n open var endTime: Double\n open var pauseOnExit: Boolean\n open var onenter: ((Event) -> dynamic)?\n open var onexit: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript [TimeRanges](https://developer.mozilla.org/en/docs/Web/API/TimeRanges) to Kotlin\n */\npublic external abstract class TimeRanges {\n open val length: Int\n fun start(index: Int): Double\n fun end(index: Int): Double\n}\n\n/**\n * Exposes the JavaScript [TrackEvent](https://developer.mozilla.org/en/docs/Web/API/TrackEvent) to Kotlin\n */\npublic external open class TrackEvent(type: String, eventInitDict: TrackEventInit = definedExternally) : Event {\n open val track: UnionAudioTrackOrTextTrackOrVideoTrack?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface TrackEventInit : EventInit {\n var track: UnionAudioTrackOrTextTrackOrVideoTrack? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun TrackEventInit(track:

UnionAudioTrackOrTextTrackOrVideoTrack? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): TrackEventInit {\n   val o = js(\"({})\")\n   o[\"track\"] = track\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [HTMLMapElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMapElement) to Kotlin\n */\npublic external abstract class HTMLMapElement : HTMLElement {\n   open var name: String\n   open val areas: HTMLCollection\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAreaElement) to Kotlin\n */\npublic external abstract class HTMLAreaElement : HTMLElement, HTMLHyperlinkElementUtils {\n   open var alt: String\n   open var coords: String\n   open var shape: String\n   open var target: String\n   open var download: String\n   open var ping: String\n   open var rel: String\n   open val relList: DOMTokenList\n   open var referrerPolicy: String\n   open var noHref: Boolean\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLTableElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableElement) to Kotlin\n */\npublic external abstract class HTMLTableElement : HTMLElement {\n   open var caption: HTMLTableCaptionElement?\n   open var tHead: HTMLTableSectionElement?\n   open var tFoot: HTMLTableSectionElement?\n   open val tBodies: HTMLCollection\n   open val rows: HTMLCollection\n   open var align: String\n   open var border: String\n   open var frame: String\n   open var rules: String\n   open var summary: String\n   open var width: String\n   open var bgColor: String\n   open var cellPadding: String\n   open var cellSpacing: String\n   fun createCaption(): HTMLTableCaptionElement\n   fun deleteCaption()\n   fun createTHead(): HTMLTableSectionElement\n   fun deleteTHead()\n   fun createTFoot(): HTMLTableSectionElement\n   fun deleteTFoot()\n   fun createTBody(): HTMLTableSectionElement\n   fun insertRow(index: Int = definedExternally): HTMLTableRowElement\n   fun deleteRow(index: Int)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript

[HTMLTableCaptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCaptionElement) to Kotlin\n */\npublic external abstract class HTMLTableCaptionElement : HTMLElement {\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTableColElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableColElement) to Kotlin\n */\npublic external abstract class HTMLTableColElement : HTMLElement {\n open var span: Int\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n open var width: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTableSectionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableSectionElement) to Kotlin\n */\npublic external abstract class HTMLTableSectionElement : HTMLElement {\n open val rows: HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n fun insertRow(index: Int = definedExternally): HTMLElement\n fun deleteRow(index: Int)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin\n */\npublic external abstract class HTMLTableRowElement : HTMLElement {\n open val rowIndex: Int\n open val sectionRowIndex: Int\n open val cells: HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n open var bgColor: String\n fun insertCell(index: Int = definedExternally): HTMLElement\n fun deleteCell(index: Int)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin\n */\npublic external abstract class HTMLTableCellElement : HTMLElement {\n open var colSpan: Int\n open var rowSpan: Int\n open var headers: String\n open val cellIndex: Int\n open var scope: String\n open var abbr: String\n open var align: String\n open var axis: String\n open var height: String\n open var width: String\n open var ch: String\n open var chOff: String\n open var noWrap: Boolean\n open var vAlign: String\n open var bgColor: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin\n */\npublic external abstract class HTMLFormElement : HTMLElement {\n open var acceptCharset: String\n open var action: String\n open var autocomplete: String\n open var enctype: String\n open var encoding: String\n open var method: String\n open var name: String\n open var noValidate: Boolean\n open var target: String\n open val elements: HTMLFormControlsCollection\n open val length: Int\n fun submit()\n fun reset()\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLFormElement.get(index: Int): Element? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLFormElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to Kotlin\n */\npublic external abstract class HTMLLabelElement : HTMLElement {\n open val form: HTMLFormElement?\n open var htmlFor: String\n open val control: HTMLElement?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n */\npublic

external abstract class HTMLInputElement : HTMLElement {\n   open var accept: String\n   open var alt: String\n   open var autocomplete: String\n   open var autofocus: Boolean\n   open var defaultChecked: Boolean\n   open var checked: Boolean\n   open var dirName: String\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open val files: FileList?\n   open var formAction: String\n   open var formEnctype: String\n   open var formMethod: String\n   open var formNoValidate: Boolean\n   open var formTarget: String\n   open var height: Int\n   open var indeterminate: Boolean\n   open var inputMode: String\n   open val list: HTMLElement?\n   open var max: String\n   open var maxLength: Int\n   open var min: String\n   open var minLength: Int\n   open var multiple: Boolean\n   open var name: String\n   open var pattern: String\n   open var placeholder: String\n   open var readOnly: Boolean\n   open var required: Boolean\n   open var size: Int\n   open var src: String\n   open var step: String\n   open var type: String\n   open var defaultValue: String\n   open var value: String\n   open var valueAsDate: dynamic\n   open var valueAsNumber: Double\n   open var width: Int\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   open var selectionStart: Int?\n   open var selectionEnd: Int?\n   open var selectionDirection: String?\n   open var align: String\n   open var useMap: String\n   fun stepUp(n: Int = definedExternally)\n   fun stepDown(n: Int = definedExternally)\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n   fun select()\n   fun setRangeText(replacement: String)\n   fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)\n   fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n */\npublic external abstract class HTMLButtonElement : HTMLElement {\n   open var autofocus: Boolean\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open var formAction: String\n   open var formEnctype: String\n   open var formMethod: String\n   open var formNoValidate: Boolean\n   open var formTarget: String\n   open var name: String\n   open var type: String\n   open var value: String\n   open var menu: HTMLMenuElement?\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin\n */\npublic external abstract class HTMLSelectElement : HTMLElement, ItemArrayLike<Element> {\n   open var autocomplete: String\n   open var autofocus: Boolean\n   open var disabled: Boolean\n   open val form:

HTMLFormElement?\n   open var multiple: Boolean\n   open var name: String\n   open var required: Boolean\n   open var size: Int\n   open val type: String\n   open val options: HTMLOptionsCollection\n   override var length: Int\n   open val selectedOptions: HTMLCollection\n   open var selectedIndex: Int\n   open var value: String\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   fun namedItem(name: String): HTMLOptionElement?\n   fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally)\n   fun remove(index: Int)\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n   override fun item(index: Int): Element?\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLSelectElement.get(index: Int): Element? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLSelectElement.set(index: Int, option: HTMLOptionElement?) { asDynamic()[index] = option }\n\n/**\n * Exposes the JavaScript [HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n */\npublic external abstract class HTMLDataListElement : HTMLElement {\n   open val options: HTMLCollection\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin\n */\npublic external abstract class HTMLOptGroupElement : HTMLElement, UnionHTMLOptGroupElementOrHTMLOptionElement {\n   open var disabled: Boolean\n   open var label: String\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n */\npublic external abstract class HTMLOptionElement : HTMLElement, UnionHTMLOptGroupElementOrHTMLOptionElement {\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open var label: String\n   open var defaultSelected: Boolean\n   open var selected:

Boolean\n   open var value: String\n   open var text: String\n   open val index: Int\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin\n */\npublic external abstract class HTMLTextAreaElement : HTMLElement {\n   open var autocomplete: String\n   open var autofocus: Boolean\n   open var cols: Int\n   open var dirName: String\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open var inputMode: String\n   open var maxLength: Int\n   open var minLength: Int\n   open var name: String\n   open var placeholder: String\n   open var readOnly: Boolean\n   open var required: Boolean\n   open var rows: Int\n   open var wrap: String\n   open val type: String\n   open var defaultValue: String\n   open var value: String\n   open val textLength: Int\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   open var selectionStart: Int?\n   open var selectionEnd: Int?\n   open var selectionDirection: String?\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n   fun select()\n   fun setRangeText(replacement: String)\n   fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally)\n   fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin\n */\npublic external abstract class HTMLKeygenElement : HTMLElement {\n   open var autofocus: Boolean\n   open var challenge: String\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open var keytype: String\n   open var name: String\n   open val type: String\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to Kotlin\n

*/\npublic external abstract class HTMLOutputElement : HTMLElement {\n   open val htmlFor: DOMTokenList\n   open val form: HTMLFormElement?\n   open var name: String\n   open val type: String\n   open var defaultValue: String\n   open var value: String\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   open val labels: NodeList\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to Kotlin\n */\npublic external abstract class HTMLProgressElement : HTMLElement {\n   open var value: Double\n   open var max: Double\n   open val position: Double\n   open val labels: NodeList\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n */\npublic external abstract class HTMLMeterElement : HTMLElement {\n   open var value: Double\n   open var min: Double\n   open var max: Double\n   open var low: Double\n   open var high: Double\n   open var optimum: Double\n   open val labels: NodeList\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n */\npublic external abstract class HTMLFieldSetElement : HTMLElement {\n   open var disabled: Boolean\n   open val form: HTMLFormElement?\n   open var name: String\n   open val type: String\n   open val elements: HTMLCollection\n   open val willValidate: Boolean\n   open val validity: ValidityState\n   open val validationMessage: String\n   fun checkValidity(): Boolean\n   fun reportValidity(): Boolean\n   fun setCustomValidity(error: String)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val

DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin\n */\npublic external abstract class HTMLLegendElement : HTMLElement {\n open val form: HTMLFormElement?\n open var align: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n */\npublic external abstract class ValidityState {\n open val valueMissing: Boolean\n open val typeMismatch: Boolean\n open val patternMismatch: Boolean\n open val tooLong: Boolean\n open val tooShort: Boolean\n open val rangeUnderflow: Boolean\n open val rangeOverflow: Boolean\n open val stepMismatch: Boolean\n open val badInput: Boolean\n open val customError: Boolean\n open val valid: Boolean\n}\n\n/**\n * Exposes the JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to Kotlin\n */\npublic external abstract class HTMLDetailsElement : HTMLElement {\n open var open: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLMenuElement : HTMLElement {\n open var type: String\n open var label: String\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLMenuItemElement : HTMLElement {\n open var type: String\n open var label: String\n open var icon: String\n open var disabled: Boolean\n open var checked: Boolean\n open var radiogroup: String\n open var default: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val

ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external open class RelatedEvent(type: String, eventInitDict: RelatedEventInit = definedExternally) : Event {\n open val relatedTarget: EventTarget?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface RelatedEventInit : EventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RelatedEventInit(relatedTarget: EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): RelatedEventInit {\n val o = js(\"({})\")\n o[\"relatedTarget\"] = relatedTarget\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n */\npublic external abstract class HTMLDialogElement : HTMLElement {\n open var open: Boolean\n open var returnValue: String\n fun show(anchor: UnionElementOrMouseEvent = definedExternally)\n fun showModal(anchor: UnionElementOrMouseEvent = definedExternally)\n fun close(returnValue: String = definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n */\npublic external abstract class HTMLScriptElement : HTMLElement, HTMLOrSVGScriptElement {\n open var src: String\n open var type: String\n open var charset: String\n open var async: Boolean\n open var defer: Boolean\n open var crossOrigin: String?\n open var text: String\n open var nonce: String\n open var event: String\n open var htmlFor: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n */\npublic external abstract class HTMLTemplateElement : HTMLElement {\n open val content: DocumentFragment\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val

ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n */\npublic external abstract class HTMLSlotElement : HTMLElement {\n open var name: String\n fun assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface AssignedNodesOptions {\n var flatten: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun AssignedNodesOptions(flatten: Boolean? = false): AssignedNodesOptions {\n val o = js(\"({})\")\n o[\"flatten\"] = flatten\n return o\n}\n\n/**\n * Exposes the JavaScript [HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to Kotlin\n */\npublic external abstract class HTMLCanvasElement : HTMLElement, CanvasImageSource, TexImageSource {\n open var width: Int\n open var height: Int\n fun getContext(contextId: String, vararg arguments: Any?): RenderingContext?\n fun toDataURL(type: String = definedExternally, quality: Any? = definedExternally): String\n fun toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality: Any? = definedExternally)\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface CanvasRenderingContext2DSettings {\n var alpha: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n val o = js(\"({})\")\n o[\"alpha\"] = alpha\n return o\n}\n\n/**\n * Exposes the JavaScript [CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to Kotlin\n */\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform, CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters, CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion, CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n open val canvas: HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n fun save()\n fun

restore()\n}\n\npublic external interface CanvasTransform {\n fun scale(x: Double, y: Double)\n fun rotate(angle: Double)\n fun translate(x: Double, y: Double)\n fun transform(a: Double, b: Double, c: Double, d: Double, e: Double, f: Double)\n fun getTransform(): DOMMatrix\n fun setTransform(a: Double, b: Double, c: Double, d: Double, e: Double, f: Double)\n fun setTransform(transform: dynamic = definedExternally)\n fun resetTransform()\n}\n\npublic external interface CanvasCompositing {\n var globalAlpha: Double\n var globalCompositeOperation: String\n}\n\npublic external interface CanvasImageSmoothing {\n var imageSmoothingEnabled: Boolean\n var imageSmoothingQuality: ImageSmoothingQuality\n}\n\npublic external interface CanvasFillStrokeStyles {\n var strokeStyle: dynamic\n get() = definedExternally\n set(value) = definedExternally\n var fillStyle: dynamic\n get() = definedExternally\n set(value) = definedExternally\n fun createLinearGradient(x0: Double, y0: Double, x1: Double, y1: Double): CanvasGradient\n fun createRadialGradient(x0: Double, y0: Double, r0: Double, x1: Double, y1: Double, r1: Double): CanvasGradient\n fun createPattern(image: CanvasImageSource, repetition: String): CanvasPattern?\n}\n\npublic external interface CanvasShadowStyles {\n var shadowOffsetX: Double\n var shadowOffsetY: Double\n var shadowBlur: Double\n var shadowColor: String\n}\n\npublic external interface CanvasFilters {\n var filter: String\n}\n\npublic external interface CanvasRect {\n fun clearRect(x: Double, y: Double, w: Double, h: Double)\n fun fillRect(x: Double, y: Double, w: Double, h: Double)\n fun strokeRect(x: Double, y: Double, w: Double, h: Double)\n}\n\npublic external interface CanvasDrawPath {\n fun beginPath()\n fun fill(fillRule: CanvasFillRule = definedExternally)\n fun fill(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n fun stroke()\n fun stroke(path: Path2D)\n fun clip(fillRule: CanvasFillRule = definedExternally)\n fun clip(path: Path2D, fillRule: CanvasFillRule = definedExternally)\n fun resetClip()\n fun isPointInPath(x: Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun isPointInPath(path: Path2D, x: Double, y: Double, fillRule: CanvasFillRule = definedExternally): Boolean\n fun isPointInStroke(x: Double, y: Double): Boolean\n fun isPointInStroke(path: Path2D, x: Double, y: Double): Boolean\n}\n\npublic external interface CanvasUserInterface {\n fun drawFocusIfNeeded(element: Element)\n fun drawFocusIfNeeded(path: Path2D, element: Element)\n fun scrollPathIntoView()\n fun scrollPathIntoView(path: Path2D)\n}\n\npublic external interface CanvasText {\n fun fillText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\n fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally)\n fun measureText(text: String): TextMetrics\n}\n\npublic external interface CanvasDrawImage {\n fun drawImage(image: CanvasImageSource, dx: Double, dy: Double)\n fun drawImage(image: CanvasImageSource, dx: Double, dy: Double, dw: Double, dh: Double)\n fun drawImage(image: CanvasImageSource, sx: Double, sy: Double, sw: Double, sh: Double, dx: Double, dy: Double, dw: Double, dh: Double)\n}\n\npublic external interface CanvasHitRegion {\n fun addHitRegion(options: HitRegionOptions = definedExternally)\n fun removeHitRegion(id: String)\n fun clearHitRegions()\n}\n\npublic external interface CanvasImageData {\n fun createImageData(sw: Double, sh: Double): ImageData\n fun createImageData(imagedata: ImageData): ImageData\n fun getImageData(sx: Double, sy: Double, sw: Double, sh: Double): ImageData\n fun putImageData(imagedata: ImageData, dx: Double, dy: Double)\n fun putImageData(imagedata: ImageData, dx: Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double, dirtyHeight: Double)\n}\n\npublic external interface CanvasPathDrawingStyles {\n var lineWidth: Double\n var lineCap: CanvasLineCap\n var lineJoin: CanvasLineJoin\n var miterLimit: Double\n var lineDashOffset: Double\n fun setLineDash(segments: Array<Double>)\n fun getLineDash(): Array<Double>\n}\n\npublic external interface CanvasTextDrawingStyles {\n var font: String\n var textAlign: CanvasTextAlign\n var textBaseline: CanvasTextBaseline\n var direction: CanvasDirection\n}\n\npublic external interface CanvasPath {\n fun closePath()\n fun moveTo(x: Double, y: Double)\n fun lineTo(x: Double, y: Double)\n fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n fun rect(x: Double, y: Double, w: Double, h: Double)\n fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean = definedExternally)\n fun ellipse(x: Double, y: Double, radiusX: Double,

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radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n */\npublic external abstract class CanvasGradient {\n    fun addColorStop(offset: Double, color: String)\n}\n\n/**\n * Exposes the JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n */\npublic external abstract class CanvasPattern {\n    fun setTransform(transform: dynamic = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n */\npublic external abstract class TextMetrics {\n    open val width: Double\n    open val actualBoundingBoxLeft: Double\n    open val actualBoundingBoxRight: Double\n    open val fontBoundingBoxAscent: Double\n    open val fontBoundingBoxDescent: Double\n    open val actualBoundingBoxAscent: Double\n    open val actualBoundingBoxDescent: Double\n    open val emHeightAscent: Double\n    open val emHeightDescent: Double\n    open val hangingBaseline: Double\n    open val alphabeticBaseline: Double\n    open val ideographicBaseline: Double\n}\n\npublic external interface HitRegionOptions {\n    var path: Path2D? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var fillRule: CanvasFillRule? /* = CanvasFillRule.NONZERO */\n        get() = definedExternally\n        set(value) = definedExternally\n    var id: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var parentID: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var cursor: String? /* = \"inherit\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var control: Element? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var label: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var role: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun HitRegionOptions(path: Path2D? = null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\", parentID: String? = null, cursor: String? = \"inherit\", control: Element? = null, label: String? = null, role: String? = null): HitRegionOptions {\n    val o = js(\"({})\")\n    o[\"path\"] = path\n    o[\"fillRule\"] = fillRule\n    o[\"id\"] = id\n    o[\"parentID\"] = parentID\n    o[\"cursor\"] = cursor\n    o[\"control\"] = control\n    o[\"label\"] = label\n    o[\"role\"] = role\n    return o\n}\n\n/**\n * Exposes the JavaScript [ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to Kotlin\n */\npublic external open class ImageData : ImageBitmapSource, TexImageSource {\n    constructor(sw: Int, sh: Int)\n    constructor(data: Uint8ClampedArray, sw: Int, sh: Int = definedExternally)\n    open val width: Int\n    open val height: Int\n    open val data: Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript [Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n */\npublic external open class Path2D() : CanvasPath {\n    constructor(path: Path2D)\n    constructor(paths: Array<Path2D>, fillRule: CanvasFillRule = definedExternally)\n    constructor(d: String)\n    fun addPath(path: Path2D, transform: dynamic = definedExternally)\n    override fun closePath()\n    override fun moveTo(x: Double, y: Double)\n    override fun lineTo(x: Double, y: Double)\n    override fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double)\n    override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double)\n    override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius: Double)\n    override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY: Double, rotation: Double)\n    override fun rect(x: Double, y: Double, w: Double, h: Double)\n    override fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */)\n    override fun ellipse(x: Double, y: Double, radiusX: Double, radiusY: Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */)\n}\n\n/**\n * Exposes the JavaScript [ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext) to Kotlin\n */\npublic external abstract class ImageBitmapRenderingContext {\n    open val canvas: HTMLCanvasElement\n    fun transferFromImageBitmap(bitmap: ImageBitmap?)\n}\n\npublic external interface ImageBitmapRenderingContextSettings {\n    var alpha: Boolean? /* = true */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n    val o
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= js(\"({})\")\n   o[\"alpha\"] = alpha\n   return o\n}\n\n/**\n * Exposes the JavaScript [CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n */\npublic external abstract class CustomElementRegistry {\n   fun define(name: String, constructor: () -> dynamic, options: ElementDefinitionOptions = definedExternally)\n   fun get(name: String): Any?\n   fun whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n   var extends: String?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends: String? = undefined): ElementDefinitionOptions {\n   val o = js(\"({})\")\n   o[\"extends\"] = extends\n   return o\n}\n\npublic external interface ElementContentEditable {\n   var contentEditable: String\n   val isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript [DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n */\npublic external abstract class DataTransfer {\n   open var dropEffect: String\n   open var effectAllowed: String\n   open val items: DataTransferItemList\n   open val types: Array<out String>\n   open val files: FileList\n   fun setDragImage(image: Element, x: Int, y: Int)\n   fun getData(format: String): String\n   fun setData(format: String, data: String)\n   fun clearData(format: String = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to Kotlin\n */\npublic external abstract class DataTransferItemList {\n   open val length: Int\n   fun add(data: String, type: String): DataTransferItem?\n   fun add(data: File): DataTransferItem?\n   fun remove(index: Int)\n   fun clear()\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DataTransferItemList.get(index: Int): DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n */\npublic external abstract class DataTransferItem {\n   open val kind: String\n   open val type: String\n   fun getAsString(_callback: ((String) -> Unit)?)\n   fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript [DragEvent](https://developer.mozilla.org/en/docs/Web/API/DragEvent) to Kotlin\n */\npublic external open class DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n   open val dataTransfer: DataTransfer?\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface DragEventInit : MouseEventInit {\n   var dataTransfer: DataTransfer? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer: DataTransfer? = null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): DragEventInit {\n   val o = js(\"({})\")\n   o[\"dataTransfer\"] = dataTransfer\n   o[\"screenX\"] = screenX\n   o[\"screenY\"] = screenY\n   o[\"clientX\"] = clientX\n   o[\"clientY\"] = clientY\n   o[\"button\"] = button\n   o[\"buttons\"] = buttons\n   o[\"relatedTarget\"] = relatedTarget\n   o[\"region\"] = region\n   o[\"ctrlKey\"] = ctrlKey\n   o[\"shiftKey\"] = shiftKey\n   o[\"altKey\"] = altKey\n   o[\"metaKey\"] = metaKey\n   o[\"modifierAltGraph\"] = modifierAltGraph\n   o[\"modifierCapsLock\"] = modifierCapsLock\n   o[\"modifierFn\"] = modifierFn\n   o[\"modifierFnLock\"] = modifierFnLock\n   o[\"modifierHyper\"] = modifierHyper\n   o[\"modifierNumLock\"] = modifierNumLock\n   o[\"modifierScrollLock\"] = modifierScrollLock\n   o[\"modifierSuper\"] = modifierSuper\n   o[\"modifierSymbol\"] = modifierSymbol\n   o[\"modifierSymbolLock\"] = modifierSymbolLock\n   o[\"view\"] = view\n   o[\"detail\"] = detail\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [Window](https://developer.mozilla.org/en/docs/Web/API/Window) to Kotlin\n */\npublic external abstract class Window : EventTarget, GlobalEventHandlers, WindowEventHandlers,

WindowOrWorkerGlobalScope, WindowSessionStorage, WindowLocalStorage, GlobalPerformance, UnionMessagePortOrWindowProxy {\n open val window: Window\n open val self: Window\n open val document: Document\n open var name: String\n open val location: Location\n open val history: History\n open val customElements: CustomElementRegistry\n open val locationbar: BarProp\n open val menubar: BarProp\n open val personalbar: BarProp\n open val scrollbars: BarProp\n open val statusbar: BarProp\n open val toolbar: BarProp\n open var status: String\n open val closed: Boolean\n open val frames: Window\n open val length: Int\n open val top: Window\n open var opener: Any?\n open val parent: Window\n open val frameElement: Element?\n open val navigator: Navigator\n open val applicationCache: ApplicationCache\n open val external: External\n open val screen: Screen\n open val innerWidth: Int\n open val innerHeight: Int\n open val scrollX: Double\n open val pageXOffset: Double\n open val scrollY: Double\n open val pageYOffset: Double\n open val screenX: Int\n open val screenY: Int\n open val outerWidth: Int\n open val outerHeight: Int\n open val devicePixelRatio: Double\n fun close()\n fun stop()\n fun focus()\n fun blur()\n fun open(url: String = definedExternally, target: String = definedExternally, features: String = definedExternally): Window?\n fun alert()\n fun alert(message: String)\n fun confirm(message: String = definedExternally): Boolean\n fun prompt(message: String = definedExternally, default: String = definedExternally): String?\n fun print()\n fun requestAnimationFrame(callback: (Double) -> Unit): Int\n fun cancelAnimationFrame(handle: Int)\n fun postMessage(message: Any?, targetOrigin: String, transfer: Array<dynamic> = definedExternally)\n fun captureEvents()\n fun releaseEvents()\n fun matchMedia(query: String): MediaQueryList\n fun moveTo(x: Int, y: Int)\n fun moveBy(x: Int, y: Int)\n fun resizeTo(x: Int, y: Int)\n fun resizeBy(x: Int, y: Int)\n fun scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double, y: Double)\n fun scrollTo(options: ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n fun scrollBy(options: ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun getComputedStyle(elt: Element, pseudoElt: String? = definedExternally): CSSStyleDeclaration\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Window.get(name: String): dynamic = asDynamic()[name]\n\npublic external abstract class BarProp {\n open val visible: Boolean\n}\n\n/**\n * Exposes the JavaScript [History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin\n */\npublic external abstract class History {\n open val length: Int\n open var scrollRestoration: ScrollRestoration\n open val state: Any?\n fun go(delta: Int = definedExternally)\n fun back()\n fun forward()\n fun pushState(data: Any?, title: String, url: String? = definedExternally)\n fun replaceState(data: Any?, title: String, url: String? = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n */\npublic external abstract class Location {\n open var href: String\n open val origin: String\n open var protocol: String\n open var host: String\n open var hostname: String\n open var port: String\n open var pathname: String\n open var search: String\n open var hash: String\n open val ancestorOrigins: Array<out String>\n fun assign(url: String)\n fun replace(url: String)\n fun reload()\n}\n\n/**\n * Exposes the JavaScript [PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n */\npublic external open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {\n open val state: Any?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PopStateEventInit : EventInit {\n var state: Any? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PopStateEventInit(state: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {\n val o = js(\"({})\")\n o[\"state\"] = state\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin\n */\npublic external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) : Event {\n open val oldURL: String\n open val newURL: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE:

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Short\n    }\n}\n\npublic external interface HashChangeEventInit : EventInit {\n    var oldURL: String? /* = \"\" */\n
    get() = definedExternally\n        set(value) = definedExternally\n    var newURL: String? /* = \"\" */\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
HashChangeEventInit(oldURL: String? = \"\", newURL: String? = \"\", bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): HashChangeEventInit {\n    val o = js(\"({})\")\n    o[\"oldURL\"] =
oldURL\n    o[\"newURL\"] = newURL\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n
o[\"composed\"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin\n */\npublic
external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) :
Event {\n    open val persisted: Boolean\n\n    companion object {\n        val NONE: Short\n        val
CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n
}\n}\n\npublic external interface PageTransitionEventInit : EventInit {\n    var persisted: Boolean? /* = false */\n
get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
PageTransitionEventInit(persisted: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): PageTransitionEventInit {\n    val o = js(\"({})\")\n    o[\"persisted\"] = persisted\n
o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return
o\n}\n\n/**\n * Exposes the JavaScript
[BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin\n */\npublic
external open class BeforeUnloadEvent : Event {\n    var returnValue: String\n\n    companion object {\n        val
NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external abstract class ApplicationCache : EventTarget {\n    open
val status: Short\n    open var onchecking: ((Event) -> dynamic)?\n    open var onerror: ((Event) -> dynamic)?\n
open var onnoupdate: ((Event) -> dynamic)?\n    open var ondownloading: ((Event) -> dynamic)?\n    open var
onprogress: ((ProgressEvent) -> dynamic)?\n    open var onupdateready: ((Event) -> dynamic)?\n    open var
oncached: ((Event) -> dynamic)?\n    open var onobsolete: ((Event) -> dynamic)?\n    fun update()\n    fun abort()\n
fun swapCache()\n\n    companion object {\n        val UNCACHED: Short\n        val IDLE: Short\n        val
CHECKING: Short\n        val DOWNLOADING: Short\n        val UPDATEREADY: Short\n        val OBSOLETE:
Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin\n */\npublic
external interface NavigatorOnLine {\n    val onLine: Boolean\n}\n\n/**\n * Exposes the JavaScript
[ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin\n */\npublic external open class
ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event {\n    open val message: String\n
  open val filename: String\n    open val lineno: Int\n    open val colno: Int\n    open val error: Any?\n\n    companion
object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface ErrorEventInit : EventInit {\n    var message:
String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var filename: String? /*
= \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var lineno: Int? /* = 0 */\n
get() = definedExternally\n        set(value) = definedExternally\n    var colno: Int? /* = 0 */\n        get() =
definedExternally\n        set(value) = definedExternally\n    var error: Any? /* = null */\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ErrorEventInit(message: String? = \"\", filename: String? = \"\", lineno: Int? = 0, colno: Int? = 0, error: Any? = null,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ErrorEventInit {\n    val o =
js(\"({})\")\n    o[\"message\"] = message\n    o[\"filename\"] = filename\n    o[\"lineno\"] = lineno\n    o[\"colno\"] =
colno\n    o[\"error\"] = error\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] =
composed\n    return o\n}\n\n/**\n * Exposes the JavaScript
[PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin\n
*/\npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) :
Event {\n    open val promise: Promise<Any?>\n    open val reason: Any?\n\n    companion object {\n        val
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NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface PromiseRejectionEventInit : EventInit {\n var promise: Promise<Any?>?\n get() = definedExternally\n set(value) = definedExternally\n var reason: Any?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PromiseRejectionEventInit(promise: Promise<Any?>?, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PromiseRejectionEventInit {\n val o = js(\"({})\")\n o[\"promise\"] = promise\n o[\"reason\"] = reason\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin\n */\npublic external interface GlobalEventHandlers {\n var onabort: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onblur: ((FocusEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncancel: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplay: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncanplaythrough: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onchange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onclick: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onclose: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncontextmenu: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oncuechange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondblclick: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondrag: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragend: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragenter: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragexit: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragleave: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragover: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondragstart: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondrop: ((DragEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var ondurationchange: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onemptied: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onended: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onfocus: ((FocusEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninput: ((InputEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var oninvalid: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onkeydown: ((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onkeypress: ((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onkeyup: ((KeyboardEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onload: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onloadeddata: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onloadedmetadata: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onloadend: ((Event) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onloadstart: ((ProgressEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onmousedown: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onmouseenter: ((MouseEvent) -> dynamic)?\n get() = definedExternally\n set(value) = definedExternally\n var onmouseleave: ((MouseEvent) ->

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dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var onmousemove:
((MouseEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
onmouseout: ((MouseEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n
var onmouseover: ((MouseEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var onmouseup: ((MouseEvent) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onwheel: ((WheelEvent) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onpause: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onplay: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onplaying: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onprogress: ((ProgressEvent) -> dynamic)?\n        get() = definedExternally\n
    set(value) = definedExternally\n    var onratechange: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onreset: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onresize: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onscroll: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onseeked: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onseeking: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onselect: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onshow: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onstalled: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onsubmit: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onsuspend: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var ontimeupdate: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var ontoggle: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onvolumechange: ((Event) -> dynamic)?\n        get() = definedExternally\n
 set(value) = definedExternally\n    var onwaiting: ((Event) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var ongotpointercapture: ((PointerEvent) -> dynamic)?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
    get() = definedExternally\n        set(value) = definedExternally\n    var onpointerdown: ((PointerEvent) ->
dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var onpointermove:
((PointerEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
onpointerup: ((PointerEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n
var onpointercancel: ((PointerEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var onpointerover: ((PointerEvent) -> dynamic)?\n        get() = definedExternally\n
set(value) = definedExternally\n    var onpointerout: ((PointerEvent) -> dynamic)?\n        get() = definedExternally\n
    set(value) = definedExternally\n    var onpointerenter: ((PointerEvent) -> dynamic)?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var onpointerleave: ((PointerEvent) -> dynamic)?\n
get() = definedExternally\n        set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*/\npublic external interface WindowEventHandlers {\n    var onafterprint: ((Event) -> dynamic)?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var onbeforeprint: ((Event) -> dynamic)?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var onbeforeunload: ((BeforeUnloadEvent) ->
String?)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var onhashchange:
((HashChangeEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
onlanguagechange: ((Event) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n
var onmessage: ((MessageEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var onoffline: ((Event) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var ononline: ((Event) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var onpagehide: ((PageTransitionEvent) -> dynamic)?\n        get() = definedExternally\n
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set(value) = definedExternally\n    var onpageshow: ((PageTransitionEvent) -> dynamic)?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var onpopstate: ((PopStateEvent) -> dynamic)?\n
get() = definedExternally\n        set(value) = definedExternally\n    var onrejectionhandled: ((Event) -> dynamic)?\n
    get() = definedExternally\n        set(value) = definedExternally\n    var onstorage: ((StorageEvent) -> dynamic)?\n
     get() = definedExternally\n        set(value) = definedExternally\n    var onunhandledrejection:
((PromiseRejectionEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n
var onunload: ((Event) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\npublic external interface DocumentAndElementEventHandlers {\n    var oncopy:
((ClipboardEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var oncut:
((ClipboardEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
onpaste: ((ClipboardEvent) -> dynamic)?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n/**\n * Exposes the JavaScript
[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope)
to Kotlin\n */\npublic external interface WindowOrWorkerGlobalScope {\n    val origin: String\n    val caches:
CacheStorage\n    fun btoa(data: String): String\n    fun atob(data: String): String\n    fun setTimeout(handler:
dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n    fun clearTimeout(handle: Int =
definedExternally)\n    fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?):
Int\n    fun clearInterval(handle: Int = definedExternally)\n    fun createImageBitmap(image: ImageBitmapSource,
options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n    fun createImageBitmap(image:
ImageBitmapSource, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally):
Promise<ImageBitmap>\n    fun fetch(input: dynamic, init: RequestInit = definedExternally):
Promise<Response>\n}\n\n/**\n * Exposes the JavaScript
[Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n */\npublic external abstract class
Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorContentUtils, NavigatorCookies,
NavigatorPlugins, NavigatorConcurrentHardware {\n    open val clipboard: Clipboard\n    open val mediaDevices:
MediaDevices\n    open val maxTouchPoints: Int\n    open val serviceWorker: ServiceWorkerContainer\n    fun
requestMediaKeySystemAccess(keySystem: String, supportedConfigurations:
Array<MediaKeySystemConfiguration>): Promise<MediaKeySystemAccess>\n    fun getUserMedia(constraints:
MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback: (dynamic) -> Unit)\n    fun
vibrate(pattern: dynamic): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n */\npublic external interface
NavigatorID {\n    val appCodeName: String\n    val appName: String\n    val appVersion: String\n    val platform:
String\n    val product: String\n    val productSub: String\n    val userAgent: String\n    val vendor: String\n    val
vendorSub: String\n    val oscpu: String\n    fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n */\npublic
external interface NavigatorLanguage {\n    val language: String\n    val languages: Array<out String>\n}\n\npublic
external interface NavigatorContentUtils {\n    fun registerProtocolHandler(scheme: String, url: String, title:
String)\n    fun registerContentHandler(mimeType: String, url: String, title: String)\n    fun
isProtocolHandlerRegistered(scheme: String, url: String): String\n    fun isContentHandlerRegistered(mimeType:
String, url: String): String\n    fun unregisterProtocolHandler(scheme: String, url: String)\n    fun
unregisterContentHandler(mimeType: String, url: String)\n}\n\npublic external interface NavigatorCookies {\n    val
cookieEnabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to Kotlin\n */\npublic
external interface NavigatorPlugins {\n    val plugins: PluginArray\n    val mimeTypes: MimeTypeArray\n    fun
javaEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript
[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n */\npublic external abstract
class PluginArray : ItemArrayLike<Plugin> {\n    fun refresh(reload: Boolean = definedExternally)\n    override fun
item(index: Int): Plugin?\n    fun namedItem(name: String): Plugin?\n}\n\n@kotlin.internal.InlineOnly\npublic
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inline operator fun PluginArray.get(index: Int): Plugin? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun PluginArray.get(name: String): Plugin? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n */\npublic external abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override fun item(index: Int): MimeType?\n fun namedItem(name: String): MimeType?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(index: Int): MimeType? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun MimeTypeArray.get(name: String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin) to Kotlin\n */\npublic external abstract class Plugin : ItemArrayLike<MimeType> {\n open val name: String\n open val description: String\n open val filename: String\n override fun item(index: Int): MimeType?\n fun namedItem(name: String): MimeType?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(index: Int): MimeType? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Plugin.get(name: String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin\n */\npublic external abstract class MimeType {\n open val type: String\n open val description: String\n open val suffixes: String\n open val enabledPlugin: Plugin\n}\n\n/**\n * Exposes the JavaScript [ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap) to Kotlin\n */\npublic external abstract class ImageBitmap : CanvasImageSource, TexImageSource {\n open val width: Int\n open val height: Int\n fun close()\n}\n\npublic external interface ImageBitmapOptions {\n var imageOrientation: ImageOrientation? /* = ImageOrientation.NONE */\n get() = definedExternally\n set(value) = definedExternally\n var premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */\n get() = definedExternally\n set(value) = definedExternally\n var colorSpaceConversion: ColorSpaceConversion? /* = ColorSpaceConversion.DEFAULT */\n get() = definedExternally\n set(value) = definedExternally\n var resizeWidth: Int?\n get() = definedExternally\n set(value) = definedExternally\n var resizeHeight: Int?\n get() = definedExternally\n set(value) = definedExternally\n var resizeQuality: ResizeQuality? /* = ResizeQuality.LOW */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapOptions(imageOrientation: ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha: PremultiplyAlpha? = PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? = ColorSpaceConversion.DEFAULT, resizeWidth: Int? = undefined, resizeHeight: Int? = undefined, resizeQuality: ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions {\n val o = js(\"({})\")\n o[\"imageOrientation\"] = imageOrientation\n o[\"premultiplyAlpha\"] = premultiplyAlpha\n o[\"colorSpaceConversion\"] = colorSpaceConversion\n o[\"resizeWidth\"] = resizeWidth\n o[\"resizeHeight\"] = resizeHeight\n o[\"resizeQuality\"] = resizeQuality\n return o\n}\n\n/**\n * Exposes the JavaScript [MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin\n */\npublic external open class MessageEvent(type: String, eventInitDict: MessageEventInit = definedExternally) : Event {\n open val data: Any?\n open val origin: String\n open val lastEventId: String\n open val source: UnionMessagePortOrWindowProxy?\n open val ports: Array<out MessagePort>\n fun initMessageEvent(type: String, bubbles: Boolean, cancelable: Boolean, data: Any?, origin: String, lastEventId: String, source: UnionMessagePortOrWindowProxy?, ports: Array<MessagePort>)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MessageEventInit : EventInit {\n var data: Any? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n var origin: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var lastEventId: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var source: UnionMessagePortOrWindowProxy? /* = null */\n get() = definedExternally\n set(value) = definedExternally\n var ports: Array<MessagePort>? /* = arrayOf() */\n get() = definedExternally\n set(value) =

definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MessageEventInit(data: Any? = null, origin: String? = \"\", lastEventId: String? = \"\", source: UnionMessagePortOrWindowProxy? = null, ports: Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MessageEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"origin\"] = origin\n o[\"lastEventId\"] = lastEventId\n o[\"source\"] = source\n o[\"ports\"] = ports\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource) to Kotlin\n */\npublic external open class EventSource(url: String, eventSourceInitDict: EventSourceInit = definedExternally) : EventTarget {\n open val url: String\n open val withCredentials: Boolean\n open val readyState: Short\n var onopen: ((Event) -> dynamic)?\n var onmessage: ((MessageEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n fun close()\n\n companion object {\n val CONNECTING: Short\n val OPEN: Short\n val CLOSED: Short\n }\n}\n\npublic external interface EventSourceInit {\n var withCredentials: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventSourceInit(withCredentials: Boolean? = false): EventSourceInit {\n val o = js(\"({})\")\n o[\"withCredentials\"] = withCredentials\n return o\n}\n\n/**\n * Exposes the JavaScript [WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to Kotlin\n */\npublic external open class WebSocket(url: String, protocols: dynamic = definedExternally) : EventTarget {\n open val url: String\n open val readyState: Short\n open val bufferedAmount: Number\n var onopen: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n var onclose: ((Event) -> dynamic)?\n open val extensions: String\n open val protocol: String\n var onmessage: ((MessageEvent) -> dynamic)?\n var binaryType: BinaryType\n fun close(code: Short = definedExternally, reason: String = definedExternally)\n fun send(data: String)\n fun send(data: Blob)\n fun send(data: ArrayBuffer)\n fun send(data: ArrayBufferView)\n\n companion object {\n val CONNECTING: Short\n val OPEN: Short\n val CLOSING: Short\n val CLOSED: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent) to Kotlin\n */\npublic external open class CloseEvent(type: String, eventInitDict: CloseEventInit = definedExternally) : Event {\n open val wasClean: Boolean\n open val code: Short\n open val reason: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface CloseEventInit : EventInit {\n var wasClean: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var code: Short? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var reason: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CloseEventInit(wasClean: Boolean? = false, code: Short? = 0, reason: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CloseEventInit {\n val o = js(\"({})\")\n o[\"wasClean\"] = wasClean\n o[\"code\"] = code\n o[\"reason\"] = reason\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n */\npublic external open class MessageChannel {\n open val port1: MessagePort\n open val port2: MessagePort\n}\n\n/**\n * Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n */\npublic external abstract class MessagePort : EventTarget, UnionMessagePortOrWindowProxy, UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n fun start()\n fun close()\n}\n\n/**\n * Exposes the JavaScript [BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n */\npublic external open class BroadcastChannel(name: String) : EventTarget {\n open val name: String\n var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?)\n fun close()\n}\n\n/**\n * Exposes the JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n */\npublic external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope, GlobalPerformance {\n open val self: WorkerGlobalScope\n open val location: WorkerLocation\n open val

navigator: WorkerNavigator\n   open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n   open var onlanguagechange: ((Event) -> dynamic)?\n   open var onoffline: ((Event) -> dynamic)?\n   open var ononline: ((Event) -> dynamic)?\n   open var onrejectionhandled: ((Event) -> dynamic)?\n   open var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n   fun importScripts(vararg urls: String)\n}\n\n/**\n * Exposes the JavaScript [DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to Kotlin\n */\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n   open var onmessage: ((MessageEvent) -> dynamic)?\n   fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n   fun close()\n}\n\n/**\n * Exposes the JavaScript [SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to Kotlin\n */\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n   open val name: String\n   open val applicationCache: ApplicationCache\n   open var onconnect: ((Event) -> dynamic)?\n   fun close()\n}\n\n/**\n * Exposes the JavaScript [AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n */\npublic external interface AbstractWorker {\n   var onerror: ((Event) -> dynamic)?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n/**\n * Exposes the JavaScript [Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n */\npublic external open class Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n   var onmessage: ((MessageEvent) -> dynamic)?\n   override var onerror: ((Event) -> dynamic)?\n   fun terminate()\n   fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\npublic external interface WorkerOptions {\n   var type: WorkerType? /* = WorkerType.CLASSIC */\n   get() = definedExternally\n   set(value) = definedExternally\n   var credentials: RequestCredentials? /* = RequestCredentials.OMIT */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WorkerOptions(type: WorkerType? = WorkerType.CLASSIC, credentials: RequestCredentials? = RequestCredentials.OMIT): WorkerOptions {\n   val o = js(\"({})\")\n   o[\"type\"] = type\n   o[\"credentials\"] = credentials\n   return o\n}\n\n/**\n * Exposes the JavaScript [SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n */\npublic external open class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n   open val port: MessagePort\n   override var onerror: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript [NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to Kotlin\n */\npublic external interface NavigatorConcurrentHardware {\n   val hardwareConcurrency: Number\n}\n\n/**\n * Exposes the JavaScript [WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin\n */\npublic external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine, NavigatorConcurrentHardware {\n   open val serviceWorker: ServiceWorkerContainer\n}\n\n/**\n * Exposes the JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n */\npublic external abstract class WorkerLocation {\n   open val href: String\n   open val origin: String\n   open val protocol: String\n   open val host: String\n   open val hostname: String\n   open val port: String\n   open val pathname: String\n   open val search: String\n   open val hash: String\n}\n\n/**\n * Exposes the JavaScript [Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n */\npublic external abstract class Storage {\n   open val length: Int\n   fun key(index: Int): String?\n   fun removeItem(key: String)\n   fun clear()\n   fun getItem(key: String): String?\n   fun setItem(key: String, value: String)\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.get(key: String): String? = asDynamic()[key]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Storage.set(key: String, value: String) { asDynamic()[key] = value }\n\n/**\n * Exposes the JavaScript [WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n */\npublic external interface WindowSessionStorage {\n   val sessionStorage: Storage\n}\n\n/**\n * Exposes the

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JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to Kotlin\n */\npublic external interface WindowLocalStorage {\n    val localStorage: Storage\n}\n\n/**\n * Exposes the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\n */\npublic external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\n open val key: String?\n    open val oldValue: String?\n    open val newValue: String?\n    open val url: String\n open val storageArea: Storage?\n\n    companion object {\n        val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface StorageEventInit : EventInit {\n    var key: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var oldValue: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var newValue: String? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n    var url: String? /* = \"\" */\n        get() = definedExternally\n        set(value) = definedExternally\n    var storageArea: Storage? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun StorageEventInit(key: String? = null, oldValue: String? = null, newValue: String? = null, url: String? = \"\", storageArea: Storage? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): StorageEventInit {\n    val o = js(\"({})\")\n    o[\"key\"] = key\n    o[\"oldValue\"] = oldValue\n    o[\"newValue\"] = newValue\n    o[\"url\"] = url\n    o[\"storageArea\"] = storageArea\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\npublic external abstract class HTMLAppletElement : HTMLElement {\n    open var align: String\n    open var alt: String\n    open var archive: String\n    open var code: String\n    open var codeBase: String\n    open var height: String\n    open var hspace: Int\n    open var name: String\n    open var _object: String\n    open var vspace: Int\n    open var width: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin\n */\npublic external abstract class HTMLMarqueeElement : HTMLElement {\n    open var behavior: String\n    open var bgColor: String\n    open var direction: String\n    open var height: String\n    open var hspace: Int\n    open var loop: Int\n    open var scrollAmount: Int\n    open var scrollDelay: Int\n    open var trueSpeed: Boolean\n    open var vspace: Int\n    open var width: String\n    open var onbounce: ((Event) -> dynamic)?\n    open var onfinish: ((Event) -> dynamic)?\n    open var onstart: ((Event) -> dynamic)?\n    fun start()\n    fun stop()\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin\n */\npublic external abstract class HTMLFrameSetElement : HTMLElement, WindowEventHandlers {\n    open var cols: String\n    open var rows: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val
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ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLFrameElement : HTMLElement {\n open var name: String\n open var scrolling: String\n open var src: String\n open var frameBorder: String\n open var longDesc: String\n open var noResize: Boolean\n open val contentDocument: Document?\n open val contentWindow: Window?\n open var marginHeight: String\n open var marginWidth: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class HTMLDirectoryElement : HTMLElement {\n open var compact: Boolean\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement) to Kotlin\n */\npublic external abstract class HTMLFontElement : HTMLElement {\n open var color: String\n open var face: String\n open var size: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface External {\n fun AddSearchProvider()\n fun IsSearchProviderInstalled()\n}\n\npublic external interface EventInit {\n var bubbles: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var cancelable: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var composed: Boolean? /* = false */\n get() = definedExternally\n set(value) =

definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventInit(bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n   val o = js(\"({})\")\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n */\npublic external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n   open val detail: Any?\n   fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail: Any?)\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface CustomEventInit : EventInit {\n   var detail: Any? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CustomEventInit(detail: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CustomEventInit {\n   val o = js(\"({})\")\n   o[\"detail\"] = detail\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\npublic external interface EventListenerOptions {\n   var capture: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventListenerOptions(capture: Boolean? = false): EventListenerOptions {\n   val o = js(\"({})\")\n   o[\"capture\"] = capture\n   return o\n}\n\npublic external interface AddEventListenerOptions : EventListenerOptions {\n   var passive: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var once: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun AddEventListenerOptions(passive: Boolean? = false, once: Boolean? = false, capture: Boolean? = false): AddEventListenerOptions {\n   val o = js(\"({})\")\n   o[\"passive\"] = passive\n   o[\"once\"] = once\n   o[\"capture\"] = capture\n   return o\n}\n\npublic external interface NonElementParentNode {\n   fun getElementById(elementId: String): Element?\n}\n\n/**\n * Exposes the JavaScript [DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n */\npublic external interface DocumentOrShadowRoot {\n   val fullscreenElement: Element?\n   get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript [ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n */\npublic external interface ParentNode {\n   val children: HTMLCollection\n   val firstElementChild: Element?\n   get() = definedExternally\n   val lastElementChild: Element?\n   get() = definedExternally\n   val childElementCount: Int\n   fun prepend(vararg nodes: dynamic)\n   fun append(vararg nodes: dynamic)\n   fun querySelector(selectors: String): Element?\n   fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript [NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to Kotlin\n */\npublic external interface NonDocumentTypeChildNode {\n   val previousElementSibling: Element?\n   get() = definedExternally\n   val nextElementSibling: Element?\n   get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n */\npublic external interface ChildNode {\n   fun before(vararg nodes: dynamic)\n   fun after(vararg nodes: dynamic)\n   fun replaceWith(vararg nodes: dynamic)\n   fun remove()\n}\n\n/**\n * Exposes the JavaScript [Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n */\npublic external interface Slotable {\n   val assignedSlot: HTMLSlotElement?\n   get() = definedExternally\n}\n\n/**\n * Exposes the JavaScript [NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n */\npublic external abstract class NodeList : ItemArrayLike<Node> {\n   override fun item(index: Int): Node?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun NodeList.get(index: Int): Node? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n */\npublic external abstract class HTMLCollection : ItemArrayLike<Element>, UnionElementOrHTMLCollection {\n   override fun item(index: Int): Element?\n   fun namedItem(name: String): Element?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLCollection.get(index: Int): Element? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun HTMLCollection.get(name:

String): Element? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin\n */\npublic external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {\n fun observe(target: Node, options: MutationObserverInit = definedExternally)\n fun disconnect()\n fun takeRecords(): Array<MutationRecord>\n}\n\n/**\n * Exposes the JavaScript [MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin\n */\npublic external interface MutationObserverInit {\n var childList: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var attributes: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var characterData: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var subtree: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var attributeOldValue: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var characterDataOldValue: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var attributeFilter: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MutationObserverInit(childList: Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false, attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter: Array<String>? = undefined): MutationObserverInit {\n val o = js(\"({})\")\n o[\"childList\"] = childList\n o[\"attributes\"] = attributes\n o[\"characterData\"] = characterData\n o[\"subtree\"] = subtree\n o[\"attributeOldValue\"] = attributeOldValue\n o[\"characterDataOldValue\"] = characterDataOldValue\n o[\"attributeFilter\"] = attributeFilter\n return o\n}\n\n/**\n * Exposes the JavaScript [MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin\n */\npublic external abstract class MutationRecord {\n open val type: String\n open val target: Node\n open val addedNodes: NodeList\n open val removedNodes: NodeList\n open val previousSibling: Node?\n open val nextSibling: Node?\n open val attributeName: String?\n open val attributeNamespace: String?\n open val oldValue: String?\n}\n\n/**\n * Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to Kotlin\n */\npublic external abstract class Node : EventTarget {\n open val nodeType: Short\n open val nodeName: String\n open val baseURI: String\n open val isConnected: Boolean\n open val ownerDocument: Document?\n open val parentNode: Node?\n open val parentElement: Element?\n open val childNodes: NodeList\n open val firstChild: Node?\n open val lastChild: Node?\n open val previousSibling: Node?\n open val nextSibling: Node?\n open var nodeValue: String?\n open var textContent: String?\n fun getRootNode(options: GetRootNodeOptions = definedExternally): Node\n fun hasChildNodes(): Boolean\n fun normalize()\n fun cloneNode(deep: Boolean = definedExternally): Node\n fun isEqualNode(otherNode: Node?): Boolean\n fun isSameNode(otherNode: Node?): Boolean\n fun compareDocumentPosition(other: Node): Short\n fun contains(other: Node?): Boolean\n fun lookupPrefix(namespace: String?): String?\n fun lookupNamespaceURI(prefix: String?): String?\n fun isDefaultNamespace(namespace: String?): Boolean\n fun insertBefore(node: Node, child: Node?): Node\n fun appendChild(node: Node): Node\n fun replaceChild(node: Node, child: Node): Node\n fun removeChild(child: Node): Node\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface GetRootNodeOptions {\n var composed: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun GetRootNodeOptions(composed: Boolean?

= false): GetRootNodeOptions {\n   val o = js(\"({})\")\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [Document](https://developer.mozilla.org/en/docs/Web/API/Document) to Kotlin\n */\npublic external open class Document : Node, GlobalEventHandlers, DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode, GeometryUtils {\n   open val implementation: DOMImplementation\n   open val URL: String\n   open val documentURI: String\n   open val origin: String\n   open val compatMode: String\n   open val characterSet: String\n   open val charset: String\n   open val inputEncoding: String\n   open val contentType: String\n   open val doctype: DocumentType?\n   open val documentElement: Element?\n   open val location: Location?\n   var domain: String\n   open val referrer: String\n   var cookie: String\n   open val lastModified: String\n   open val readyState: DocumentReadyState\n   var title: String\n   var dir: String\n   var body: HTMLElement?\n   open val head: HTMLHeadElement?\n   open val images: HTMLCollection\n   open val embeds: HTMLCollection\n   open val plugins: HTMLCollection\n   open val links: HTMLCollection\n   open val forms: HTMLCollection\n   open val scripts: HTMLCollection\n   open val currentScript: HTMLOrSVGScriptElement?\n   open val defaultView: Window?\n   open val activeElement: Element?\n   var designMode: String\n   var onreadystatechange: ((Event) -> dynamic)?\n   var fgColor: String\n   var linkColor: String\n   var vlinkColor: String\n   var alinkColor: String\n   var bgColor: String\n   open val anchors: HTMLCollection\n   open val applets: HTMLCollection\n   open val all: HTMLAllCollection\n   open val scrollingElement: Element?\n   open val styleSheets: StyleSheetList\n   open val rootElement: SVGSVGElement?\n   open val fullscreenEnabled: Boolean\n   open val fullscreen: Boolean\n   var onfullscreenchange: ((Event) -> dynamic)?\n   var onfullscreenerror: ((Event) -> dynamic)?\n   override var onabort: ((Event) -> dynamic)?\n   override var onblur: ((FocusEvent) -> dynamic)?\n   override var oncancel: ((Event) -> dynamic)?\n   override var oncanplay: ((Event) -> dynamic)?\n   override var oncanplaythrough: ((Event) -> dynamic)?\n   override var onchange: ((Event) -> dynamic)?\n   override var onclick: ((MouseEvent) -> dynamic)?\n   override var onclose: ((Event) -> dynamic)?\n   override var oncontextmenu: ((MouseEvent) -> dynamic)?\n   override var oncuechange: ((Event) -> dynamic)?\n   override var ondblclick: ((MouseEvent) -> dynamic)?\n   override var ondrag: ((DragEvent) -> dynamic)?\n   override var ondragend: ((DragEvent) -> dynamic)?\n   override var ondragenter: ((DragEvent) -> dynamic)?\n   override var ondragexit: ((DragEvent) -> dynamic)?\n   override var ondragleave: ((DragEvent) -> dynamic)?\n   override var ondragover: ((DragEvent) -> dynamic)?\n   override var ondragstart: ((DragEvent) -> dynamic)?\n   override var ondrop: ((DragEvent) -> dynamic)?\n   override var ondurationchange: ((Event) -> dynamic)?\n   override var onemptied: ((Event) -> dynamic)?\n   override var onended: ((Event) -> dynamic)?\n   override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n   override var onfocus: ((FocusEvent) -> dynamic)?\n   override var oninput: ((InputEvent) -> dynamic)?\n   override var oninvalid: ((Event) -> dynamic)?\n   override var onkeydown: ((KeyboardEvent) -> dynamic)?\n   override var onkeypress: ((KeyboardEvent) -> dynamic)?\n   override var onkeyup: ((KeyboardEvent) -> dynamic)?\n   override var onload: ((Event) -> dynamic)?\n   override var onloadeddata: ((Event) -> dynamic)?\n   override var onloadedmetadata: ((Event) -> dynamic)?\n   override var onloadend: ((Event) -> dynamic)?\n   override var onloadstart: ((ProgressEvent) -> dynamic)?\n   override var onmousedown: ((MouseEvent) -> dynamic)?\n   override var onmouseenter: ((MouseEvent) -> dynamic)?\n   override var onmouseleave: ((MouseEvent) -> dynamic)?\n   override var onmousemove: ((MouseEvent) -> dynamic)?\n   override var onmouseout: ((MouseEvent) -> dynamic)?\n   override var onmouseover: ((MouseEvent) -> dynamic)?\n   override var onmouseup: ((MouseEvent) -> dynamic)?\n   override var onwheel: ((WheelEvent) -> dynamic)?\n   override var onpause: ((Event) -> dynamic)?\n   override var onplay: ((Event) -> dynamic)?\n   override var onplaying: ((Event) -> dynamic)?\n   override var onprogress: ((ProgressEvent) -> dynamic)?\n   override var onratechange: ((Event) -> dynamic)?\n   override var onreset: ((Event) -> dynamic)?\n   override var onresize: ((Event) -> dynamic)?\n   override var onscroll: ((Event) -> dynamic)?\n   override var onseeked: ((Event) -> dynamic)?\n   override var onseeking: ((Event) -> dynamic)?\n   override var onselect: ((Event) -> dynamic)?\n   override var onshow: ((Event) -> dynamic)?\n   override var onstalled: ((Event) -> dynamic)?\n   override var onsubmit: ((Event) -> dynamic)?\n   override var onsuspend: ((Event) -> dynamic)?\n   override var ontimeupdate: ((Event) -> dynamic)?\n   override var ontoggle: ((Event) -> dynamic)?\n   override var

onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override val fullscreenElement: Element?\n override val children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n fun getElementsByTagName(qualifiedName: String): HTMLCollection\n fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun getElementsByClassName(classNames: String): HTMLCollection\n fun createElement(localName: String, options: ElementCreationOptions = definedExternally): Element\n fun createElementNS(namespace: String?, qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n fun createDocumentFragment(): DocumentFragment\n fun createTextNode(data: String): Text\n fun createCDATASection(data: String): CDATASection\n fun createComment(data: String): Comment\n fun createProcessingInstruction(target: String, data: String): ProcessingInstruction\n fun importNode(node: Node, deep: Boolean = definedExternally): Node\n fun adoptNode(node: Node): Node\n fun createAttribute(localName: String): Attr\n fun createAttributeNS(namespace: String?, qualifiedName: String): Attr\n fun createEvent(`interface`: String): Event\n fun createRange(): Range\n fun createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n fun createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? = definedExternally): NodeIterator\n fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): TreeWalker\n fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n fun getElementsByName(elementName: String): NodeList\n fun open(type: String = definedExternally, replace: String = definedExternally): Document\n fun open(url: String, name: String, features: String): Window\n fun close()\n fun write(vararg text: String)\n fun writeln(vararg text: String)\n fun hasFocus(): Boolean\n fun execCommand(commandId: String, showUI: Boolean = definedExternally, value: String = definedExternally): Boolean\n fun queryCommandEnabled(commandId: String): Boolean\n fun queryCommandIndeterm(commandId: String): Boolean\n fun queryCommandState(commandId: String): Boolean\n fun queryCommandSupported(commandId: String): Boolean\n fun queryCommandValue(commandId: String): String\n fun clear()\n fun captureEvents()\n fun releaseEvents()\n fun elementFromPoint(x: Double, y: Double): Element?\n fun elementsFromPoint(x: Double, y: Double): Array<Element>\n fun caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n fun createTouch(view: Window, target: EventTarget, identifier: Int, pageX: Int, pageY: Int, screenX: Int, screenY: Int): Touch\n fun createTouchList(vararg touches: Touch): TouchList\n fun exitFullscreen(): Promise<Unit>\n override fun getElementById(elementId: String): Element?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:

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Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
     val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n
}\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun Document.get(name: String): dynamic =
asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n */\npublic external
open class XMLDocument : Document {\n    companion object {\n        val ELEMENT_NODE: Short\n        val
ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val
ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
     val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface
ElementCreationOptions {\n    var `is`: String?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(`is`: String? =
undefined): ElementCreationOptions {\n    val o = js(\"({})\")\n    o[\"is\"] = `is`\n    return o\n}\n\n/**\n * Exposes
the JavaScript [DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to
Kotlin\n */\npublic external abstract class DOMImplementation {\n    fun createDocumentType(qualifiedName:
String, publicId: String, systemId: String): DocumentType\n    fun createDocument(namespace: String?,
qualifiedName: String, doctype: DocumentType? = definedExternally): XMLDocument\n    fun
createHTMLDocument(title: String = definedExternally): Document\n    fun hasFeature(): Boolean\n}\n\n/**\n *
Exposes the JavaScript [DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to
Kotlin\n */\npublic external abstract class DocumentType : Node, ChildNode {\n    open val name: String\n    open
val publicId: String\n    open val systemId: String\n\n    companion object {\n        val ELEMENT_NODE: Short\n
  val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n
 val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val
PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val
DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val
DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
    val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
     val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n */\npublic
external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n    override val children:
HTMLCollection\n    override val firstElementChild: Element?\n    override val lastElementChild: Element?\n
override val childElementCount: Int\n    override fun getElementById(elementId: String): Element?\n    override fun
prepend(vararg nodes: dynamic)\n    override fun append(vararg nodes: dynamic)\n    override fun
querySelector(selectors: String): Element?\n    override fun querySelectorAll(selectors: String): NodeList\n\n
companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val
TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE:
```

Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n */\npublic external open class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n open val mode: ShadowRootMode\n open val host: Element\n override val fullscreenElement: Element?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n */\npublic external abstract class Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils, UnionElementOrHTMLCollection, UnionElementOrRadioNodeList, UnionElementOrMouseEvent, UnionElementOrProcessingInstruction {\n open val namespaceURI: String?\n open val prefix: String?\n open val localName: String\n open val tagName: String\n open var id: String\n open var className: String\n open val classList: DOMTokenList\n open var slot: String\n open val attributes: NamedNodeMap\n open val shadowRoot: ShadowRoot?\n open var scrollTop: Double\n open var scrollLeft: Double\n open val scrollWidth: Int\n open val scrollHeight: Int\n open val clientTop: Int\n open val clientLeft: Int\n open val clientWidth: Int\n open val clientHeight: Int\n open var innerHTML: String\n open var outerHTML: String\n fun hasAttributes(): Boolean\n fun getAttributeNames(): Array<String>\n fun getAttribute(qualifiedName: String): String?\n fun getAttributeNS(namespace: String?, localName: String): String?\n fun setAttribute(qualifiedName: String, value: String)\n fun setAttributeNS(namespace: String?, qualifiedName: String, value: String)\n fun removeAttribute(qualifiedName: String)\n fun removeAttributeNS(namespace: String?, localName: String)\n fun hasAttribute(qualifiedName: String): Boolean\n fun hasAttributeNS(namespace: String?, localName: String): Boolean\n fun getAttributeNode(qualifiedName: String): Attr?\n fun getAttributeNodeNS(namespace: String?, localName: String): Attr?\n fun setAttributeNode(attr: Attr): Attr?\n fun setAttributeNodeNS(attr: Attr): Attr?\n fun removeAttributeNode(attr: Attr): Attr\n fun attachShadow(init: ShadowRootInit): ShadowRoot\n fun closest(selectors: String): Element?\n fun matches(selectors: String): Boolean\n fun webkitMatchesSelector(selectors: String): Boolean\n fun getElementsByTagName(qualifiedName: String): HTMLCollection\n fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n fun getElementsByClassName(classNames: String): HTMLCollection\n fun insertAdjacentElement(where: String, element: Element): Element?\n fun insertAdjacentText(where: String, data: String)\n fun getClientRects(): Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n fun scrollIntoView()\n fun scrollIntoView(arg: dynamic)\n fun scroll(options: ScrollToOptions = definedExternally)\n fun scroll(x: Double, y: Double)\n fun scrollTo(options: ScrollToOptions = definedExternally)\n fun scrollTo(x: Double, y: Double)\n fun scrollBy(options: ScrollToOptions = definedExternally)\n fun scrollBy(x: Double, y: Double)\n fun insertAdjacentHTML(position: String, text: String)\n fun setPointerCapture(pointerId: Int)\n fun releasePointerCapture(pointerId: Int)\n fun hasPointerCapture(pointerId: Int): Boolean\n fun requestFullscreen():

Promise<Unit>\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\npublic external interface ShadowRootInit {\n   var mode: ShadowRootMode?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode: ShadowRootMode?): ShadowRootInit {\n   val o = js(\"({})\")\n   o[\"mode\"] = mode\n   return o\n}\n\n/**\n * Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to Kotlin\n */\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n   fun getNamedItemNS(namespace: String?, localName: String): Attr?\n   fun setNamedItem(attr: Attr): Attr?\n   fun setNamedItemNS(attr: Attr): Attr?\n   fun removeNamedItem(qualifiedName: String): Attr\n   fun removeNamedItemNS(namespace: String?, localName: String): Attr\n   override fun item(index: Int): Attr?\n   fun getNamedItem(qualifiedName: String): Attr?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(index: Int): Attr? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun NamedNodeMap.get(qualifiedName: String): Attr? = asDynamic()[qualifiedName]\n\n/**\n * Exposes the JavaScript [Attr](https://developer.mozilla.org/en/docs/Web/API/Attr) to Kotlin\n */\npublic external abstract class Attr : Node {\n   open val namespaceURI: String?\n   open val prefix: String?\n   open val localName: String\n   open val name: String\n   open var value: String\n   open val ownerElement: Element?\n   open val specified: Boolean\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [CharacterData](https://developer.mozilla.org/en/docs/Web/API/CharacterData) to Kotlin\n */\npublic external abstract class CharacterData : Node, NonDocumentTypeChildNode, ChildNode {\n   open var data: String\n   open val length: Int\n   fun substringData(offset: Int, count: Int): String\n   fun appendData(data: String)\n   fun insertData(offset: Int, data: String)\n   fun deleteData(offset: Int, count: Int)\n   fun replaceData(offset: Int, count: Int, data: String)\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [Text](https://developer.mozilla.org/en/docs/Web/API/Text) to Kotlin\n */\npublic external open class Text(data:

String = definedExternally) : CharacterData, Slotable, GeometryUtils {\n open val wholeText: String\n override val assignedSlot: HTMLSlotElement?\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n fun splitText(offset: Int): Text\n override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CDATASection](https://developer.mozilla.org/en/docs/Web/API/CDATASection) to Kotlin\n */\npublic external open class CDATASection : Text {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [ProcessingInstruction](https://developer.mozilla.org/en/docs/Web/API/ProcessingInstruction) to Kotlin\n */\npublic external abstract class ProcessingInstruction : CharacterData, LinkStyle, UnionElementOrProcessingInstruction {\n open val target: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [Comment](https://developer.mozilla.org/en/docs/Web/API/Comment) to Kotlin\n */\npublic external open class Comment(data: String = definedExternally) : CharacterData {\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE:

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Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val
COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n
    val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val
DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n
  val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n
    val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val
DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[Range](https://developer.mozilla.org/en/docs/Web/API/Range) to Kotlin\n */\npublic external open class Range {\n
  open val startContainer: Node\n    open val startOffset: Int\n    open val endContainer: Node\n    open val
endOffset: Int\n    open val collapsed: Boolean\n    open val commonAncestorContainer: Node\n    fun setStart(node:
Node, offset: Int)\n    fun setEnd(node: Node, offset: Int)\n    fun setStartBefore(node: Node)\n    fun
setStartAfter(node: Node)\n    fun setEndBefore(node: Node)\n    fun setEndAfter(node: Node)\n    fun
collapse(toStart: Boolean = definedExternally)\n    fun selectNode(node: Node)\n    fun selectNodeContents(node:
Node)\n    fun compareBoundaryPoints(how: Short, sourceRange: Range): Short\n    fun deleteContents()\n    fun
extractContents(): DocumentFragment\n    fun cloneContents(): DocumentFragment\n    fun insertNode(node:
Node)\n    fun surroundContents(newParent: Node)\n    fun cloneRange(): Range\n    fun detach()\n    fun
isPointInRange(node: Node, offset: Int): Boolean\n    fun comparePoint(node: Node, offset: Int): Short\n    fun
intersectsNode(node: Node): Boolean\n    fun getClientRects(): Array<DOMRect>\n    fun
getBoundingClientRect(): DOMRect\n    fun createContextualFragment(fragment: String): DocumentFragment\n\n
  companion object {\n        val START_TO_START: Short\n        val START_TO_END: Short\n        val
END_TO_END: Short\n        val END_TO_START: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n */\npublic external abstract
class NodeIterator {\n    open val root: Node\n    open val referenceNode: Node\n    open val
pointerBeforeReferenceNode: Boolean\n    open val whatToShow: Int\n    open val filter: NodeFilter?\n    fun
nextNode(): Node?\n    fun previousNode(): Node?\n    fun detach()\n}\n\n/**\n * Exposes the JavaScript
[TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n */\npublic external abstract
class TreeWalker {\n    open val root: Node\n    open val whatToShow: Int\n    open val filter: NodeFilter?\n    open
var currentNode: Node\n    fun parentNode(): Node?\n    fun firstChild(): Node?\n    fun lastChild(): Node?\n    fun
previousSibling(): Node?\n    fun nextSibling(): Node?\n    fun previousNode(): Node?\n    fun nextNode():
Node?\n}\n\n/**\n * Exposes the JavaScript
[NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface NodeFilter {\n
fun acceptNode(node: Node): Short\n\n    companion object {\n        val FILTER_ACCEPT: Short\n        val
FILTER_REJECT: Short\n        val FILTER_SKIP: Short\n        val SHOW_ALL: Int\n        val
SHOW_ELEMENT: Int\n        val SHOW_ATTRIBUTE: Int\n        val SHOW_TEXT: Int\n        val
SHOW_CDATA_SECTION: Int\n        val SHOW_ENTITY_REFERENCE: Int\n        val SHOW_ENTITY: Int\n
  val SHOW_PROCESSING_INSTRUCTION: Int\n        val SHOW_COMMENT: Int\n        val
SHOW_DOCUMENT: Int\n        val SHOW_DOCUMENT_TYPE: Int\n        val
SHOW_DOCUMENT_FRAGMENT: Int\n        val SHOW_NOTATION: Int\n    }\n}\n\n/**\n * Exposes the
JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to Kotlin\n */\npublic
external abstract class DOMTokenList : ItemArrayLike<String> {\n    open var value: String\n    fun contains(token:
String): Boolean\n    fun add(vararg tokens: String)\n    fun remove(vararg tokens: String)\n    fun toggle(token:
String, force: Boolean = definedExternally): Boolean\n    fun replace(token: String, newToken: String)\n    fun
supports(token: String): Boolean\n    override fun item(index: Int):
String?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMTokenList.get(index: Int): String? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin\n */\npublic
external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) {\n    open val x: Double\n
```

open val y: Double\n   open val z: Double\n   open val w: Double\n   fun matrixTransform(matrix: DOMMatrixReadOnly): DOMPoint\n}\n\n/**\n * Exposes the JavaScript [DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin\n */\npublic external open class DOMPoint : DOMPointReadOnly {\n   constructor(point: DOMPointInit)\n   constructor(x: Double = definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally)\n   override var x: Double\n   override var y: Double\n   override var z: Double\n   override var w: Double\n}\n\n/**\n * Exposes the JavaScript [DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin\n */\npublic external interface DOMPointInit {\n   var x: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var y: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var z: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var w: Double? /* = 1.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DOMPointInit(x: Double? = 0.0, y: Double? = 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {\n   val o = js(\"({})\")\n   o[\"x\"] = x\n   o[\"y\"] = y\n   o[\"z\"] = z\n   o[\"w\"] = w\n   return o\n}\n\n/**\n * Exposes the JavaScript [DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin\n */\npublic external open class DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally, height: Double = definedExternally) : DOMRectReadOnly {\n   override var x: Double\n   override var y: Double\n   override var width: Double\n   override var height: Double\n}\n\n/**\n * Exposes the JavaScript [DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin\n */\npublic external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {\n   open val x: Double\n   open val y: Double\n   open val width: Double\n   open val height: Double\n   open val top: Double\n   open val right: Double\n   open val bottom: Double\n   open val left: Double\n}\n\npublic external interface DOMRectInit {\n   var x: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var y: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var width: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var height: Double? /* = 0.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DOMRectInit(x: Double? = 0.0, y: Double? = 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit {\n   val o = js(\"({})\")\n   o[\"x\"] = x\n   o[\"y\"] = y\n   o[\"width\"] = width\n   o[\"height\"] = height\n   return o\n}\n\npublic external interface DOMRectList : ItemArrayLike<DOMRect> {\n   override fun item(index: Int): DOMRect?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun DOMRectList.get(index: Int): DOMRect? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n */\npublic external open class DOMQuad {\n   constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3: DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n   constructor(rect: DOMRectInit)\n   open val p1: DOMPoint\n   open val p2: DOMPoint\n   open val p3: DOMPoint\n   open val p4: DOMPoint\n   open val bounds: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript [DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly) to Kotlin\n */\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n   open val a: Double\n   open val b: Double\n   open val c: Double\n   open val d: Double\n   open val e: Double\n   open val f: Double\n   open val m11: Double\n   open val m12: Double\n   open val m13: Double\n   open val m14: Double\n   open val m21: Double\n   open val m22: Double\n   open val m23: Double\n   open val m24: Double\n   open val m31: Double\n   open val m32: Double\n   open val m33: Double\n   open val m34: Double\n   open val m41: Double\n   open val m42: Double\n   open val m43: Double\n   open val m44: Double\n   open val is2D: Boolean\n   open val isIdentity: Boolean\n   fun translate(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n   fun scale(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n   fun scale3d(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally, originZ:

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Double = definedExternally): DOMMatrix\n    fun scaleNonUniform(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun rotate(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n    fun rotateFromVector(x:
Double, y: Double): DOMMatrix\n    fun rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n    fun skewX(sx: Double): DOMMatrix\n    fun skewY(sy: Double): DOMMatrix\n    fun
multiply(other: DOMMatrix): DOMMatrix\n    fun flipX(): DOMMatrix\n    fun flipY(): DOMMatrix\n    fun
inverse(): DOMMatrix\n    fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n    fun
toFloat32Array(): Float32Array\n    fun toFloat64Array(): Float64Array\n}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n */\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n    constructor(transformList: String)\n    constructor(other:
DOMMatrixReadOnly)\n    constructor(array32: Float32Array)\n    constructor(array64: Float64Array)\n
constructor(numberSequence: Array<Double>)\n    override var a: Double\n    override var b: Double\n    override
var c: Double\n    override var d: Double\n    override var e: Double\n    override var f: Double\n    override var m11:
Double\n    override var m12: Double\n    override var m13: Double\n    override var m14: Double\n    override var
m21: Double\n    override var m22: Double\n    override var m23: Double\n    override var m24: Double\n    override
var m31: Double\n    override var m32: Double\n    override var m33: Double\n    override var m34: Double\n
override var m41: Double\n    override var m42: Double\n    override var m43: Double\n    override var m44:
Double\n    fun multiplySelf(other: DOMMatrix): DOMMatrix\n    fun preMultiplySelf(other: DOMMatrix):
DOMMatrix\n    fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n    fun
scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
  fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally,
originZ: Double = definedExternally): DOMMatrix\n    fun scaleNonUniformSelf(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n    fun rotateSelf(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n    fun rotateFromVectorSelf(x:
Double, y: Double): DOMMatrix\n    fun rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n    fun skewXSelf(sx: Double): DOMMatrix\n    fun skewYSelf(sy: Double): DOMMatrix\n    fun
invertSelf(): DOMMatrix\n    fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n    var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n        get() =
definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ScrollOptions(behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n    val o = js(\"({})\")\n
o[\"behavior\"] = behavior\n    return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\npublic external
interface ScrollToOptions : ScrollOptions {\n    var left: Double?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var top: Double?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? = undefined,
top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n    val o =
js(\"({})\")\n    o[\"left\"] = left\n    o[\"top\"] = top\n    o[\"behavior\"] = behavior\n    return o\n}\n\n/**\n *
Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\npublic external abstract class MediaQueryList : EventTarget {\n    open val media: String\n    open val
matches: Boolean\n    open var onchange: ((Event) -> dynamic)?\n    fun addListener(listener: EventListener?)\n
fun addListener(listener: ((Event) -> Unit)?)\n    fun removeListener(listener: EventListener?)\n    fun
removeListener(listener: ((Event) -> Unit)?)\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n
*/\npublic external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n    open val media: String\n    open val matches: Boolean\n\n    companion object {\n
  val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
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BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MediaQueryListEventInit : EventInit {\n var media: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var matches: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaQueryListEventInit(media: String? = \"\", matches: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MediaQueryListEventInit {\n val o = js(\"({})\")\n o[\"media\"] = media\n o[\"matches\"] = matches\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n */\npublic external abstract class Screen {\n open val availWidth: Int\n open val availHeight: Int\n open val width: Int\n open val height: Int\n open val colorDepth: Int\n open val pixelDepth: Int\n}\n\n/**\n * Exposes the JavaScript [CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n */\npublic external abstract class CaretPosition {\n open val offsetNode: Node\n open val offset: Int\n fun getClientRect(): DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions {\n var block: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n get() = definedExternally\n set(value) = definedExternally\n var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ScrollIntoViewOptions(block: ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline: ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollIntoViewOptions {\n val o = js(\"({})\")\n o[\"block\"] = block\n o[\"inline\"] = inline\n o[\"behavior\"] = behavior\n return o\n}\n\npublic external interface BoxQuadOptions {\n var box: CSSBoxType? /* = CSSBoxType.BORDER */\n get() = definedExternally\n set(value) = definedExternally\n var relativeTo: dynamic\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun BoxQuadOptions(box: CSSBoxType? = CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n val o = js(\"({})\")\n o[\"box\"] = box\n o[\"relativeTo\"] = relativeTo\n return o\n}\n\npublic external interface ConvertCoordinateOptions {\n var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n get() = definedExternally\n set(value) = definedExternally\n var toBox: CSSBoxType? /* = CSSBoxType.BORDER */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConvertCoordinateOptions(fromBox: CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? = CSSBoxType.BORDER): ConvertCoordinateOptions {\n val o = js(\"({})\")\n o[\"fromBox\"] = fromBox\n o[\"toBox\"] = toBox\n return o\n}\n\n/**\n * Exposes the JavaScript [GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n */\npublic external interface GeometryUtils {\n fun getBoxQuads(options: BoxQuadOptions = definedExternally): Array<DOMQuad>\n fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMPoint\n}\n\n/**\n * Exposes the JavaScript [Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to Kotlin\n */\npublic external abstract class Touch {\n open val identifier: Int\n open val target: EventTarget\n open val screenX: Int\n open val screenY: Int\n open val clientX: Int\n open val clientY: Int\n open val pageX: Int\n open val pageY: Int\n open val region: String?\n}\n\npublic external abstract class TouchList : ItemArrayLike<Touch> {\n override fun item(index: Int): Touch?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun TouchList.get(index: Int): Touch? = asDynamic()[index]\n\npublic external open class TouchEvent : UIEvent {\n open val touches: TouchList\n open val targetTouches: TouchList\n open val changedTouches: TouchList\n open val altKey: Boolean\n open val metaKey: Boolean\n open val ctrlKey: Boolean\n open val shiftKey: Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n */\npublic external open class Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLImageElement {\n override var onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend: ((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown: ((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) -> dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) -> dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked: ((Event) -> dynamic)?\n override var onseeking: ((Event) -> dynamic)?\n override var onselect: ((Event) -> dynamic)?\n override var onshow: ((Event) -> dynamic)?\n override var onstalled: ((Event) -> dynamic)?\n override var onsubmit: ((Event) -> dynamic)?\n override var onsuspend: ((Event) -> dynamic)?\n override var ontimeupdate: ((Event) -> dynamic)?\n override var ontoggle: ((Event) -> dynamic)?\n override var onvolumechange: ((Event) -> dynamic)?\n override var onwaiting: ((Event) -> dynamic)?\n override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n override val isContentEditable: Boolean\n override val style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val assignedSlot: HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override

fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n   override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n   override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\npublic external open class Audio(src: String = definedExternally) : HTMLAudioElement {\n   override var onabort: ((Event) -> dynamic)?\n   override var onblur: ((FocusEvent) -> dynamic)?\n   override var oncancel: ((Event) -> dynamic)?\n   override var oncanplay: ((Event) -> dynamic)?\n   override var oncanplaythrough: ((Event) -> dynamic)?\n   override var onchange: ((Event) -> dynamic)?\n   override var onclick: ((MouseEvent) -> dynamic)?\n   override var onclose: ((Event) -> dynamic)?\n   override var oncontextmenu: ((MouseEvent) -> dynamic)?\n   override var oncuechange: ((Event) -> dynamic)?\n   override var ondblclick: ((MouseEvent) -> dynamic)?\n   override var ondrag: ((DragEvent) -> dynamic)?\n   override var ondragend: ((DragEvent) -> dynamic)?\n   override var ondragenter: ((DragEvent) -> dynamic)?\n   override var ondragexit: ((DragEvent) -> dynamic)?\n   override var ondragleave: ((DragEvent) -> dynamic)?\n   override var ondragover: ((DragEvent) -> dynamic)?\n   override var ondragstart: ((DragEvent) -> dynamic)?\n   override var ondrop: ((DragEvent) -> dynamic)?\n   override var ondurationchange: ((Event) -> dynamic)?\n   override var onemptied: ((Event) -> dynamic)?\n   override var onended: ((Event) -> dynamic)?\n   override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n   override var onfocus: ((FocusEvent) -> dynamic)?\n   override var oninput: ((InputEvent) -> dynamic)?\n   override var oninvalid: ((Event) -> dynamic)?\n   override var onkeydown: ((KeyboardEvent) -> dynamic)?\n   override var onkeypress: ((KeyboardEvent) -> dynamic)?\n   override var onkeyup: ((KeyboardEvent) -> dynamic)?\n   override var onload: ((Event) -> dynamic)?\n   override var onloadeddata: ((Event) -> dynamic)?\n   override var onloadedmetadata: ((Event) -> dynamic)?\n   override var onloadend: ((Event) -> dynamic)?\n   override var onloadstart: ((ProgressEvent) -> dynamic)?\n   override var onmousedown: ((MouseEvent) -> dynamic)?\n   override var onmouseenter: ((MouseEvent) -> dynamic)?\n   override var onmouseleave: ((MouseEvent) -> dynamic)?\n   override var onmousemove: ((MouseEvent) -> dynamic)?\n   override var onmouseout: ((MouseEvent) -> dynamic)?\n   override var onmouseover: ((MouseEvent) -> dynamic)?\n   override var onmouseup: ((MouseEvent) -> dynamic)?\n   override var onwheel: ((WheelEvent) -> dynamic)?\n   override var onpause: ((Event) -> dynamic)?\n   override var onplay: ((Event) -> dynamic)?\n   override var onplaying: ((Event) -> dynamic)?\n   override var onprogress: ((ProgressEvent) -> dynamic)?\n   override var onratechange: ((Event) -> dynamic)?\n   override var onreset: ((Event) -> dynamic)?\n   override var onresize: ((Event) -> dynamic)?\n   override var onscroll: ((Event) -> dynamic)?\n   override var onseeked: ((Event) -> dynamic)?\n   override var onseeking: ((Event) -> dynamic)?\n   override var onselect: ((Event) -> dynamic)?\n   override var onshow: ((Event) -> dynamic)?\n   override var onstalled: ((Event) -> dynamic)?\n   override var onsubmit: ((Event) -> dynamic)?\n   override var onsuspend: ((Event) -> dynamic)?\n   override var ontimeupdate: ((Event) -> dynamic)?\n   override var ontoggle: ((Event) -> dynamic)?\n   override var onvolumechange: ((Event) -> dynamic)?\n   override var onwaiting: ((Event) -> dynamic)?\n   override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n   override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n   override var onpointerdown: ((PointerEvent) -> dynamic)?\n   override var onpointermove: ((PointerEvent) -> dynamic)?\n   override var onpointerup: ((PointerEvent) -> dynamic)?\n   override var onpointercancel: ((PointerEvent) -> dynamic)?\n   override var

onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var oncopy: ((ClipboardEvent) -> dynamic)?\n override var oncut: ((ClipboardEvent) -> dynamic)?\n override var onpaste: ((ClipboardEvent) -> dynamic)?\n override var contentEditable: String\n override val isContentEditable: Boolean\n override val style: CSSStyleDeclaration\n override val children: HTMLCollection\n override val firstElementChild: Element?\n override val lastElementChild: Element?\n override val childElementCount: Int\n override val previousElementSibling: Element?\n override val nextElementSibling: Element?\n override val assignedSlot: HTMLSlotElement?\n override fun prepend(vararg nodes: dynamic)\n override fun append(vararg nodes: dynamic)\n override fun querySelector(selectors: String): Element?\n override fun querySelectorAll(selectors: String): NodeList\n override fun before(vararg nodes: dynamic)\n override fun after(vararg nodes: dynamic)\n override fun replaceWith(vararg nodes: dynamic)\n override fun remove()\n override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n companion object {\n val NETWORK_EMPTY: Short\n val NETWORK_IDLE: Short\n val NETWORK_LOADING: Short\n val NETWORK_NO_SOURCE: Short\n val HAVE_NOTHING: Short\n val HAVE_METADATA: Short\n val HAVE_CURRENT_DATA: Short\n val HAVE_FUTURE_DATA: Short\n val HAVE_ENOUGH_DATA: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n */\npublic external open class Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean = definedExternally, selected: Boolean = definedExternally) : HTMLOptionElement {\n override var onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend:

((Event) -> dynamic)?\n   override var onloadstart: ((ProgressEvent) -> dynamic)?\n   override var onmousedown: ((MouseEvent) -> dynamic)?\n   override var onmouseenter: ((MouseEvent) -> dynamic)?\n   override var onmouseleave: ((MouseEvent) -> dynamic)?\n   override var onmousemove: ((MouseEvent) -> dynamic)?\n   override var onmouseout: ((MouseEvent) -> dynamic)?\n   override var onmouseover: ((MouseEvent) -> dynamic)?\n   override var onmouseup: ((MouseEvent) -> dynamic)?\n   override var onwheel: ((WheelEvent) -> dynamic)?\n   override var onpause: ((Event) -> dynamic)?\n   override var onplay: ((Event) -> dynamic)?\n   override var onplaying: ((Event) -> dynamic)?\n   override var onprogress: ((ProgressEvent) -> dynamic)?\n   override var onratechange: ((Event) -> dynamic)?\n   override var onreset: ((Event) -> dynamic)?\n   override var onresize: ((Event) -> dynamic)?\n   override var onscroll: ((Event) -> dynamic)?\n   override var onseeked: ((Event) -> dynamic)?\n   override var onseeking: ((Event) -> dynamic)?\n   override var onselect: ((Event) -> dynamic)?\n   override var onshow: ((Event) -> dynamic)?\n   override var onstalled: ((Event) -> dynamic)?\n   override var onsubmit: ((Event) -> dynamic)?\n   override var onsuspend: ((Event) -> dynamic)?\n   override var ontimeupdate: ((Event) -> dynamic)?\n   override var ontoggle: ((Event) -> dynamic)?\n   override var onvolumechange: ((Event) -> dynamic)?\n   override var onwaiting: ((Event) -> dynamic)?\n   override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n   override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n   override var onpointerdown: ((PointerEvent) -> dynamic)?\n   override var onpointermove: ((PointerEvent) -> dynamic)?\n   override var onpointerup: ((PointerEvent) -> dynamic)?\n   override var onpointercancel: ((PointerEvent) -> dynamic)?\n   override var onpointerover: ((PointerEvent) -> dynamic)?\n   override var onpointerout: ((PointerEvent) -> dynamic)?\n   override var onpointerenter: ((PointerEvent) -> dynamic)?\n   override var onpointerleave: ((PointerEvent) -> dynamic)?\n   override var oncopy: ((ClipboardEvent) -> dynamic)?\n   override var oncut: ((ClipboardEvent) -> dynamic)?\n   override var onpaste: ((ClipboardEvent) -> dynamic)?\n   override var contentEditable: String\n   override val isContentEditable: Boolean\n   override val style: CSSStyleDeclaration\n   override val children: HTMLCollection\n   override val firstElementChild: Element?\n   override val lastElementChild: Element?\n   override val childElementCount: Int\n   override val previousElementSibling: Element?\n   override val nextElementSibling: Element?\n   override val assignedSlot: HTMLSlotElement?\n   override fun prepend(vararg nodes: dynamic)\n   override fun append(vararg nodes: dynamic)\n   override fun querySelector(selectors: String): Element?\n   override fun querySelectorAll(selectors: String): NodeList\n   override fun before(vararg nodes: dynamic)\n   override fun after(vararg nodes: dynamic)\n   override fun replaceWith(vararg nodes: dynamic)\n   override fun remove()\n   override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n   override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n   override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n   override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\npublic external interface UnionElementOrHTMLCollection\n\npublic external interface UnionElementOrRadioNodeList\n\npublic external interface UnionHTMLOptGroupElementOrHTMLOptionElement\n\npublic external interface MediaProvider\n\npublic external interface UnionAudioTrackOrTextTrackOrVideoTrack\n\npublic external interface UnionElementOrMouseEvent\n\npublic external interface RenderingContext\n\npublic external interface

HTMLOrSVGImageElement : CanvasImageSource\n\npublic external interface CanvasImageSource : ImageBitmapSource\n\npublic external interface ImageBitmapSource\n\npublic external interface UnionMessagePortOrWindowProxy\n\npublic external interface HTMLOrSVGScriptElement\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface DocumentReadyState {\n   companion object\n}\n\npublic inline val DocumentReadyState.Companion.LOADING: DocumentReadyState get() = \"loading\".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() = \"interactive\".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() = \"complete\".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanPlayTypeResult {\n   companion object\n}\n\npublic inline val CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() = \"\".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val CanPlayTypeResult.Companion.MAYBE: CanPlayTypeResult get() = \"maybe\".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() = \"probably\".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface TextTrackMode {\n   companion object\n}\n\npublic inline val TextTrackMode.Companion.DISABLED: TextTrackMode get() = \"disabled\".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val TextTrackMode.Companion.HIDDEN: TextTrackMode get() = \"hidden\".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val TextTrackMode.Companion.SHOWING: TextTrackMode get() = \"showing\".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface TextTrackKind {\n   companion object\n}\n\npublic inline val TextTrackKind.Companion.SUBTITLES: TextTrackKind get() = \"subtitles\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val TextTrackKind.Companion.CAPTIONS: TextTrackKind get() = \"captions\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val TextTrackKind.Companion.DESCRIPTIONS: TextTrackKind get() = \"descriptions\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val TextTrackKind.Companion.CHAPTERS: TextTrackKind get() = \"chapters\".asDynamic().unsafeCast<TextTrackKind>()\n\npublic inline val TextTrackKind.Companion.METADATA: TextTrackKind get() = \"metadata\".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface SelectionMode {\n   companion object\n}\n\npublic inline val SelectionMode.Companion.SELECT: SelectionMode get() = \"select\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.START: SelectionMode get() = \"start\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.END: SelectionMode get() = \"end\".asDynamic().unsafeCast<SelectionMode>()\n\npublic inline val SelectionMode.Companion.PRESERVE: SelectionMode get() = \"preserve\".asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanvasFillRule {\n   companion object\n}\n\npublic inline val CanvasFillRule.Companion.NONZERO: CanvasFillRule get() = \"nonzero\".asDynamic().unsafeCast<CanvasFillRule>()\n\npublic inline val CanvasFillRule.Companion.EVENODD: CanvasFillRule get() = \"evenodd\".asDynamic().unsafeCast<CanvasFillRule>()\n\n/* please, don't implement this interface!

```
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
ImageSmoothingQuality {\n    companion object\n}\n\npublic inline val ImageSmoothingQuality.Companion.LOW:
ImageSmoothingQuality get() = \"low\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\"medium\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\"high\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanvasLineCap
{\n    companion object\n}\n\npublic inline val CanvasLineCap.Companion.BUTT: CanvasLineCap get() =
\"butt\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val CanvasLineCap.Companion.ROUND:
CanvasLineCap get() = \"round\".asDynamic().unsafeCast<CanvasLineCap>()\n\npublic inline val
CanvasLineCap.Companion.SQUARE: CanvasLineCap get() =
\"square\".asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanvasLineJoin
{\n    companion object\n}\n\npublic inline val CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\"round\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \"bevel\".asDynamic().unsafeCast<CanvasLineJoin>()\n\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\"miter\".asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanvasTextAlign
{\n    companion object\n}\n\npublic inline val CanvasTextAlign.Companion.START: CanvasTextAlign get() =
\"start\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.END:
CanvasTextAlign get() = \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.LEFT: CanvasTextAlign get() =
\"left\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val CanvasTextAlign.Companion.RIGHT:
CanvasTextAlign get() = \"right\".asDynamic().unsafeCast<CanvasTextAlign>()\n\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\"center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
CanvasTextBaseline {\n    companion object\n}\n\npublic inline val CanvasTextBaseline.Companion.TOP:
CanvasTextBaseline get() = \"top\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
\"hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
\"middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\"alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\"ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
\"bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CanvasDirection
{\n    companion object\n}\n\npublic inline val CanvasDirection.Companion.LTR: CanvasDirection get() =
\"ltr\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val CanvasDirection.Companion.RTL:
CanvasDirection get() = \"rtl\".asDynamic().unsafeCast<CanvasDirection>()\n\npublic inline val
CanvasDirection.Companion.INHERIT: CanvasDirection get() =
\"inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ScrollRestoration
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{\n   companion object\n}\n\npublic inline val ScrollRestoration.Companion.AUTO: ScrollRestoration get() = \"auto\".asDynamic().unsafeCast<ScrollRestoration>()\n\npublic inline val ScrollRestoration.Companion.MANUAL: ScrollRestoration get() = \"manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ImageOrientation {\n   companion object\n}\n\npublic inline val ImageOrientation.Companion.NONE: ImageOrientation get() = \"none\".asDynamic().unsafeCast<ImageOrientation>()\n\npublic inline val ImageOrientation.Companion.FLIPY: ImageOrientation get() = \"flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface PremultiplyAlpha {\n   companion object\n}\n\npublic inline val PremultiplyAlpha.Companion.NONE: PremultiplyAlpha get() = \"none\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() = \"premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\npublic inline val PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() = \"default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ColorSpaceConversion {\n   companion object\n}\n\npublic inline val ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() = \"none\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\npublic inline val ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() = \"default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ResizeQuality {\n   companion object\n}\n\npublic inline val ResizeQuality.Companion.PIXELATED: ResizeQuality get() = \"pixelated\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.LOW: ResizeQuality get() = \"low\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.MEDIUM: ResizeQuality get() = \"medium\".asDynamic().unsafeCast<ResizeQuality>()\n\npublic inline val ResizeQuality.Companion.HIGH: ResizeQuality get() = \"high\".asDynamic().unsafeCast<ResizeQuality>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface BinaryType {\n   companion object\n}\n\npublic inline val BinaryType.Companion.BLOB: BinaryType get() = \"blob\".asDynamic().unsafeCast<BinaryType>()\n\npublic inline val BinaryType.Companion.ARRAYBUFFER: BinaryType get() = \"arraybuffer\".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface WorkerType {\n   companion object\n}\n\npublic inline val WorkerType.Companion.CLASSIC: WorkerType get() = \"classic\".asDynamic().unsafeCast<WorkerType>()\n\npublic inline val WorkerType.Companion.MODULE: WorkerType get() = \"module\".asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ShadowRootMode {\n   companion object\n}\n\npublic inline val ShadowRootMode.Companion.OPEN: ShadowRootMode get() = \"open\".asDynamic().unsafeCast<ShadowRootMode>()\n\npublic inline val ShadowRootMode.Companion.CLOSED: ShadowRootMode get() = \"closed\".asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ScrollBehavior {\n   companion object\n}\n\npublic inline val ScrollBehavior.Companion.AUTO: ScrollBehavior get() = \"auto\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.INSTANT: ScrollBehavior get() = \"instant\".asDynamic().unsafeCast<ScrollBehavior>()\n\npublic inline val ScrollBehavior.Companion.SMOOTH: ScrollBehavior get() = \"smooth\".asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ScrollLogicalPosition {\n   companion object\n}\n\npublic inline val ScrollLogicalPosition.Companion.START:

ScrollLogicalPosition get() = \"start\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() = \"center\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() = \"end\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\npublic inline val ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() = \"nearest\".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface CSSBoxType {\n companion object\n}\n\npublic inline val CSSBoxType.Companion.MARGIN: CSSBoxType get() = \"margin\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.BORDER: CSSBoxType get() = \"border\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.PADDING: CSSBoxType get() = \"padding\".asDynamic().unsafeCast<CSSBoxType>()\n\npublic inline val CSSBoxType.Companion.CONTENT: CSSBoxType get() = \"content\".asDynamic().unsafeCast<CSSBoxType>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.fetch\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Headers](https://developer.mozilla.org/en/docs/Web/API/Headers) to Kotlin\n */\npublic external open class Headers(init: dynamic = definedExternally) {\n   fun append(name: String, value: String)\n   fun delete(name: String)\n   fun get(name: String): String?\n   fun has(name: String): Boolean\n   fun set(name: String, value: String)\n}\n\n/**\n * Exposes the JavaScript [Body](https://developer.mozilla.org/en/docs/Web/API/Body) to Kotlin\n */\npublic external interface Body {\n   val bodyUsed: Boolean\n   fun arrayBuffer(): Promise<ArrayBuffer>\n   fun blob(): Promise<Blob>\n   fun formData(): Promise<FormData>\n   fun json(): Promise<Any?>\n   fun text(): Promise<String>\n}\n\n/**\n * Exposes the JavaScript [Request](https://developer.mozilla.org/en/docs/Web/API/Request) to Kotlin\n */\npublic external open class Request(input: dynamic, init: RequestInit = definedExternally) : Body {\n   open val method: String\n   open val url: String\n   open val headers: Headers\n   open val type: RequestType\n   open val destination: RequestDestination\n   open val referrer: String\n   open val referrerPolicy: dynamic\n   open val mode: RequestMode\n   open val credentials: RequestCredentials\n   open val cache: RequestCache\n   open val redirect: RequestRedirect\n   open val integrity: String\n   open val keepalive: Boolean\n   override val bodyUsed: Boolean\n   fun clone(): Request\n   override fun arrayBuffer(): Promise<ArrayBuffer>\n   override fun blob(): Promise<Blob>\n   override fun formData(): Promise<FormData>\n   override fun json(): Promise<Any?>\n   override fun text(): Promise<String>\n}\n\npublic external interface RequestInit {\n   var method: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var headers: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n   var body: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n   var referrer: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var referrerPolicy: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n   var mode: RequestMode?\n   get() = definedExternally\n   set(value) = definedExternally\n   var credentials: RequestCredentials?\n   get() = definedExternally\n   set(value) = definedExternally\n   var cache: RequestCache?\n   get() = definedExternally\n   set(value) = definedExternally\n   var redirect: RequestRedirect?\n   get() = definedExternally\n   set(value) = definedExternally\n   var integrity: String?\n   get() = definedExternally\n   set(value) = definedExternally\n

var keepalive: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var window: Any?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RequestInit(method: String? = undefined, headers: dynamic = undefined, body: dynamic = undefined, referrer: String? = undefined, referrerPolicy: dynamic = undefined, mode: RequestMode? = undefined, credentials: RequestCredentials? = undefined, cache: RequestCache? = undefined, redirect: RequestRedirect? = undefined, integrity: String? = undefined, keepalive: Boolean? = undefined, window: Any? = undefined): RequestInit {\n val o = js(\"({})\")\n o[\"method\"] = method\n o[\"headers\"] = headers\n o[\"body\"] = body\n o[\"referrer\"] = referrer\n o[\"referrerPolicy\"] = referrerPolicy\n o[\"mode\"] = mode\n o[\"credentials\"] = credentials\n o[\"cache\"] = cache\n o[\"redirect\"] = redirect\n o[\"integrity\"] = integrity\n o[\"keepalive\"] = keepalive\n o[\"window\"] = window\n return o\n}\n\n/**\n * Exposes the JavaScript [Response](https://developer.mozilla.org/en/docs/Web/API/Response) to Kotlin\n */\npublic external open class Response(body: dynamic = definedExternally, init: ResponseInit = definedExternally) : Body {\n open val type: ResponseType\n open val url: String\n open val redirected: Boolean\n open val status: Short\n open val ok: Boolean\n open val statusText: String\n open val headers: Headers\n open val body: dynamic\n open val trailer: Promise<Headers>\n override val bodyUsed: Boolean\n fun clone(): Response\n override fun arrayBuffer(): Promise<ArrayBuffer>\n override fun blob(): Promise<Blob>\n override fun formData(): Promise<FormData>\n override fun json(): Promise<Any?>\n override fun text(): Promise<String>\n\n companion object {\n fun error(): Response\n fun redirect(url: String, status: Short = definedExternally): Response\n }\n}\n\npublic external interface ResponseInit {\n var status: Short? /* = 200 */\n get() = definedExternally\n set(value) = definedExternally\n var statusText: String? /* = \"OK\" */\n get() = definedExternally\n set(value) = definedExternally\n var headers: dynamic\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ResponseInit(status: Short? = 200, statusText: String? = \"OK\", headers: dynamic = undefined): ResponseInit {\n val o = js(\"({})\")\n o[\"status\"] = status\n o[\"statusText\"] = statusText\n o[\"headers\"] = headers\n return o\n}\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface RequestType {\n companion object\n}\n\npublic inline val RequestType.Companion.EMPTY: RequestType get() = \"\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.AUDIO: RequestType get() = \"audio\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.FONT: RequestType get() = \"font\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.IMAGE: RequestType get() = \"image\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.SCRIPT: RequestType get() = \"script\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.STYLE: RequestType get() = \"style\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.TRACK: RequestType get() = \"track\".asDynamic().unsafeCast<RequestType>()\n\npublic inline val RequestType.Companion.VIDEO: RequestType get() = \"video\".asDynamic().unsafeCast<RequestType>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface RequestDestination {\n companion object\n}\n\npublic inline val RequestDestination.Companion.EMPTY: RequestDestination get() = \"\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val RequestDestination.Companion.DOCUMENT: RequestDestination get() = \"document\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val RequestDestination.Companion.EMBED: RequestDestination get() = \"embed\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val RequestDestination.Companion.FONT: RequestDestination get() = \"font\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val RequestDestination.Companion.IMAGE: RequestDestination get() =

\"image\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
\"manifest\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
\"media\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
\"object\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
\"report\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
\"script\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SERVICEWORKER: RequestDestination get() =
\"serviceworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
\"sharedworker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
\"style\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
\"worker\".asDynamic().unsafeCast<RequestDestination>()\n\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
\"xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface RequestMode {\n
companion object\n}\n\npublic inline val RequestMode.Companion.NAVIGATE: RequestMode get() =
\"navigate\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = \"same-
origin\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = \"no-cors\".asDynamic().unsafeCast<RequestMode>()\n\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = \"cors\".asDynamic().unsafeCast<RequestMode>()\n\n/*
please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
RequestCredentials {\n   companion object\n}\n\npublic inline val RequestCredentials.Companion.OMIT:
RequestCredentials get() = \"omit\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = \"same-
origin\".asDynamic().unsafeCast<RequestCredentials>()\n\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
\"include\".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface RequestCache
{\n   companion object\n}\n\npublic inline val RequestCache.Companion.DEFAULT: RequestCache get() =
\"default\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_STORE:
RequestCache get() = \"no-store\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.RELOAD: RequestCache get() =
\"reload\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val RequestCache.Companion.NO_CACHE:
RequestCache get() = \"no-cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = \"force-
cache\".asDynamic().unsafeCast<RequestCache>()\n\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = \"only-if-
cached\".asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface!
*/\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface RequestRedirect

{\n   companion object\n}\n\npublic inline val RequestRedirect.Companion.FOLLOW: RequestRedirect get() = \"follow\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.ERROR: RequestRedirect get() = \"error\".asDynamic().unsafeCast<RequestRedirect>()\n\npublic inline val RequestRedirect.Companion.MANUAL: RequestRedirect get() = \"manual\".asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ResponseType {\n   companion object\n}\n\npublic inline val ResponseType.Companion.BASIC: ResponseType get() = \"basic\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.CORS: ResponseType get() = \"cors\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.DEFAULT: ResponseType get() = \"default\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.ERROR: ResponseType get() = \"error\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.OPAQUE: ResponseType get() = \"opaque\".asDynamic().unsafeCast<ResponseType>()\n\npublic inline val ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() = \"opaqueredirect\".asDynamic().unsafeCast<ResponseType>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediacapture\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n */\npublic external open class MediaStream() : EventTarget, MediaProvider {\n   constructor(stream: MediaStream)\n   constructor(tracks: Array<MediaStreamTrack>)\n   open val id: String\n   open val active: Boolean\n   var onaddtrack: ((MediaStreamTrackEvent) -> dynamic)?\n   var onremovetrack: ((MediaStreamTrackEvent) -> dynamic)?\n   fun getAudioTracks(): Array<MediaStreamTrack>\n   fun getVideoTracks(): Array<MediaStreamTrack>\n   fun getTracks(): Array<MediaStreamTrack>\n   fun getTrackById(trackId: String): MediaStreamTrack?\n   fun addTrack(track: MediaStreamTrack)\n   fun removeTrack(track: MediaStreamTrack)\n   fun clone(): MediaStream\n}\n\n/**\n * Exposes the JavaScript [MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n */\npublic external abstract class MediaStreamTrack : EventTarget {\n   open val kind: String\n   open val id: String\n   open val label: String\n   open var enabled: Boolean\n   open val muted: Boolean\n   open var onmute: ((Event) -> dynamic)?\n   open var onunmute: ((Event) -> dynamic)?\n   open val readyState: MediaStreamTrackState\n   open var onended: ((Event) -> dynamic)?\n   open var onoverconstrained: ((Event) -> dynamic)?\n   fun clone(): MediaStreamTrack\n   fun stop()\n   fun getCapabilities(): MediaTrackCapabilities\n   fun getConstraints(): MediaTrackConstraints\n   fun getSettings(): MediaTrackSettings\n   fun applyConstraints(constraints: MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript [MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstraints) to Kotlin\n */\npublic external interface MediaTrackSupportedConstraints {\n   var width: Boolean? /* = true */\n   get() = definedExternally\n   set(value) = definedExternally\n   var height: Boolean? /* = true */\n   get() = definedExternally\n   set(value) = definedExternally\n   var aspectRatio: Boolean? /* = true */\n   get() = definedExternally\n   set(value) = definedExternally\n   var frameRate: Boolean? /* = true */\n   get() = definedExternally\n   set(value) = definedExternally\n   var facingMode: Boolean? /* = true */\n   get() = definedExternally\n   set(value) = definedExternally\n   var resizeMode: Boolean? /* = true */\n   get() =

definedExternally\n set(value) = definedExternally\n var volume: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var sampleRate: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var sampleSize: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var echoCancellation: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var autoGainControl: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var noiseSuppression: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var latency: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var channelCount: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var deviceId: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n var groupId: Boolean? /* = true */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true, frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true, sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true, autoGainControl: Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount: Boolean? = true, deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n val o = js(\"({})\")\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"aspectRatio\"] = aspectRatio\n o[\"frameRate\"] = frameRate\n o[\"facingMode\"] = facingMode\n o[\"resizeMode\"] = resizeMode\n o[\"volume\"] = volume\n o[\"sampleRate\"] = sampleRate\n o[\"sampleSize\"] = sampleSize\n o[\"echoCancellation\"] = echoCancellation\n o[\"autoGainControl\"] = autoGainControl\n o[\"noiseSuppression\"] = noiseSuppression\n o[\"latency\"] = latency\n o[\"channelCount\"] = channelCount\n o[\"deviceId\"] = deviceId\n o[\"groupId\"] = groupId\n return o\n}\n\npublic external interface MediaTrackCapabilities {\n var width: ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var height: ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var aspectRatio: DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var frameRate: DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var facingMode: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n var resizeMode: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n var volume: DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var sampleRate: ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var sampleSize: ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var echoCancellation: Array<Boolean>?\n get() = definedExternally\n set(value) = definedExternally\n var autoGainControl: Array<Boolean>?\n get() = definedExternally\n set(value) = definedExternally\n var noiseSuppression: Array<Boolean>?\n get() = definedExternally\n set(value) = definedExternally\n var latency: DoubleRange?\n get() = definedExternally\n set(value) = definedExternally\n var channelCount: ULongRange?\n get() = definedExternally\n set(value) = definedExternally\n var deviceId: String?\n get() = definedExternally\n set(value) = definedExternally\n var groupId: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width: ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined, frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? = undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? = undefined, sampleSize: ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined, autoGainControl: Array<Boolean>? = undefined, noiseSuppression: Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount: ULongRange? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities {\n val o = js(\"({})\")\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"aspectRatio\"] = aspectRatio\n o[\"frameRate\"] = frameRate\n o[\"facingMode\"] = facingMode\n o[\"resizeMode\"] = resizeMode\n o[\"volume\"] = volume\n o[\"sampleRate\"] = sampleRate\n o[\"sampleSize\"] = sampleSize\n o[\"echoCancellation\"] = echoCancellation\n o[\"autoGainControl\"] = autoGainControl\n

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o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n    o[\"groupId\"] = groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*/\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n    var advanced:
Array<MediaTrackConstraintSet>?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints {\n    val o = js(\"({})\")\n
o[\"advanced\"] = advanced\n    o[\"width\"] = width\n    o[\"height\"] = height\n    o[\"aspectRatio\"] =
aspectRatio\n    o[\"frameRate\"] = frameRate\n    o[\"facingMode\"] = facingMode\n    o[\"resizeMode\"] =
resizeMode\n    o[\"volume\"] = volume\n    o[\"sampleRate\"] = sampleRate\n    o[\"sampleSize\"] = sampleSize\n
o[\"echoCancellation\"] = echoCancellation\n    o[\"autoGainControl\"] = autoGainControl\n
o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] = latency\n    o[\"channelCount\"] = channelCount\n
o[\"deviceId\"] = deviceId\n    o[\"groupId\"] = groupId\n    return o\n}\n\npublic external interface
MediaTrackConstraintSet {\n    var width: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var height: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n
var aspectRatio: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var frameRate:
dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var facingMode: dynamic\n
get() = definedExternally\n        set(value) = definedExternally\n    var resizeMode: dynamic\n        get() =
definedExternally\n        set(value) = definedExternally\n    var volume: dynamic\n        get() = definedExternally\n
    set(value) = definedExternally\n    var sampleRate: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var sampleSize: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var echoCancellation: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var autoGainControl: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var noiseSuppression: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var latency: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n
var channelCount: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var deviceId:
dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var groupId: dynamic\n        get()
= definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackConstraintSet(width: dynamic = undefined, height: dynamic = undefined, aspectRatio: dynamic =
undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined, resizeMode: dynamic = undefined,
volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize: dynamic = undefined,
echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined, noiseSuppression: dynamic =
undefined, latency: dynamic = undefined, channelCount: dynamic = undefined, deviceId: dynamic = undefined,
groupId: dynamic = undefined): MediaTrackConstraintSet {\n    val o = js(\"({})\")\n    o[\"width\"] = width\n
o[\"height\"] = height\n    o[\"aspectRatio\"] = aspectRatio\n    o[\"frameRate\"] = frameRate\n    o[\"facingMode\"]
= facingMode\n    o[\"resizeMode\"] = resizeMode\n    o[\"volume\"] = volume\n    o[\"sampleRate\"] =
sampleRate\n    o[\"sampleSize\"] = sampleSize\n    o[\"echoCancellation\"] = echoCancellation\n
o[\"autoGainControl\"] = autoGainControl\n    o[\"noiseSuppression\"] = noiseSuppression\n    o[\"latency\"] =
latency\n    o[\"channelCount\"] = channelCount\n    o[\"deviceId\"] = deviceId\n    o[\"groupId\"] = groupId\n
return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin\n */\npublic
external interface MediaTrackSettings {\n    var width: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var height: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
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aspectRatio: Double?\n get() = definedExternally\n set(value) = definedExternally\n var frameRate: Double?\n get() = definedExternally\n set(value) = definedExternally\n var facingMode: String?\n get() = definedExternally\n set(value) = definedExternally\n var resizeMode: String?\n get() = definedExternally\n set(value) = definedExternally\n var volume: Double?\n get() = definedExternally\n set(value) = definedExternally\n var sampleRate: Int?\n get() = definedExternally\n set(value) = definedExternally\n var sampleSize: Int?\n get() = definedExternally\n set(value) = definedExternally\n var echoCancellation: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var autoGainControl: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var noiseSuppression: Boolean?\n get() = definedExternally\n set(value) = definedExternally\n var latency: Double?\n get() = definedExternally\n set(value) = definedExternally\n var channelCount: Int?\n get() = definedExternally\n set(value) = definedExternally\n var deviceId: String?\n get() = definedExternally\n set(value) = definedExternally\n var groupId: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width: Int? = undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined, facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int? = undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl: Boolean? = undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n val o = js(\"({})\")\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"aspectRatio\"] = aspectRatio\n o[\"frameRate\"] = frameRate\n o[\"facingMode\"] = facingMode\n o[\"resizeMode\"] = resizeMode\n o[\"volume\"] = volume\n o[\"sampleRate\"] = sampleRate\n o[\"sampleSize\"] = sampleSize\n o[\"echoCancellation\"] = echoCancellation\n o[\"autoGainControl\"] = autoGainControl\n o[\"noiseSuppression\"] = noiseSuppression\n o[\"latency\"] = latency\n o[\"channelCount\"] = channelCount\n o[\"deviceId\"] = deviceId\n o[\"groupId\"] = groupId\n return o\n}\n\n/**\n * Exposes the JavaScript [MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n */\npublic external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) : Event {\n open val track: MediaStreamTrack\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface MediaStreamTrackEventInit : EventInit {\n var track: MediaStreamTrack?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track: MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): MediaStreamTrackEventInit {\n val o = js(\"({})\")\n o[\"track\"] = track\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external open class OverconstrainedErrorEvent(type: String, eventInitDict: OverconstrainedErrorEventInit) : Event {\n open val error: dynamic\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface OverconstrainedErrorEventInit : EventInit {\n var error: dynamic /* = null */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun OverconstrainedErrorEventInit(error: dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): OverconstrainedErrorEventInit {\n val o = js(\"({})\")\n o[\"error\"] = error\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n */\npublic external abstract class MediaDevices : EventTarget {\n open var ondevicechange: ((Event) -> dynamic)?\n fun enumerateDevices(): Promise<Array<MediaDeviceInfo>>\n fun getSupportedConstraints(): MediaTrackSupportedConstraints\n fun getUserMedia(constraints: MediaStreamConstraints = definedExternally): Promise<MediaStream>\n}\n\n/**\n * Exposes the JavaScript [MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to Kotlin\n */\npublic

external abstract class MediaDeviceInfo {\n   open val deviceId: String\n   open val kind: MediaDeviceKind\n   open val label: String\n   open val groupId: String\n   fun toJSON(): dynamic\n}\n\npublic external abstract class InputDeviceInfo : MediaDeviceInfo {\n   fun getCapabilities(): MediaTrackCapabilities\n}\n\n/**\n * Exposes the JavaScript [MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to Kotlin\n */\npublic external interface MediaStreamConstraints {\n   var video: dynamic /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var audio: dynamic /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamConstraints(video: dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n   val o = js(\"({})\")\n   o[\"video\"] = video\n   o[\"audio\"] = audio\n   return o\n}\n\npublic external interface ConstrainablePattern {\n   var onoverconstrained: ((Event) -> dynamic)?\n   get() = definedExternally\n   set(value) = definedExternally\n   fun getCapabilities(): Capabilities\n   fun getConstraints(): Constraints\n   fun getSettings(): Settings\n   fun applyConstraints(constraints: Constraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript [DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin\n */\npublic external interface DoubleRange {\n   var max: Double?\n   get() = definedExternally\n   set(value) = definedExternally\n   var min: Double?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DoubleRange(max: Double? = undefined, min: Double? = undefined): DoubleRange {\n   val o = js(\"({})\")\n   o[\"max\"] = max\n   o[\"min\"] = min\n   return o\n}\n\npublic external interface ConstrainDoubleRange : DoubleRange {\n   var exact: Double?\n   get() = definedExternally\n   set(value) = definedExternally\n   var ideal: Double?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDoubleRange(exact: Double? = undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined): ConstrainDoubleRange {\n   val o = js(\"({})\")\n   o[\"exact\"] = exact\n   o[\"ideal\"] = ideal\n   o[\"max\"] = max\n   o[\"min\"] = min\n   return o\n}\n\npublic external interface ULongRange {\n   var max: Int?\n   get() = definedExternally\n   set(value) = definedExternally\n   var min: Int?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange(max: Int? = undefined, min: Int? = undefined): ULongRange {\n   val o = js(\"({})\")\n   o[\"max\"] = max\n   o[\"min\"] = min\n   return o\n}\n\npublic external interface ConstrainULongRange : ULongRange {\n   var exact: Int?\n   get() = definedExternally\n   set(value) = definedExternally\n   var ideal: Int?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainULongRange(exact: Int? = undefined, ideal: Int? = undefined, max: Int? = undefined, min: Int? = undefined): ConstrainULongRange {\n   val o = js(\"({})\")\n   o[\"exact\"] = exact\n   o[\"ideal\"] = ideal\n   o[\"max\"] = max\n   o[\"min\"] = min\n   return o\n}\n\n/**\n * Exposes the JavaScript [ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to Kotlin\n */\npublic external interface ConstrainBooleanParameters {\n   var exact: Boolean?\n   get() = definedExternally\n   set(value) = definedExternally\n   var ideal: Boolean?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainBooleanParameters(exact: Boolean? = undefined, ideal: Boolean? = undefined): ConstrainBooleanParameters {\n   val o = js(\"({})\")\n   o[\"exact\"] = exact\n   o[\"ideal\"] = ideal\n   return o\n}\n\n/**\n * Exposes the JavaScript [ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters) to Kotlin\n */\npublic external interface ConstrainDOMStringParameters {\n   var exact: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n   var ideal: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined): ConstrainDOMStringParameters {\n   val o = js(\"({})\")\n   o[\"exact\"] = exact\n   o[\"ideal\"] = ideal\n   return o\n}\n\npublic external interface Capabilities\n\n@kotlin.internal.InlineOnly\npublic inline fun Capabilities(): Capabilities {\n   val o = js(\"({})\")\n   return o\n}\n\npublic external interface

Settings\n\n@kotlin.internal.InlineOnly\npublic inline fun Settings(): Settings {\n   val o = js(\"({})\")\n   return o\n}\n\npublic external interface ConstraintSet\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstraintSet(): ConstraintSet {\n   val o = js(\"({})\")\n   return o\n}\n\npublic external interface Constraints : ConstraintSet {\n   var advanced: Array<ConstraintSet>?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced: Array<ConstraintSet>? = undefined): Constraints {\n   val o = js(\"({})\")\n   o[\"advanced\"] = advanced\n   return o\n}\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaStreamTrackState {\n   companion object\n}\n\npublic inline val MediaStreamTrackState.Companion.LIVE: MediaStreamTrackState get() = \"live\".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() = \"ended\".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface VideoFacingModeEnum {\n   companion object\n}\n\npublic inline val VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() = \"user\".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() = \"environment\".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() = \"left\".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() = \"right\".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface VideoResizeModeEnum {\n   companion object\n}\n\npublic inline val VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() = \"none\".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = \"crop-and-scale\".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface MediaDeviceKind {\n   companion object\n}\n\npublic inline val MediaDeviceKind.Companion.AUDIOINPUT: MediaDeviceKind get() = \"audioinput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() = \"audiooutput\".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() = \"videoinput\".asDynamic().unsafeCast<MediaDeviceKind>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.mediasource\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external open class MediaSource : EventTarget, MediaProvider {\n   open val sourceBuffers: SourceBufferList\n   open val activeSourceBuffers: SourceBufferList\n   open val readyState: ReadyState\n   var duration: Double\n   var onsourceopen: ((Event) -> dynamic)?\n   var onsourceended: ((Event) -> dynamic)?\n   var onsourceclose: ((Event) -> dynamic)?\n   fun addSourceBuffer(type: String): SourceBuffer\n   fun removeSourceBuffer(sourceBuffer: SourceBuffer)\n   fun endOfStream(error:

EndOfStreamError = definedExternally)\n   fun setLiveSeekableRange(start: Double, end: Double)\n   fun clearLiveSeekableRange()\n\n   companion object {\n   fun isTypeSupported(type: String): Boolean\n   }\n}\n\npublic external abstract class SourceBuffer : EventTarget {\n   open var mode: AppendMode\n   open val updating: Boolean\n   open val buffered: TimeRanges\n   open var timestampOffset: Double\n   open val audioTracks: AudioTrackList\n   open val videoTracks: VideoTrackList\n   open val textTracks: TextTrackList\n   open var appendWindowStart: Double\n   open var appendWindowEnd: Double\n   open var onupdatestart: ((Event) -> dynamic)?\n   open var onupdate: ((Event) -> dynamic)?\n   open var onupdateend: ((Event) -> dynamic)?\n   open var onerror: ((Event) -> dynamic)?\n   open var onabort: ((Event) -> dynamic)?\n   fun appendBuffer(data: dynamic)\n   fun abort()\n   fun remove(start: Double, end: Double)\n}\n\npublic external abstract class SourceBufferList : EventTarget {\n   open val length: Int\n   open var onaddsourcebuffer: ((Event) -> dynamic)?\n   open var onremovesourcebuffer: ((Event) -> dynamic)?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SourceBufferList.get(index: Int): SourceBuffer? = asDynamic()[index]\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ReadyState {\n   companion object\n}\n\npublic inline val ReadyState.Companion.CLOSED: ReadyState get() = \"closed\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val ReadyState.Companion.OPEN: ReadyState get() = \"open\".asDynamic().unsafeCast<ReadyState>()\n\npublic inline val ReadyState.Companion.ENDED: ReadyState get() = \"ended\".asDynamic().unsafeCast<ReadyState>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface EndOfStreamError {\n   companion object\n}\n\npublic inline val EndOfStreamError.Companion.NETWORK: EndOfStreamError get() = \"network\".asDynamic().unsafeCast<EndOfStreamError>()\n\npublic inline val EndOfStreamError.Companion.DECODE: EndOfStreamError get() = \"decode\".asDynamic().unsafeCast<EndOfStreamError>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface AppendMode {\n   companion object\n}\n\npublic inline val AppendMode.Companion.SEGMENTS: AppendMode get() = \"segments\".asDynamic().unsafeCast<AppendMode>()\n\npublic inline val AppendMode.Companion.SEQUENCE: AppendMode get() = \"sequence\".asDynamic().unsafeCast<AppendMode>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.pointerevents\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic external interface PointerEventInit : MouseEventInit {\n   var pointerId: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var width: Double? /* = 1.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var height: Double? /* = 1.0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var pressure: Float? /* = 0f */\n   get() = definedExternally\n   set(value) = definedExternally\n   var tangentialPressure: Float? /* = 0f */\n   get() = definedExternally\n   set(value) = definedExternally\n   var tiltX: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var tiltY: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var twist: Int? /* = 0 */\n   get() = definedExternally\n   set(value) = definedExternally\n   var pointerType: String? /* = \"\" */\n   get() = definedExternally\n   set(value) = definedExternally\n   var isPrimary: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PointerEventInit(pointerId: Int? = 0, width: Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f, tangentialPressure: Float? = 0f, tiltX: Int? = 0, tiltY:

Int? = 0, twist: Int? = 0, pointerType: String? = \"\", isPrimary: Boolean? = false, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null, region: String? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PointerEventInit {\n val o = js(\"({})\")\n o[\"pointerId\"] = pointerId\n o[\"width\"] = width\n o[\"height\"] = height\n o[\"pressure\"] = pressure\n o[\"tangentialPressure\"] = tangentialPressure\n o[\"tiltX\"] = tiltX\n o[\"tiltY\"] = tiltY\n o[\"twist\"] = twist\n o[\"pointerType\"] = pointerType\n o[\"isPrimary\"] = isPrimary\n o[\"screenX\"] = screenX\n o[\"screenY\"] = screenY\n o[\"clientX\"] = clientX\n o[\"clientY\"] = clientY\n o[\"button\"] = button\n o[\"buttons\"] = buttons\n o[\"relatedTarget\"] = relatedTarget\n o[\"region\"] = region\n o[\"ctrlKey\"] = ctrlKey\n o[\"shiftKey\"] = shiftKey\n o[\"altKey\"] = altKey\n o[\"metaKey\"] = metaKey\n o[\"modifierAltGraph\"] = modifierAltGraph\n o[\"modifierCapsLock\"] = modifierCapsLock\n o[\"modifierFn\"] = modifierFn\n o[\"modifierFnLock\"] = modifierFnLock\n o[\"modifierHyper\"] = modifierHyper\n o[\"modifierNumLock\"] = modifierNumLock\n o[\"modifierScrollLock\"] = modifierScrollLock\n o[\"modifierSuper\"] = modifierSuper\n o[\"modifierSymbol\"] = modifierSymbol\n o[\"modifierSymbolLock\"] = modifierSymbolLock\n o[\"view\"] = view\n o[\"detail\"] = detail\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\npublic external open class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n open val pointerId: Int\n open val width: Double\n open val height: Double\n open val pressure: Float\n open val tangentialPressure: Float\n open val tiltX: Int\n open val tiltY: Int\n open val twist: Int\n open val pointerType: String\n open val isPrimary: Boolean\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.dom.svg\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin\n */\npublic external abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers, SVGElementInstance {\n open val dataset: DOMStringMap\n open val ownerSVGElement: SVGSVGElement?\n open val viewportElement: SVGElement?\n open var tabIndex: Int\n fun focus()\n fun blur()\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface

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SVGBoundingBoxOptions {\n    var fill: Boolean? /* = true */\n        get() = definedExternally\n        set(value) = definedExternally\n    var stroke: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var markers: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var clipped: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun SVGBoundingBoxOptions(fill: Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped: Boolean? = false): SVGBoundingBoxOptions {\n  val o = js(\"({})\")\n    o[\"fill\"] = fill\n    o[\"stroke\"] = stroke\n    o[\"markers\"] = markers\n    o[\"clipped\"] = clipped\n    return o\n}\n\n/**\n * Exposes the JavaScript [SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin\n */\npublic external abstract class SVGGraphicsElement : SVGElement, SVGTests {\n    open val transform: SVGAnimatedTransformList\n    fun getBBox(options: SVGBoundingBoxOptions = definedExternally): DOMRect\n    fun getCTM(): DOMMatrix?\n    fun getScreenCTM(): DOMMatrix?\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to Kotlin\n */\npublic external abstract class SVGGeometryElement : SVGGraphicsElement {\n    open val pathLength: SVGAnimatedNumber\n    fun isPointInFill(point: DOMPoint): Boolean\n    fun isPointInStroke(point: DOMPoint): Boolean\n    fun getTotalLength(): Float\n    fun getPointAtLength(distance: Float): DOMPoint\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin\n */\npublic external abstract class SVGNumber {\n    open var value: Float\n}\n\n/**\n * Exposes the JavaScript [SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin\n */\npublic external abstract class SVGLength {\n    open val unitType: Short\n    open var value: Float\n    open var valueInSpecifiedUnits: Float\n    open var valueAsString: String\n    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits: Float)\n    fun convertToSpecifiedUnits(unitType: Short)\n\n    companion object {\n        val SVG_LENGTHTYPE_UNKNOWN: Short\n        val SVG_LENGTHTYPE_NUMBER: Short\n        val SVG_LENGTHTYPE_PERCENTAGE: Short\n        val SVG_LENGTHTYPE_EMS: Short\n        val SVG_LENGTHTYPE_EXS: Short\n        val SVG_LENGTHTYPE_PX: Short\n        val SVG_LENGTHTYPE_CM: Short\n        val SVG_LENGTHTYPE_MM: Short\n        val SVG_LENGTHTYPE_IN: Short\n        val SVG_LENGTHTYPE_PT: Short\n        val SVG_LENGTHTYPE_PC: Short\n    }\n}\n\n/**\n * Exposes the JavaScript [SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin\n */\npublic external abstract class SVGAngle {\n    open val unitType: Short\n    open var value: Float\n    open var valueInSpecifiedUnits:
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Float\n    open var valueAsString: String\n    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float)\n    fun convertToSpecifiedUnits(unitType: Short)\n\n    companion object {\n        val
SVG_ANGLETYPE_UNKNOWN: Short\n        val SVG_ANGLETYPE_UNSPECIFIED: Short\n        val
SVG_ANGLETYPE_DEG: Short\n        val SVG_ANGLETYPE_RAD: Short\n        val
SVG_ANGLETYPE_GRAD: Short\n    }\n}\n\npublic external abstract class SVGNameList {\n    open val length:
Int\n    open val numberOfItems: Int\n    fun clear()\n    fun initialize(newItem: dynamic): dynamic\n    fun
insertItemBefore(newItem: dynamic, index: Int): dynamic\n    fun replaceItem(newItem: dynamic, index: Int):
dynamic\n    fun removeItem(index: Int): dynamic\n    fun appendItem(newItem: dynamic): dynamic\n    fun
getItem(index: Int): dynamic\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGNameList.get(index: Int): dynamic = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGNameList.set(index: Int, newItem: dynamic) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript [SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to
Kotlin\n */\npublic external abstract class SVGNumberList {\n    open val length: Int\n    open val numberOfItems:
Int\n    fun clear()\n    fun initialize(newItem: SVGNumber): SVGNumber\n    fun insertItemBefore(newItem:
SVGNumber, index: Int): SVGNumber\n    fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\n
fun removeItem(index: Int): SVGNumber\n    fun appendItem(newItem: SVGNumber): SVGNumber\n    fun
getItem(index: Int): SVGNumber\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGNumberList.get(index: Int): SVGNumber? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGNumberList.set(index: Int, newItem: SVGNumber) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript [SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to
Kotlin\n */\npublic external abstract class SVGLengthList {\n    open val length: Int\n    open val numberOfItems:
Int\n    fun clear()\n    fun initialize(newItem: SVGLength): SVGLength\n    fun insertItemBefore(newItem:
SVGLength, index: Int): SVGLength\n    fun replaceItem(newItem: SVGLength, index: Int): SVGLength\n    fun
removeItem(index: Int): SVGLength\n    fun appendItem(newItem: SVGLength): SVGLength\n    fun
getItem(index: Int): SVGLength\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun
SVGLengthList.get(index: Int): SVGLength? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline
operator fun SVGLengthList.set(index: Int, newItem: SVGLength) { asDynamic()[index] = newItem }\n\n/**\n *
Exposes the JavaScript
[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin\n
*/\npublic external abstract class SVGAnimatedBoolean {\n    open var baseVal: Boolean\n    open val animVal:
Boolean\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to
Kotlin\n */\npublic external abstract class SVGAnimatedEnumeration {\n    open var baseVal: Short\n    open val
animVal: Short\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin\n
*/\npublic external abstract class SVGAnimatedInteger {\n    open var baseVal: Int\n    open val animVal:
Int\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin\n
*/\npublic external abstract class SVGAnimatedNumber {\n    open var baseVal: Float\n    open val animVal:
Float\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin\n
*/\npublic external abstract class SVGAnimatedLength {\n    open val baseVal: SVGLength\n    open val animVal:
SVGLength\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin\n */\npublic
external abstract class SVGAnimatedAngle {\n    open val baseVal: SVGAngle\n    open val animVal:
SVGAngle\n}\n\n/**\n * Exposes the JavaScript
[SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin\n */\npublic
external abstract class SVGAnimatedString {\n    open var baseVal: String\n    open val animVal: String\n}\n\n/**\n
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* Exposes the JavaScript [SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect) to Kotlin\n */\npublic external abstract class SVGAnimatedRect {\n open val baseVal: DOMRect\n open val animVal: DOMRectReadOnly\n}\n\n/**\n * Exposes the JavaScript [SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin\n */\npublic external abstract class SVGAnimatedNumberList {\n open val baseVal: SVGNumberList\n open val animVal: SVGNumberList\n}\n\n/**\n * Exposes the JavaScript [SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin\n */\npublic external abstract class SVGAnimatedLengthList {\n open val baseVal: SVGLengthList\n open val animVal: SVGLengthList\n}\n\n/**\n * Exposes the JavaScript [SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin\n */\npublic external abstract class SVGStringList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: String): String\n fun insertItemBefore(newItem: String, index: Int): String\n fun replaceItem(newItem: String, index: Int): String\n fun removeItem(index: Int): String\n fun appendItem(newItem: String): String\n fun getItem(index: Int): String\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.get(index: Int): String? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGStringList.set(index: Int, newItem: String) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript [SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface SVGUnitTypes {\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTests](https://developer.mozilla.org/en/docs/Web/API/SVGTests) to Kotlin\n */\npublic external interface SVGTests {\n val requiredExtensions: SVGStringList\n val systemLanguage: SVGStringList\n}\n\npublic external interface SVGFitToViewBox {\n val viewBox: SVGAnimatedRect\n val preserveAspectRatio: SVGAnimatedPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript [SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin\n */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface SVGZoomAndPan {\n var zoomAndPan: Short\n\n companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE: Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n */\npublic external interface SVGURIReference {\n val href: SVGAnimatedString\n}\n\n/**\n * Exposes the JavaScript [SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n */\npublic external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan, WindowEventHandlers {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open var currentScale: Float\n open val currentTranslate: DOMPointReadOnly\n fun getIntersectionList(rect: DOMRectReadOnly, referenceElement: SVGElement?): NodeList\n fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?): NodeList\n fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun deselectAll()\n fun createSVGNumber(): SVGNumber\n fun createSVGLength(): SVGLength\n fun createSVGAngle(): SVGAngle\n fun createSVGPoint(): DOMPoint\n fun createSVGMatrix(): DOMMatrix\n fun createSVGRect(): DOMRect\n fun createSVGTransform(): SVGTransform\n fun createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n fun getElementById(elementId: String): Element\n fun suspendRedraw(maxWaitMilliseconds: Int): Int\n fun unsuspendRedraw(suspendHandleID: Int)\n fun unsuspendRedrawAll()\n fun forceRedraw()\n\n companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE:

Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement) to Kotlin\n */\npublic external abstract class SVGGElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGUnknownElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin\n */\npublic external abstract class SVGDefsElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n */\npublic external abstract class SVGDescElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val

DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n */\npublic external abstract class SVGMetadataElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTitleElement](https://developer.mozilla.org/en/docs/Web/API/SVGTitleElement) to Kotlin\n */\npublic external abstract class SVGTitleElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGSymbolElement](https://developer.mozilla.org/en/docs/Web/API/SVGSymbolElement) to Kotlin\n */\npublic external abstract class SVGSymbolElement : SVGGraphicsElement, SVGFitToViewBox {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGUseElement](https://developer.mozilla.org/en/docs/Web/API/SVGUseElement) to Kotlin\n */\npublic external abstract class SVGUseElement : SVGGraphicsElement, SVGURIReference {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val instanceRoot: SVGElement?\n open val animatedInstanceRoot: SVGElement?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external open class SVGUseElementShadowRoot : ShadowRoot {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface SVGElementInstance {\n val correspondingElement: SVGElement?\n get() = definedExternally\n val correspondingUseElement: SVGUseElement?\n get() = definedExternally\n}\n\npublic external open class ShadowAnimation(source: dynamic, newTarget: dynamic) {\n open val sourceAnimation: dynamic\n}\n\n/**\n * Exposes the JavaScript [SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement) to Kotlin\n */\npublic external abstract class SVGSwitchElement : SVGGraphicsElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external interface GetSVGDocument {\n fun getSVGDocument(): Document\n}\n\n/**\n * Exposes the JavaScript [SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin\n */\npublic external abstract class SVGStyleElement : SVGElement, LinkStyle {\n open var type: String\n open var media: String\n open var title: String\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin\n */\npublic external abstract class SVGTransform {\n open val type: Short\n open val matrix: DOMMatrix\n open val angle: Float\n fun setMatrix(matrix: DOMMatrixReadOnly)\n fun setTranslate(tx: Float, ty: Float)\n fun setScale(sx: Float, sy: Float)\n fun setRotate(angle: Float, cx: Float, cy: Float)\n fun setSkewX(angle: Float)\n fun setSkewY(angle: Float)\n\n companion object {\n val SVG_TRANSFORM_UNKNOWN: Short\n val SVG_TRANSFORM_MATRIX: Short\n val SVG_TRANSFORM_TRANSLATE: Short\n val SVG_TRANSFORM_SCALE: Short\n val SVG_TRANSFORM_ROTATE: Short\n val

SVG_TRANSFORM_SKEWX: Short\n val SVG_TRANSFORM_SKEWY: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList) to Kotlin\n */\npublic external abstract class SVGTransformList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: SVGTransform): SVGTransform\n fun insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform\n fun replaceItem(newItem: SVGTransform, index: Int): SVGTransform\n fun removeItem(index: Int): SVGTransform\n fun appendItem(newItem: SVGTransform): SVGTransform\n fun createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n fun consolidate(): SVGTransform?\n fun getItem(index: Int): SVGTransform\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGTransformList.get(index: Int): SVGTransform? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGTransformList.set(index: Int, newItem: SVGTransform) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript [SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to Kotlin\n */\npublic external abstract class SVGAnimatedTransformList {\n open val baseVal: SVGTransformList\n open val animVal: SVGTransformList\n}\n\n/**\n * Exposes the JavaScript [SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin\n */\npublic external abstract class SVGPreserveAspectRatio {\n open var align: Short\n open var meetOrSlice: Short\n\n companion object {\n val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short\n val SVG_PRESERVEASPECTRATIO_NONE: Short\n val SVG_PRESERVEASPECTRATIO_XMINYMIN: Short\n val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short\n val SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short\n val SVG_PRESERVEASPECTRATIO_XMINYMID: Short\n val SVG_PRESERVEASPECTRATIO_XMIDYMID: Short\n val SVG_PRESERVEASPECTRATIO_XMAXYMID: Short\n val SVG_PRESERVEASPECTRATIO_XMINYMAX: Short\n val SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short\n val SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short\n val SVG_MEETORSLICE_UNKNOWN: Short\n val SVG_MEETORSLICE_MEET: Short\n val SVG_MEETORSLICE_SLICE: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspectRatio) to Kotlin\n */\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n open val baseVal: SVGPreserveAspectRatio\n open val animVal: SVGPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript [SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin\n */\npublic external abstract class SVGPathElement : SVGGeometryElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin\n */\npublic external abstract class SVGRectElement : SVGGeometryElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val

CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement) to Kotlin\n */\npublic external abstract class SVGCircleElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin\n */\npublic external abstract class SVGEllipseElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin\n */\npublic external abstract class SVGLineElement : SVGGeometryElement {\n open val x1: SVGAnimatedLength\n open val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val y2: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin\n */\npublic external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE:

Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin\n */\npublic external interface SVGAnimatedPoints {\n val points: SVGPointList\n val animatedPoints: SVGPointList\n}\n\npublic external abstract class SVGPointList {\n open val length: Int\n open val numberOfItems: Int\n fun clear()\n fun initialize(newItem: DOMPoint): DOMPoint\n fun insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint\n fun replaceItem(newItem: DOMPoint, index: Int): DOMPoint\n fun removeItem(index: Int): DOMPoint\n fun appendItem(newItem: DOMPoint): DOMPoint\n fun getItem(index: Int): DOMPoint\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.get(index: Int): DOMPoint? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly\npublic inline operator fun SVGPointList.set(index: Int, newItem: DOMPoint) { asDynamic()[index] = newItem }\n\n/**\n * Exposes the JavaScript [SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to Kotlin\n */\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin\n */\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n */\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n open val textLength: SVGAnimatedLength\n open val lengthAdjust: SVGAnimatedEnumeration\n fun getNumberOfChars(): Int\n fun getComputedTextLength(): Float\n fun getSubStringLength(charnum: Int, nchars: Int): Float\n fun getStartPositionOfChar(charnum: Int): DOMPoint\n fun getEndPositionOfChar(charnum: Int): DOMPoint\n fun getExtentOfChar(charnum: Int): DOMRect\n fun getRotationOfChar(charnum: Int): Float\n fun getCharNumAtPosition(point: DOMPoint): Int\n fun selectSubString(charnum: Int, nchars: Int)\n\n companion object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val

ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to Kotlin\n */\npublic external abstract class SVGTextPositioningElement : SVGTextContentElement {\n open val x: SVGAnimatedLengthList\n open val y: SVGAnimatedLengthList\n open val dx: SVGAnimatedLengthList\n open val dy: SVGAnimatedLengthList\n open val rotate: SVGAnimatedNumberList\n\n companion object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin\n */\npublic external abstract class SVGTextElement : SVGTextPositioningElement {\n companion object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin\n */\npublic external abstract class SVGTSpanElement : SVGTextPositioningElement {\n companion object {\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n

val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin\n */\npublic external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference {\n open val startOffset: SVGAnimatedLength\n open val method: SVGAnimatedEnumeration\n open val spacing: SVGAnimatedEnumeration\n\n companion object {\n val TEXTPATH_METHODTYPE_UNKNOWN: Short\n val TEXTPATH_METHODTYPE_ALIGN: Short\n val TEXTPATH_METHODTYPE_STRETCH: Short\n val TEXTPATH_SPACINGTYPE_UNKNOWN: Short\n val TEXTPATH_SPACINGTYPE_AUTO: Short\n val TEXTPATH_SPACINGTYPE_EXACT: Short\n val LENGTHADJUST_UNKNOWN: Short\n val LENGTHADJUST_SPACING: Short\n val LENGTHADJUST_SPACINGANDGLYPHS: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin\n */\npublic external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference, HTMLOrSVGImageElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open val preserveAspectRatio: SVGAnimatedPreserveAspectRatio\n open var crossOrigin: String?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to Kotlin\n */\npublic external abstract class SVGForeignObjectElement : SVGGraphicsElement {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGMarkerElement : SVGElement, SVGFitToViewBox {\n open val refX: SVGAnimatedLength\n open val

refY: SVGAnimatedLength\n   open val markerUnits: SVGAnimatedEnumeration\n   open val markerWidth: SVGAnimatedLength\n   open val markerHeight: SVGAnimatedLength\n   open val orientType: SVGAnimatedEnumeration\n   open val orientAngle: SVGAnimatedAngle\n   open var orient: String\n   fun setOrientToAuto()\n   fun setOrientToAngle(angle: SVGAngle)\n\n   companion object {\n   val SVG_MARKERUNITS_UNKNOWN: Short\n   val SVG_MARKERUNITS_USERSPACEONUSE: Short\n   val SVG_MARKERUNITS_STROKEWIDTH: Short\n   val SVG_MARKER_ORIENT_UNKNOWN: Short\n   val SVG_MARKER_ORIENT_AUTO: Short\n   val SVG_MARKER_ORIENT_ANGLE: Short\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to Kotlin\n */\npublic external abstract class SVGSolidcolorElement : SVGElement {\n   companion object {\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to Kotlin\n */\npublic external abstract class SVGGradientElement : SVGElement, SVGURIReference, SVGUnitTypes {\n   open val gradientUnits: SVGAnimatedEnumeration\n   open val gradientTransform: SVGAnimatedTransformList\n   open val spreadMethod: SVGAnimatedEnumeration\n\n   companion object {\n   val SVG_SPREADMETHOD_UNKNOWN: Short\n   val SVG_SPREADMETHOD_PAD: Short\n   val SVG_SPREADMETHOD_REFLECT: Short\n   val SVG_SPREADMETHOD_REPEAT: Short\n   val SVG_UNIT_TYPE_UNKNOWN: Short\n   val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n   val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n   val ELEMENT_NODE: Short\n   val ATTRIBUTE_NODE: Short\n   val TEXT_NODE: Short\n   val CDATA_SECTION_NODE: Short\n   val ENTITY_REFERENCE_NODE: Short\n   val ENTITY_NODE: Short\n   val PROCESSING_INSTRUCTION_NODE: Short\n   val COMMENT_NODE: Short\n   val DOCUMENT_NODE: Short\n   val DOCUMENT_TYPE_NODE: Short\n   val DOCUMENT_FRAGMENT_NODE: Short\n   val NOTATION_NODE: Short\n   val DOCUMENT_POSITION_DISCONNECTED: Short\n   val DOCUMENT_POSITION_PRECEDING: Short\n   val DOCUMENT_POSITION_FOLLOWING: Short\n   val DOCUMENT_POSITION_CONTAINS: Short\n   val DOCUMENT_POSITION_CONTAINED_BY: Short\n   val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to Kotlin\n */\npublic external abstract class SVGLinearGradientElement : SVGGradientElement {\n   open val x1: SVGAnimatedLength\n   open val y1: SVGAnimatedLength\n   open val x2: SVGAnimatedLength\n   open val y2: SVGAnimatedLength\n\n   companion object {\n   val SVG_SPREADMETHOD_UNKNOWN: Short\n

val SVG_SPREADMETHOD_PAD: Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to Kotlin\n */\npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n open val cx: SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n open val fx: SVGAnimatedLength\n open val fy: SVGAnimatedLength\n open val fr: SVGAnimatedLength\n\n companion object {\n val SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGMeshGradientElement : SVGGradientElement {\n companion object {\n val SVG_SPREADMETHOD_UNKNOWN: Short\n val SVG_SPREADMETHOD_PAD: Short\n val SVG_SPREADMETHOD_REFLECT: Short\n val SVG_SPREADMETHOD_REPEAT: Short\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGMeshrowElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val

DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGMeshpatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin\n */\npublic external abstract class SVGStopElement : SVGElement {\n open val offset: SVGAnimatedNumber\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement) to Kotlin\n */\npublic external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox, SVGURIReference, SVGUnitTypes {\n open val patternUnits: SVGAnimatedEnumeration\n open val patternContentUnits: SVGAnimatedEnumeration\n open val patternTransform: SVGAnimatedTransformList\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGHatchElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\npublic external abstract class SVGHatchpathElement : SVGElement {\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to Kotlin\n */\npublic external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n */\npublic external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLOrSVGScriptElement {\n open var type: String\n open var crossOrigin: String?\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGAElement](https://developer.mozilla.org/en/docs/Web/API/SVGAElement) to Kotlin\n */\npublic external abstract class SVGAElement : SVGGraphicsElement, SVGURIReference {\n open val target: SVGAnimatedString\n open val download: SVGAnimatedString\n open val rel: SVGAnimatedString\n open val relList: SVGAnimatedString\n open val hreflang: SVGAnimatedString\n open val type: SVGAnimatedString\n\n companion object {\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val

DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}\n\n/**\n * Exposes the JavaScript [SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n */\npublic external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE: Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n val ELEMENT_NODE: Short\n val ATTRIBUTE_NODE: Short\n val TEXT_NODE: Short\n val CDATA_SECTION_NODE: Short\n val ENTITY_REFERENCE_NODE: Short\n val ENTITY_NODE: Short\n val PROCESSING_INSTRUCTION_NODE: Short\n val COMMENT_NODE: Short\n val DOCUMENT_NODE: Short\n val DOCUMENT_TYPE_NODE: Short\n val DOCUMENT_FRAGMENT_NODE: Short\n val NOTATION_NODE: Short\n val DOCUMENT_POSITION_DISCONNECTED: Short\n val DOCUMENT_POSITION_PRECEDING: Short\n val DOCUMENT_POSITION_FOLLOWING: Short\n val DOCUMENT_POSITION_CONTAINS: Short\n val DOCUMENT_POSITION_CONTAINED_BY: Short\n val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n }\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.files\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to Kotlin\n */\npublic external open class Blob(blobParts: Array<dynamic> = definedExternally, options: BlobPropertyBag = definedExternally) : MediaProvider, ImageBitmapSource {\n open val size: Number\n open val type: String\n open val isClosed: Boolean\n fun slice(start: Int = definedExternally, end: Int = definedExternally, contentType: String = definedExternally): Blob\n fun close()\n}\n\npublic external interface BlobPropertyBag {\n var type: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun BlobPropertyBag(type: String? = \"\"): BlobPropertyBag {\n val o = js(\"({})\")\n o[\"type\"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript [File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin\n */\npublic external open class File(fileBits: Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {\n open val name: String\n open val lastModified: Int\n}\n\npublic external interface FilePropertyBag : BlobPropertyBag {\n var lastModified: Int?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun FilePropertyBag(lastModified: Int? = undefined, type: String? = \"\"): FilePropertyBag {\n val o = js(\"({})\")\n o[\"lastModified\"] = lastModified\n o[\"type\"] = type\n return o\n}\n\n/**\n * Exposes the JavaScript [FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin\n */\npublic external abstract class FileList : ItemArrayLike<File> {\n override fun item(index: Int): File?\n}\n\n@kotlin.internal.InlineOnly\npublic inline operator fun FileList.get(index: Int): File? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n */\npublic external open class FileReader : EventTarget {\n open val readyState: Short\n open val result: dynamic\n open val error: dynamic\n var onloadstart: ((ProgressEvent) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n var onload: ((Event) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n

var onloadend: ((Event) -> dynamic)?\n   fun readAsArrayBuffer(blob: Blob)\n   fun readAsBinaryString(blob: Blob)\n   fun readAsText(blob: Blob, label: String = definedExternally)\n   fun readAsDataURL(blob: Blob)\n   fun abort()\n\n   companion object {\n   val EMPTY: Short\n   val LOADING: Short\n   val DONE: Short\n   }\n}\n\n/**\n * Exposes the JavaScript [FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n */\npublic external open class FileReaderSync {\n   fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n   fun readAsBinaryString(blob: Blob): String\n   fun readAsText(blob: Blob, label: String = definedExternally): String\n   fun readAsDataURL(blob: Blob): String\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.notifications\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\npublic external open class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n   var onclick: ((MouseEvent) -> dynamic)?\n   var onerror: ((Event) -> dynamic)?\n   open val title: String\n   open val dir: NotificationDirection\n   open val lang: String\n   open val body: String\n   open val tag: String\n   open val image: String\n   open val icon: String\n   open val badge: String\n   open val sound: String\n   open val vibrate: Array<out Int>\n   open val timestamp: Number\n   open val renotify: Boolean\n   open val silent: Boolean\n   open val noscreen: Boolean\n   open val requireInteraction: Boolean\n   open val sticky: Boolean\n   open val data: Any?\n   open val actions: Array<out NotificationAction>\n   fun close()\n\n   companion object {\n   val permission: NotificationPermission\n   val maxActions: Int\n   fun requestPermission(deprecatedCallback: (NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n   }\n}\n\npublic external interface NotificationOptions {\n   var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n   get() = definedExternally\n   set(value) = definedExternally\n   var lang: String? /* = \"\" */\n   get() = definedExternally\n   set(value) = definedExternally\n   var body: String? /* = \"\" */\n   get() = definedExternally\n   set(value) = definedExternally\n   var tag: String? /* = \"\" */\n   get() = definedExternally\n   set(value) = definedExternally\n   var image: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var icon: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var badge: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var sound: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var vibrate: dynamic\n   get() = definedExternally\n   set(value) = definedExternally\n   var timestamp: Number?\n   get() = definedExternally\n   set(value) = definedExternally\n   var renotify: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var silent: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var noscreen: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var requireInteraction: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var sticky: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var data: Any? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n   var actions: Array<NotificationAction>? /* = arrayOf() */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationOptions(dir: NotificationDirection? = NotificationDirection.AUTO, lang: String? = \"\", body: String? = \"\", tag: String? = \"\", image: String? = undefined, icon: String? = undefined, badge: String? = undefined, sound: String? = undefined, vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? = false, silent: Boolean? = false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? =

false, data: Any? = null, actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {\n val o = js(\"({})\")\n o[\"dir\"] = dir\n o[\"lang\"] = lang\n o[\"body\"] = body\n o[\"tag\"] = tag\n o[\"image\"] = image\n o[\"icon\"] = icon\n o[\"badge\"] = badge\n o[\"sound\"] = sound\n o[\"vibrate\"] = vibrate\n o[\"timestamp\"] = timestamp\n o[\"renotify\"] = renotify\n o[\"silent\"] = silent\n o[\"noscreen\"] = noscreen\n o[\"requireInteraction\"] = requireInteraction\n o[\"sticky\"] = sticky\n o[\"data\"] = data\n o[\"actions\"] = actions\n return o\n}\n\npublic external interface NotificationAction {\n var action: String?\n get() = definedExternally\n set(value) = definedExternally\n var title: String?\n get() = definedExternally\n set(value) = definedExternally\n var icon: String?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationAction(action: String?, title: String?, icon: String? = undefined): NotificationAction {\n val o = js(\"({})\")\n o[\"action\"] = action\n o[\"title\"] = title\n o[\"icon\"] = icon\n return o\n}\n\npublic external interface GetNotificationOptions {\n var tag: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun GetNotificationOptions(tag: String? = \"\"): GetNotificationOptions {\n val o = js(\"({})\")\n o[\"tag\"] = tag\n return o\n}\n\n/**\n * Exposes the JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin\n */\npublic external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) : ExtendableEvent {\n open val notification: Notification\n open val action: String\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface NotificationEventInit : ExtendableEventInit {\n var notification: Notification?\n get() = definedExternally\n set(value) = definedExternally\n var action: String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationEventInit(notification: Notification?, action: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): NotificationEventInit {\n val o = js(\"({})\")\n o[\"notification\"] = notification\n o[\"action\"] = action\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface NotificationPermission {\n companion object\n}\n\npublic inline val NotificationPermission.Companion.DEFAULT: NotificationPermission get() = \"default\".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val NotificationPermission.Companion.DENIED: NotificationPermission get() = \"denied\".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val NotificationPermission.Companion.GRANTED: NotificationPermission get() = \"granted\".asDynamic().unsafeCast<NotificationPermission>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface NotificationDirection {\n companion object\n}\n\npublic inline val NotificationDirection.Companion.AUTO: NotificationDirection get() = \"auto\".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val NotificationDirection.Companion.LTR: NotificationDirection get() = \"ltr\".asDynamic().unsafeCast<NotificationDirection>()\n\npublic inline val NotificationDirection.Companion.RTL: NotificationDirection get() = \"rtl\".asDynamic().unsafeCast<NotificationDirection>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.workers\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport

org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to Kotlin\n */\npublic external abstract class ServiceWorker : EventTarget, AbstractWorker, UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n   open val scriptURL: String\n   open val state: ServiceWorkerState\n   open var onstatechange: ((Event) -> dynamic)?\n   fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to Kotlin\n */\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n   open val installing: ServiceWorker?\n   open val waiting: ServiceWorker?\n   open val active: ServiceWorker?\n   open val scope: String\n   open var onupdatefound: ((Event) -> dynamic)?\n   open val APISpace: dynamic\n   fun update(): Promise<Unit>\n   fun unregister(): Promise<Boolean>\n   fun showNotification(title: String, options: NotificationOptions = definedExternally): Promise<Unit>\n   fun getNotifications(filter: GetNotificationOptions = definedExternally): Promise<Array<Notification>>\n   fun methodName(): Promise<dynamic>\n}\n\n/**\n * Exposes the JavaScript [ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to Kotlin\n */\npublic external abstract class ServiceWorkerContainer : EventTarget {\n   open val controller: ServiceWorker?\n   open val ready: Promise<ServiceWorkerRegistration>\n   open var oncontrollerchange: ((Event) -> dynamic)?\n   open var onmessage: ((MessageEvent) -> dynamic)?\n   fun register(scriptURL: String, options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n   fun getRegistration(clientURL: String = definedExternally): Promise<Any?>\n   fun getRegistrations(): Promise<Array<ServiceWorkerRegistration>>\n   fun startMessages()\n}\n\npublic external interface RegistrationOptions {\n   var scope: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var type: WorkerType? /* = WorkerType.CLASSIC */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RegistrationOptions(scope: String? = undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n   val o = js(\"({})\")\n   o[\"scope\"] = scope\n   o[\"type\"] = type\n   return o\n}\n\n/**\n * Exposes the JavaScript [ServiceWorkerMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerMessageEvent) to Kotlin\n */\npublic external open class ServiceWorkerMessageEvent(type: String, eventInitDict: ServiceWorkerMessageEventInit = definedExternally) : Event {\n   open val data: Any?\n   open val origin: String\n   open val lastEventId: String\n   open val source: UnionMessagePortOrServiceWorker?\n   open val ports: Array<out MessagePort>?\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface ServiceWorkerMessageEventInit : EventInit {\n   var data: Any?\n   get() = definedExternally\n   set(value) = definedExternally\n   var origin: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var lastEventId: String?\n   get() = definedExternally\n   set(value) = definedExternally\n   var source: UnionMessagePortOrServiceWorker?\n   get() = definedExternally\n   set(value) = definedExternally\n   var ports: Array<MessagePort>?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ServiceWorkerMessageEventInit(data: Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source: UnionMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ServiceWorkerMessageEventInit {\n   val o = js(\"({})\")\n   o[\"data\"] = data\n   o[\"origin\"] = origin\n   o[\"lastEventId\"] = lastEventId\n   o[\"source\"] = source\n   o[\"ports\"] = ports\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to Kotlin\n */\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n   open val clients: Clients\n   open val registration: ServiceWorkerRegistration\n   open var oninstall: ((Event) -> dynamic)?\n   open

var onactivate: ((Event) -> dynamic)?\n   open var onfetch: ((FetchEvent) -> dynamic)?\n   open var onforeignfetch: ((Event) -> dynamic)?\n   open var onmessage: ((MessageEvent) -> dynamic)?\n   open var onnotificationclick: ((NotificationEvent) -> dynamic)?\n   open var onnotificationclose: ((NotificationEvent) -> dynamic)?\n   open var onfunctionalevent: ((Event) -> dynamic)?\n   fun skipWaiting(): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript [Client](https://developer.mozilla.org/en/docs/Web/API/Client) to Kotlin\n */\npublic external abstract class Client : UnionClientOrMessagePortOrServiceWorker {\n   open val url: String\n   open val frameType: FrameType\n   open val id: String\n   fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally)\n}\n\n/**\n * Exposes the JavaScript [WindowClient](https://developer.mozilla.org/en/docs/Web/API/WindowClient) to Kotlin\n */\npublic external abstract class WindowClient : Client {\n   open val visibilityState: dynamic\n   open val focused: Boolean\n   fun focus(): Promise<WindowClient>\n   fun navigate(url: String): Promise<WindowClient>\n}\n\n/**\n * Exposes the JavaScript [Clients](https://developer.mozilla.org/en/docs/Web/API/Clients) to Kotlin\n */\npublic external abstract class Clients {\n   fun get(id: String): Promise<Any?>\n   fun matchAll(options: ClientQueryOptions = definedExternally): Promise<Array<Client>>\n   fun openWindow(url: String): Promise<WindowClient?>\n   fun claim(): Promise<Unit>\n}\n\npublic external interface ClientQueryOptions {\n   var includeUncontrolled: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n   var type: ClientType? /* = ClientType.WINDOW */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ClientQueryOptions(includeUncontrolled: Boolean? = false, type: ClientType? = ClientType.WINDOW): ClientQueryOptions {\n   val o = js(\"({})\")\n   o[\"includeUncontrolled\"] = includeUncontrolled\n   o[\"type\"] = type\n   return o\n}\n\n/**\n * Exposes the JavaScript [ExtendableEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableEvent) to Kotlin\n */\npublic external open class ExtendableEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : Event {\n   fun waitUntil(f: Promise<Any?>)\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface ExtendableEventInit : EventInit\n\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableEventInit(bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableEventInit {\n   val o = js(\"({})\")\n   o[\"bubbles\"] = bubbles\n   o[\"cancelable\"] = cancelable\n   o[\"composed\"] = composed\n   return o\n}\n\n/**\n * Exposes the JavaScript [InstallEvent](https://developer.mozilla.org/en/docs/Web/API/InstallEvent) to Kotlin\n */\npublic external open class InstallEvent(type: String, eventInitDict: ExtendableEventInit = definedExternally) : ExtendableEvent {\n   fun registerForeignFetch(options: ForeignFetchOptions)\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface ForeignFetchOptions {\n   var scopes: Array<String>?\n   get() = definedExternally\n   set(value) = definedExternally\n   var origins: Array<String>?\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchOptions(scopes: Array<String>?, origins: Array<String>?): ForeignFetchOptions {\n   val o = js(\"({})\")\n   o[\"scopes\"] = scopes\n   o[\"origins\"] = origins\n   return o\n}\n\n/**\n * Exposes the JavaScript [FetchEvent](https://developer.mozilla.org/en/docs/Web/API/FetchEvent) to Kotlin\n */\npublic external open class FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {\n   open val request: Request\n   open val clientId: String?\n   open val isReload: Boolean\n   fun respondWith(r: Promise<Response>)\n\n   companion object {\n   val NONE: Short\n   val CAPTURING_PHASE: Short\n   val AT_TARGET: Short\n   val BUBBLING_PHASE: Short\n   }\n}\n\npublic external interface FetchEventInit : ExtendableEventInit {\n   var request: Request?\n   get() = definedExternally\n   set(value) = definedExternally\n   var clientId: String? /* = null */\n   get() = definedExternally\n   set(value) = definedExternally\n   var isReload: Boolean? /* = false */\n   get() = definedExternally\n   set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun FetchEventInit(request: Request?, clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): FetchEventInit {\n   val o = js(\"({})\")\n

o[\"request\"] = request\n o[\"clientId\"] = clientId\n o[\"isReload\"] = isReload\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external open class ForeignFetchEvent(type: String, eventInitDict: ForeignFetchEventInit) : ExtendableEvent {\n open val request: Request\n open val origin: String\n fun respondWith(r: Promise<ForeignFetchResponse>)\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface ForeignFetchEventInit : ExtendableEventInit {\n var request: Request?\n get() = definedExternally\n set(value) = definedExternally\n var origin: String? /* = \"null\" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchEventInit(request: Request?, origin: String? = \"null\", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ForeignFetchEventInit {\n val o = js(\"({})\")\n o[\"request\"] = request\n o[\"origin\"] = origin\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\npublic external interface ForeignFetchResponse {\n var response: Response?\n get() = definedExternally\n set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n set(value) = definedExternally\n var headers: Array<String>?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ForeignFetchResponse(response: Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse {\n val o = js(\"({})\")\n o[\"response\"] = response\n o[\"origin\"] = origin\n o[\"headers\"] = headers\n return o\n}\n\n/**\n * Exposes the JavaScript [ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin\n */\npublic external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit = definedExternally) : ExtendableEvent {\n open val data: Any?\n open val origin: String\n open val lastEventId: String\n open val source: UnionClientOrMessagePortOrServiceWorker?\n open val ports: Array<out MessagePort>?\n\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface ExtendableMessageEventInit : ExtendableEventInit {\n var data: Any?\n get() = definedExternally\n set(value) = definedExternally\n var origin: String?\n get() = definedExternally\n set(value) = definedExternally\n var lastEventId: String?\n get() = definedExternally\n set(value) = definedExternally\n var source: UnionClientOrMessagePortOrServiceWorker?\n get() = definedExternally\n set(value) = definedExternally\n var ports: Array<MessagePort>?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ExtendableMessageEventInit(data: Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source: UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort>? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit {\n val o = js(\"({})\")\n o[\"data\"] = data\n o[\"origin\"] = origin\n o[\"lastEventId\"] = lastEventId\n o[\"source\"] = source\n o[\"ports\"] = ports\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] = composed\n return o\n}\n\n/**\n * Exposes the JavaScript [Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin\n */\npublic external abstract class Cache {\n fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?>\n fun matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally): Promise<Array<Response>>\n fun add(request: dynamic): Promise<Unit>\n fun addAll(requests: Array<dynamic>): Promise<Unit>\n fun put(request: dynamic, response: Response): Promise<Unit>\n fun delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean>\n fun keys(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally): Promise<Array<Request>>\n}\n\npublic external interface CacheQueryOptions {\n var ignoreSearch: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var ignoreMethod: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var ignoreVary: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var cacheName: String?\n

get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CacheQueryOptions(ignoreSearch: Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined): CacheQueryOptions {\n val o = js(\"({})\")\n o[\"ignoreSearch\"] = ignoreSearch\n o[\"ignoreMethod\"] = ignoreMethod\n o[\"ignoreVary\"] = ignoreVary\n o[\"cacheName\"] = cacheName\n return o\n}\n\npublic external interface CacheBatchOperation {\n var type: String?\n get() = definedExternally\n set(value) = definedExternally\n var request: Request?\n get() = definedExternally\n set(value) = definedExternally\n var response: Response?\n get() = definedExternally\n set(value) = definedExternally\n var options: CacheQueryOptions?\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CacheBatchOperation(type: String? = undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? = undefined): CacheBatchOperation {\n val o = js(\"({})\")\n o[\"type\"] = type\n o[\"request\"] = request\n o[\"response\"] = response\n o[\"options\"] = options\n return o\n}\n\n/**\n * Exposes the JavaScript [CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n */\npublic external abstract class CacheStorage {\n fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?>\n fun has(cacheName: String): Promise<Boolean>\n fun open(cacheName: String): Promise<Cache>\n fun delete(cacheName: String): Promise<Boolean>\n fun keys(): Promise<Array<String>>\n}\n\npublic external open class FunctionalEvent : ExtendableEvent {\n companion object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val BUBBLING_PHASE: Short\n }\n}\n\npublic external interface UnionMessagePortOrServiceWorker\n\npublic external interface UnionClientOrMessagePortOrServiceWorker\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ServiceWorkerState {\n companion object\n}\n\npublic inline val ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState get() = \"installing\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() = \"installed\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() = \"activating\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() = \"activated\".asDynamic().unsafeCast<ServiceWorkerState>()\n\npublic inline val ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() = \"redundant\".asDynamic().unsafeCast<ServiceWorkerState>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface FrameType {\n companion object\n}\n\npublic inline val FrameType.Companion.AUXILIARY: FrameType get() = \"auxiliary\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.TOP_LEVEL: FrameType get() = \"top-level\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NESTED: FrameType get() = \"nested\".asDynamic().unsafeCast<FrameType>()\n\npublic inline val FrameType.Companion.NONE: FrameType get() = \"none\".asDynamic().unsafeCast<FrameType>()\n\n/* please, don't implement this interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface ClientType {\n companion object\n}\n\npublic inline val ClientType.Companion.WINDOW: ClientType get() = \"window\".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.WORKER: ClientType get() = \"worker\".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.SHAREDWORKER: ClientType get() = \"sharedworker\".asDynamic().unsafeCast<ClientType>()\n\npublic inline val ClientType.Companion.ALL: ClientType get() = \"all\".asDynamic().unsafeCast<ClientType>()","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See github.com/kotlin/dukat for details\n\npackage org.w3c.xhr\n\nimport kotlin.js.*\nimport

```
org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.encryptedmedia.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.mediasource.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport
org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport
org.w3c.performance.*\nimport org.w3c.workers.*\n\n/**\n * Exposes the JavaScript
[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget) to
Kotlin\n */\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n    open var onloadstart:
((ProgressEvent) -> dynamic)?\n    open var onprogress: ((ProgressEvent) -> dynamic)?\n    open var onabort:
((Event) -> dynamic)?\n    open var onerror: ((Event) -> dynamic)?\n    open var onload: ((Event) -> dynamic)?\n
open var ontimeout: ((Event) -> dynamic)?\n    open var onloadend: ((Event) -> dynamic)?\n}\n\npublic external
abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget\n\n/**\n * Exposes the JavaScript
[XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to Kotlin\n */\npublic
external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n    var onreadystatechange: ((Event) ->
dynamic)?\n    open val readyState: Short\n    var timeout: Int\n    var withCredentials: Boolean\n    open val upload:
XMLHttpRequestUpload\n    open val responseURL: String\n    open val status: Short\n    open val statusText:
String\n    var responseType: XMLHttpRequestResponseType\n    open val response: Any?\n    open val
responseText: String\n    open val responseXML: Document?\n    fun open(method: String, url: String)\n    fun
open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? =
definedExternally)\n    fun setRequestHeader(name: String, value: String)\n    fun send(body: dynamic =
definedExternally)\n    fun abort()\n    fun getResponseHeader(name: String): String?\n    fun
getAllResponseHeaders(): String\n    fun overrideMimeType(mime: String)\n\n    companion object {\n        val
UNSENT: Short\n        val OPENED: Short\n        val HEADERS_RECEIVED: Short\n        val LOADING:
Short\n        val DONE: Short\n    }\n}\n\n/**\n * Exposes the JavaScript
[FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n */\npublic external open class
FormData(form: HTMLFormElement = definedExternally) {\n    fun append(name: String, value: String)\n    fun
append(name: String, value: Blob, filename: String = definedExternally)\n    fun delete(name: String)\n    fun
get(name: String): dynamic\n    fun getAll(name: String): Array<dynamic>\n    fun has(name: String): Boolean\n
fun set(name: String, value: String)\n    fun set(name: String, value: Blob, filename: String =
definedExternally)\n}\n\n/**\n * Exposes the JavaScript
[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n */\npublic external open
class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n    open val
lengthComputable: Boolean\n    open val loaded: Number\n    open val total: Number\n\n    companion object {\n
val NONE: Short\n        val CAPTURING_PHASE: Short\n        val AT_TARGET: Short\n        val
BUBBLING_PHASE: Short\n    }\n}\n\npublic external interface ProgressEventInit : EventInit {\n    var
lengthComputable: Boolean? /* = false */\n        get() = definedExternally\n        set(value) = definedExternally\n
var loaded: Number? /* = 0 */\n        get() = definedExternally\n        set(value) = definedExternally\n    var total:
Number? /* = 0 */\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ProgressEventInit(lengthComputable:
Boolean? = false, loaded: Number? = 0, total: Number? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): ProgressEventInit {\n    val o = js(\"({})\")\n    o[\"lengthComputable\"] =
lengthComputable\n    o[\"loaded\"] = loaded\n    o[\"total\"] = total\n    o[\"bubbles\"] = bubbles\n
o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n    return o\n}\n\n/* please, don't implement this
interface! */\n@Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npublic external interface
XMLHttpRequestResponseType {\n    companion object\n}\n\npublic inline val
XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() =
\"\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val
XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() =
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\"arraybuffer\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() = \"blob\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() = \"document\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() = \"json\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\npublic inline val XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() = \"text\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated annotation class is a marker of an experimental API.\n *\n * Any declaration annotated with that marker is considered an experimental declaration\n * and its call sites should accept the experimental aspect of it either by using [UseExperimental],\n * or by being annotated with that marker themselves, effectively causing further propagation of that experimental aspect.\n *\n * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].\n */\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin(\"1.2\")\n@RequireKotlin(\"1.2.50\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n@Deprecated(\"Please use RequiresOptIn instead.\")\npublic annotation class Experimental(val level: Level = Level.ERROR) {\n   /**\n   * Severity of the diagnostic that should be reported on usages of experimental API which did not explicitly accept the experimental aspect\n   * of that API either by using [UseExperimental] or by being annotated with the corresponding marker annotation.\n   */\n   public enum class Level {\n   /** Specifies that a warning should be reported on incorrect usages of this experimental API. */\n   WARNING,\n   /** Specifies that an error should be reported on incorrect usages of this experimental API. */\n   ERROR,\n   }\n}\n\n/**\n * Allows to use experimental API denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with [UseExperimental], its usages are **not** required to opt-in to that experimental API.\n *\n * This class is deprecated in favor of a more general approach provided by [RequiresOptIn]/[OptIn].\n */\n@Target(\n   CLASS, PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE, TYPEALIAS\n)\n@Retention(SOURCE)\n@SinceKotlin(\"1.2\")\n@RequireKotlin(\"1.2.50\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n@Deprecated(\"Please use OptIn instead.\", ReplaceWith(\"OptIn(*markerClass)\", \"kotlin.OptIn\"))\npublic annotation class UseExperimental(\n   vararg val markerClass: KClass<out Annotation>\n)\n\n\n@Target(CLASS, PROPERTY, CONSTRUCTOR, FUNCTION, TYPEALIAS)\n@Retention(BINARY)\ninternal annotation class WasExperimental(\n   vararg val markerClass: KClass<out Annotation>\n)\n","package kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * This annotation marks the standard library API that is considered experimental and is not subject to the\n * [general compatibility guarantees](https://kotlinlang.org/docs/reference/evolution/components-stability.html) given for the standard library:\n * the behavior of such API may be changed or the API may be removed completely in any further release.\n *\n * > Beware using the annotated API especially if you're developing a library, since your library might become binary incompatible\n * with the future versions of the standard library.\n *\n * Any usage of a declaration annotated with `@ExperimentalStdlibApi` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalStdlibApi::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.ExperimentalStdlibApi`.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental(level = Experimental.Level.ERROR)\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@Retention(AnnotationRetention.BINARY)\n@Target(\n   CLASS,\n

ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n PROPERTY_SETTER,\n TYPEALIAS\n)\n@MustBeDocumented\n@SinceKotlin(\"1.3\")\npublic annotation class ExperimentalStdlibApi\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Allows to infer generic type arguments of a function from the calls in the annotated function parameter of that function.\n *\n * When this annotation is placed on a generic function parameter of a function,\n * it enables to infer the type arguments of that generic function from the lambda body passed to that parameter.\n *\n * The calls that affect inference are either members of the receiver type of an annotated function parameter or\n * extensions for that type. The extensions must be themselves annotated with `@BuilderInference`.\n *\n * Example: we declare\n * ```\n * fun <T> sequence(@BuilderInference block: suspend SequenceScope<T>.() -> Unit): Sequence<T>\n * ```\n * and use it like\n * ```\n * val result = sequence { yield(\"result\") }\n * ```\n * Here the type argument of the resulting sequence is inferred to `String` from\n * the argument of the [SequenceScope.yield] function, that is called inside the lambda passed to [sequence].\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n */\n@Target(VALUE_PARAMETER, FUNCTION, PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.3\")\n@ExperimentalTypeInference\npublic annotation class BuilderInference\n\n\n/**\n * Enables overload selection based on the type of the value returned from lambda argument.\n *\n * When two or more function overloads have otherwise the same parameter lists that differ only in the return type\n * of a functional parameter, this annotation enables overload selection by the type of the value returned from\n * the lambda function passed to this functional parameter.\n *\n * Example:\n * ```\n * @OverloadResolutionByLambdaReturnType\n * fun create(intProducer: () -> Int): Int\n *\n * fun create(doubleProducer: () -> Double): Double\n *\n * val newValue = create { 3.14 }\n * ```\n *\n * The annotation being applied to one of overloads allows to resolve this ambiguity by analyzing what value is returned\n * from the lambda function.\n *\n * This annotation is also used to discriminate the annotated overloads in case if overload selection still cannot\n * choose one of them even taking in account the result of lambda parameter analysis. In that case a warning is reported.\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on how to opt-in for it.\n */\n@Target(FUNCTION)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.4\")\n@ExperimentalTypeInference\npublic annotation class OverloadResolutionByLambdaReturnType","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport kotlin.internal.RequireKotlinVersionKind\n\n/**\n * The experimental multiplatform support API marker.\n *\n * Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalMultiplatform::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.ExperimentalMultiplatform`.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental\n@RequiresOptIn\n@MustBeDocumented\n@Target(\n CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n LOCAL_VARIABLE,\n VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n PROPERTY_GETTER,\n PROPERTY_SETTER,\n TYPEALIAS\n)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin(\"1.2.50\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalMultiplatform\n\n/**\n * Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n *\n * This annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as \"optional\".\n * Optional expected class is allowed to have no corresponding actual class on the platform. Optional annotations can only be used\n * to annotate something, not as types in signatures. If an optional annotation has no

corresponding actual class on a platform,\n * the annotation entries where it's used are simply erased when compiling code on that platform.\n *\n * Note: this annotation is experimental, see [ExperimentalMultiplatform] on how to opt-in for it.\n */\n@Target(ANNOTATION_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatform\n@RequireKotlin(\"1.2.50\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class OptionalExpectation\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated annotation class is a marker of an API that requires an explicit opt-in.\n *\n * Call sites of any declaration annotated with that marker should opt in to the API either by using [OptIn],\n * or by being annotated with that marker themselves, effectively causing further propagation of the opt-in requirement.\n *\n * This class requires opt-in itself and can only be used with the compiler argument `-Xopt-in=kotlin.RequiresOptIn`.\n *\n * @property message message to be reported on usages of API without an explicit opt-in, or empty string for the default message.\n *

The default message is: \"This declaration is experimental and its usage should be marked with 'Marker'\n *

or '@OptIn(Marker::class)'\", where `Marker` is the opt-in requirement marker.\n * @property level specifies how usages of API without an explicit opt-in are reported in code.\n */\n@Target(ANNOTATION_CLASS)\n@Retention(BINARY)\n@SinceKotlin(\"1.3\")\n@RequireKotlin(\"1.3.70\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class RequiresOptIn(\n val message: String = \"\",\n val level: Level = Level.ERROR\n) {\n /**\n * Severity of the diagnostic that should be reported on usages which did not explicitly opted into\n * the API either by using [OptIn] or by being annotated with the corresponding marker annotation.\n */\n public enum class Level {\n /** Specifies that a warning should be reported on incorrect usages of this API. */\n WARNING,\n\n /** Specifies that an error should be reported on incorrect usages of this API. */\n ERROR,\n }\n}\n\n/**\n * Allows to use the API denoted by the given markers in the annotated file, declaration, or expression.\n * If a declaration is annotated with [OptIn], its usages are **not** required to opt in to that API.\n *\n * This class requires opt-in itself and can only be used with the compiler argument `-Xopt-in=kotlin.RequiresOptIn`.\n */\n@Target(\n CLASS, PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE, TYPEALIAS\n)\n@Retention(SOURCE)\n@SinceKotlin(\"1.3\")\n@RequireKotlin(\"1.3.70\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class OptIn(\n vararg val markerClass: KClass<out Annotation>\n)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\nimport kotlin.js.JsName\n\n/**\n * Provides a skeletal implementation of the read-only [Collection] interface.\n *\n * @param E the type of elements contained in the collection. The collection is covariant in its element type.\n */\n@SinceKotlin(\"1.1\")\npublic abstract class AbstractCollection<out E> protected constructor() : Collection<E> {\n abstract override val size: Int\n abstract override fun iterator(): Iterator<E>\n\n override fun contains(element: @UnsafeVariance E): Boolean = any { it == element }\n\n override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean =\n elements.all { contains(it) } // use when js will support bound refs: elements.all(this::contains)\n\n override fun isEmpty(): Boolean = size == 0\n\n override fun toString(): String = joinToString(\", \", \"[\", \"]\") {\n if (it === this) \"(this Collection)\" else it.toString()\n }\n\n /**\n * Returns new array of type `Array<Any?>` with the elements of this collection.\n */\n @JsName(\"toArray\")\n protected open fun toArray(): Array<Any?> = copyToArrayImpl(this)\n\n /**\n * Fills the provided [array] or creates new array of the same type\n * and fills it with the elements of this collection.\n */\n protected open fun <T> toArray(array: Array<T>): Array<T> = copyToArrayImpl(this, array)\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming

Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n\nprivate enum class State {\n Ready,\n NotReady,\n Done,\n Failed\n}\n\n/**\n * A base class to simplify implementing iterators so that implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when the iteration is complete.\n */\npublic abstract class AbstractIterator<T> : Iterator<T> {\n private var state = State.NotReady\n private var nextValue: T? = null\n\n override fun hasNext(): Boolean {\n require(state != State.Failed)\n return when (state) {\n State.Done -> false\n State.Ready -> true\n else -> tryToComputeNext()\n }\n }\n\n override fun next(): T {\n if (!hasNext()) throw NoSuchElementException()\n state = State.NotReady\n @Suppress(\"UNCHECKED_CAST\")\n return nextValue as T\n }\n\n private fun tryToComputeNext(): Boolean {\n state = State.Failed\n computeNext()\n return state == State.Ready\n }\n\n /**\n * Computes the next item in the iterator.\n *\n * This callback method should call one of these two methods:\n *\n * * [setNext] with the next value of the iteration\n * * [done] to indicate there are no more elements\n *\n * Failure to call either method will result in the iteration terminating with a failed state\n */\n abstract protected fun computeNext(): Unit\n\n /**\n * Sets the next value in the iteration, called from the [computeNext] function\n */\n protected fun setNext(value: T): Unit {\n nextValue = value\n state = State.Ready\n }\n\n /**\n * Sets the state to done so that the iteration terminates.\n */\n protected fun done() {\n state = State.Done\n }\n}\n\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractList\n * Copyright 2007 Google Inc.\n*/\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [List] interface.\n *\n * This class is intended to help implementing read-only lists so it doesn't support concurrent modification tracking.\n *\n * @param E the type of elements contained in the list. The list is covariant in its element type.\n */\n@SinceKotlin(\"1.1\")\npublic abstract class AbstractList<out E> protected constructor() : AbstractCollection<E>(), List<E> {\n abstract override val size: Int\n abstract override fun get(index: Int): E\n\n override fun iterator(): Iterator<E> = IteratorImpl()\n\n override fun indexOf(element: @UnsafeVariance E): Int = indexOfFirst { it == element }\n\n override fun lastIndexOf(element: @UnsafeVariance E): Int = indexOfLast { it == element }\n\n override fun listIterator(): ListIterator<E> = ListIteratorImpl(0)\n\n override fun listIterator(index: Int): ListIterator<E> = ListIteratorImpl(index)\n\n override fun subList(fromIndex: Int, toIndex: Int): List<E> = SubList(this, fromIndex, toIndex)\n\n private class SubList<out E>(private val list: AbstractList<E>, private val fromIndex: Int, toIndex: Int) : AbstractList<E>(), RandomAccess {\n private var _size: Int = 0\n\n init {\n checkRangeIndexes(fromIndex, toIndex, list.size)\n this._size = toIndex - fromIndex\n }\n\n override fun get(index: Int): E {\n checkElementIndex(index, _size)\n\n return list[fromIndex + index]\n }\n\n override val size: Int get() = _size\n }\n\n /**\n * Compares this list with other list instance with the ordered structural equality.\n *\n * @return true, if [other] instance is a [List] of the same size, which contains the same elements in the same order.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is List<*>) return false\n\n return orderedEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this list.\n */\n override fun hashCode(): Int = orderedHashCode(this)\n\n private open inner class IteratorImpl : Iterator<E> {\n /** the index of the item that will be returned on the next call to [next]`()` */\n protected var index = 0\n\n override fun hasNext(): Boolean = index < size\n\n override fun next(): E {\n if (!hasNext()) throw NoSuchElementException()\n return get(index++)\n }\n }\n\n /**\n * Implementation of [ListIterator] for abstract lists.\n */\n private open inner class ListIteratorImpl(index: Int) : IteratorImpl(), ListIterator<E> {\n\n init {\n checkPositionIndex(index, this@AbstractList.size)\n this.index = index\n }\n\n override fun hasPrevious(): Boolean = index > 0\n\n override fun nextIndex(): Int = index\n\n override fun previous(): E {\n if (!hasPrevious()) throw NoSuchElementException()\n return get(--index)\n }\n\n override fun previousIndex(): Int = index - 1\n }\n\n internal companion object {\n internal fun checkElementIndex(index: Int, size: Int) {\n if (index < 0 || index >= size) {\n throw IndexOutOfBoundsException(\"index: $index, size: $size\")\n

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}\n    }\n\n    internal fun checkPositionIndex(index: Int, size: Int) {\n        if (index < 0 || index > size) {\n            throw IndexOutOfBoundsException(\"index: $index, size: $size\")\n        }\n    }\n\n    internal fun checkRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n        if (fromIndex < 0 || toIndex > size) {\n            throw IndexOutOfBoundsException(\"fromIndex: $fromIndex, toIndex: $toIndex, size: $size\")\n        }\n        if (fromIndex > toIndex) {\n            throw IllegalArgumentException(\"fromIndex: $fromIndex > toIndex: $toIndex\")\n        }\n    }\n\n    internal fun checkBoundsIndexes(startIndex: Int, endIndex: Int, size: Int) {\n        if (startIndex < 0 || endIndex > size) {\n            throw IndexOutOfBoundsException(\"startIndex: $startIndex, endIndex: $endIndex, size: $size\")\n        }\n        if (startIndex > endIndex) {\n            throw IllegalArgumentException(\"startIndex: $startIndex > endIndex: $endIndex\")\n        }\n    }\n\n    internal fun orderedHashCode(c: Collection<*>): Int {\n        var hashCode = 1\n        for (e in c) {\n            hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n        }\n        return hashCode\n    }\n\n    internal fun orderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n        if (c.size != other.size) return false\n\n        val otherIterator = other.iterator()\n        for (elem in c) {\n            val elemOther = otherIterator.next()\n            if (elem != elemOther) {\n                return false\n            }\n        }\n        return true\n    }\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n/*\n * Based on GWT AbstractMap\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Map] interface.\n *\n * The implementor is required to implement [entries] property, which should return read-only set of map entries.\n *\n * @param K the type of map keys. The map is invariant in its key type.\n * @param V the type of map values. The map is covariant in its value type.\n */\n@SinceKotlin(\"1.1\")\npublic abstract class AbstractMap<K, out V> protected constructor() : Map<K, V> {\n\n    override fun containsKey(key: K): Boolean {\n        return implFindEntry(key) != null\n    }\n\n    override fun containsValue(value: @UnsafeVariance V): Boolean = entries.any { it.value == value }\n\n    internal fun containsEntry(entry: Map.Entry<*, *>?): Boolean {\n        // since entry comes from @UnsafeVariance parameters it can be virtually anything\n        if (entry !is Map.Entry<*, *>) return false\n        val key = entry.key\n        val value = entry.value\n        val ourValue = get(key)\n\n        if (value != ourValue) {\n            return false\n        }\n\n        // Perhaps it was null and we don't contain the key?\n        if (ourValue == null && !containsKey(key)) {\n            return false\n        }\n\n        return true\n    }\n\n\n    /**\n     * Compares this map with other instance with the ordered structural equality.\n     *\n     * @return true, if [other] instance is a [Map] of the same size, all entries of which are contained in the [entries] set of this map.\n     */\n    override fun equals(other: Any?): Boolean {\n        if (other === this) return true\n        if (other !is Map<*, *>) return false\n        if (size != other.size) return false\n\n        return other.entries.all { containsEntry(it) }\n    }\n\n    override operator fun get(key: K): V? = implFindEntry(key)?.value\n\n\n    /**\n     * Returns the hash code value for this map.\n     *\n     * It is the same as the hashCode of [entries] set.\n     */\n    override fun hashCode(): Int = entries.hashCode()\n\n    override fun isEmpty(): Boolean = size == 0\n    override val size: Int get() = entries.size\n\n    /**\n     * Returns a read-only [Set] of all keys in this map.\n     *\n     * Accessing this property first time creates a keys view from [entries].\n     * All subsequent accesses just return the created instance.\n     */\n    override val keys: Set<K>\n        get() {\n            if (_keys == null) {\n                _keys = object : AbstractSet<K>() {\n                    override operator fun contains(element: K): Boolean = containsKey(element)\n\n                    override operator fun iterator(): Iterator<K> {\n                        val entryIterator = entries.iterator()\n                        return object : Iterator<K> {\n                            override fun hasNext(): Boolean = entryIterator.hasNext()\n                            override fun next(): K = entryIterator.next().key\n                        }\n                    }\n\n                    override val size: Int get() = this@AbstractMap.size\n                }\n            }\n            return _keys!!\n        }\n\n    @kotlin.jvm.Volatile\n    private var _keys: Set<K>? = null\n\n\n    override fun toString(): String = entries.joinToString(\", \", \"{\", \"}\") { toString(it) }\n\n    private fun toString(entry: Map.Entry<K, V>): String = toString(entry.key) + \"=\" + toString(entry.value)\n\n    private fun toString(o: Any?): String = if (o === this) \"(this Map)\" else o.toString()\n\n    /**\n     * Returns a read-only [Collection] of all values in this map.\n     *\n     * Accessing this property first time creates a values view from [entries].\n     * All subsequent accesses just return the created instance.\n     */\n
```

override val values: Collection<V>\n get() {\n if (_values == null) {\n _values = object : AbstractCollection<V>() {\n override operator fun contains(element: @UnsafeVariance V): Boolean = containsValue(element)\n\n override operator fun iterator(): Iterator<V> {\n val entryIterator = entries.iterator()\n return object : Iterator<V> {\n override fun hasNext(): Boolean = entryIterator.hasNext()\n override fun next(): V = entryIterator.next().value\n }\n }\n\n override val size: Int get() = this@AbstractMap.size\n }\n }\n return _values!!\n }\n\n @kotlin.jvm.Volatile\n private var _values: Collection<V>? = null\n\n private fun implFindEntry(key: K): Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n\n internal companion object {\n\n internal fun entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?: 0) xor (value?.hashCode() ?: 0) }\n internal fun entryToString(e: Map.Entry<*, *>): String = with(e) { \"$key=$value\" }\n internal fun entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {\n if (other !is Map.Entry<*, *>) return false\n return e.key == other.key && e.value == other.value\n }\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Set] interface.\n *\n * This class is intended to help implementing read-only sets so it doesn't support concurrent modification tracking.\n *\n * @param E the type of elements contained in the set. The set is covariant in its element type.\n */\n@SinceKotlin(\"1.1\")\npublic abstract class AbstractSet<out E> protected constructor() : AbstractCollection<E>(), Set<E> {\n\n /**\n * Compares this set with other set instance with the unordered structural equality.\n *\n * @return true, if [other] instance is a [Set] of the same size, all elements of which are contained in this set.\n */\n override fun equals(other: Any?): Boolean {\n if (other === this) return true\n if (other !is Set<*>) return false\n return setEquals(this, other)\n }\n\n /**\n * Returns the hash code value for this set.\n */\n override fun hashCode(): Int = unorderedHashCode(this)\n\n internal companion object {\n internal fun unorderedHashCode(c: Collection<*>): Int {\n var hashCode = 0\n for (element in c) {\n hashCode += (element?.hashCode() ?: 0)\n }\n return hashCode\n }\n\n internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {\n if (c.size != other.size) return false\n return c.containsAll(other)\n }\n }\n\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Resizable-array implementation of the deque data structure.\n *\n * The name deque is short for \"double ended queue\" and is usually pronounced \"deck\".\n *\n * The collection provide methods for convenient access to the both ends.\n * It also implements [MutableList] interface and supports efficient get/set operations by index.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic class ArrayDeque<E> : AbstractMutableList<E> {\n private var head: Int = 0\n private var elementData: Array<Any?>\n\n override var size: Int = 0\n private set\n\n /**\n * Constructs an empty deque with specified [initialCapacity], or throws [IllegalArgumentException] if [initialCapacity] is negative.\n */\n public constructor(initialCapacity: Int) {\n elementData = when {\n initialCapacity == 0 -> emptyElementData\n initialCapacity > 0 -> arrayOfNulls(initialCapacity)\n else -> throw IllegalArgumentException(\"Illegal Capacity: $initialCapacity\")\n }\n }\n\n /**\n * Constructs an empty deque.\n */\n public constructor() {\n elementData = emptyElementData\n }\n\n /**\n * Constructs a deque that contains the same elements as the specified [elements] collection in the same order.\n */\n public constructor(elements: Collection<E>) {\n elementData = elements.toTypedArray()\n size = elementData.size\n if (elementData.isEmpty()) elementData = emptyElementData\n }\n\n /**\n * Ensures that the capacity of this deque is at least equal to the specified [minCapacity].\n *\n * If the current capacity is less than the [minCapacity], a new backing storage is allocated with greater capacity.\n * Otherwise, this method takes no action and simply returns.\n */\n private fun ensureCapacity(minCapacity: Int) {\n if (minCapacity < 0) throw IllegalStateException(\"Deque is too big.\") // overflow\n if (minCapacity <= elementData.size) return\n if (elementData === emptyElementData) {\n elementData = arrayOfNulls(minCapacity.coerceAtLeast(defaultMinCapacity))\n

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    return\n        }\n\n        val newCapacity = newCapacity(elementData.size, minCapacity)\n
copyElements(newCapacity)\n    }\n\n    /**\n     * Creates a new array with the specified [newCapacity] size and
copies elements in the [elementData] array to it.\n     */\n    private fun copyElements(newCapacity: Int) {\n        val
newElements = arrayOfNulls<Any?>(newCapacity)\n        elementData.copyInto(newElements, 0, head,
elementData.size)\n        elementData.copyInto(newElements, elementData.size - head, 0, head)\n        head = 0\n
 elementData = newElements\n    }\n\n    @kotlin.internal.InlineOnly\n    private inline fun
internalGet(internalIndex: Int): E {\n        @Suppress(\"UNCHECKED_CAST\")\n        return
elementData[internalIndex] as E\n    }\n\n    private fun positiveMod(index: Int): Int = if (index >=
elementData.size) index - elementData.size else index\n\n    private fun negativeMod(index: Int): Int = if (index < 0)
index + elementData.size else index\n\n    @kotlin.internal.InlineOnly\n    private inline fun internalIndex(index:
Int): Int = positiveMod(head + index)\n\n    private fun incremented(index: Int): Int = if (index ==
elementData.lastIndex) 0 else index + 1\n\n    private fun decremented(index: Int): Int = if (index == 0)
elementData.lastIndex else index - 1\n\n    override fun isEmpty(): Boolean = size == 0\n\n    /**\n     * Returns the
first element, or throws [NoSuchElementException] if this deque is empty.\n     */\n    public fun first(): E = if
(isEmpty()) throw NoSuchElementException(\"ArrayDeque is empty.\") else internalGet(head)\n\n    /**\n     *
Returns the first element, or `null` if this deque is empty.\n     */\n    public fun firstOrNull(): E? = if (isEmpty()) null
else internalGet(head)\n\n    /**\n     * Returns the last element, or throws [NoSuchElementException] if this deque
is empty.\n     */\n    public fun last(): E = if (isEmpty()) throw NoSuchElementException(\"ArrayDeque is empty.\")
else internalGet(internalIndex(lastIndex))\n\n    /**\n     * Returns the last element, or `null` if this deque is empty.\n
  */\n    public fun lastOrNull(): E? = if (isEmpty()) null else internalGet(internalIndex(lastIndex))\n\n    /**\n     *
Prepends the specified [element] to this deque.\n     */\n    public fun addFirst(element: E) {\n
ensureCapacity(size + 1)\n\n        head = decremented(head)\n        elementData[head] = element\n        size += 1\n
}\n\n    /**\n     * Appends the specified [element] to this deque.\n     */\n    public fun addLast(element: E) {\n
ensureCapacity(size + 1)\n\n        elementData[internalIndex(size)] = element\n        size += 1\n    }\n\n    /**\n     *
Removes the first element from this deque and returns that removed element, or throws [NoSuchElementException]
if this deque is empty.\n     */\n    public fun removeFirst(): E {\n        if (isEmpty()) throw
NoSuchElementException(\"ArrayDeque is empty.\")\n\n        val element = internalGet(head)\n
elementData[head] = null\n        head = incremented(head)\n        size -= 1\n        return element\n    }\n\n    /**\n
* Removes the first element from this deque and returns that removed element, or returns `null` if this deque is
empty.\n     */\n    public fun removeFirstOrNull(): E? = if (isEmpty()) null else removeFirst()\n\n    /**\n     *
Removes the last element from this deque and returns that removed element, or throws [NoSuchElementException]
if this deque is empty.\n     */\n    public fun removeLast(): E {\n        if (isEmpty()) throw
NoSuchElementException(\"ArrayDeque is empty.\")\n\n        val internalLastIndex = internalIndex(lastIndex)\n
val element = internalGet(internalLastIndex)\n        elementData[internalLastIndex] = null\n        size -= 1\n
return element\n    }\n\n    /**\n     * Removes the last element from this deque and returns that removed element, or
returns `null` if this deque is empty.\n     */\n    public fun removeLastOrNull(): E? = if (isEmpty()) null else
removeLast()\n\n    // MutableList, MutableCollection\n    public override fun add(element: E): Boolean {\n
addLast(element)\n        return true\n    }\n\n    public override fun add(index: Int, element: E) {\n
AbstractList.checkPositionIndex(index, size)\n\n        if (index == size) {\n            addLast(element)\n
return\n        } else if (index == 0) {\n            addFirst(element)\n            return\n        }\n\n        ensureCapacity(size
+ 1)\n\n        // Elements in circular array lay in 2 ways:\n        //   1. `head` is less than `tail`:       [#, #, e1, e2, e3,
#]\n        //   2. `head` is greater than `tail`:    [e3, #, #, #, e1, e2]\n        // where head is the index of the first element
in the circular array,\n        // and tail is the index following the last element.\n        //\n        // At this point the
insertion index is not equal to head or tail.\n        // Also the circular array can store at least one more element.\n
//\n        // Depending on where the given element must be inserted the preceding or the succeeding\n        // elements
will be shifted to make room for the element to be inserted.\n        //\n        // In case the preceding elements are
shifted:\n        //   * if the insertion index is greater than the head (regardless of circular array form)\n        //     ->
shift the preceding elements\n        //   * otherwise, the circular array has (2) form and the insertion index is less than
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tail\n        //      -> shift all elements in the back of the array\n        //      -> shift preceding elements in the front of the array\n        // In case the succeeding elements are shifted:\n        //   * if the insertion index is less than the tail (regardless of circular array form)\n        //      -> shift the succeeding elements\n        //   * otherwise, the circular array has (2) form and the insertion index is greater than head\n        //      -> shift all elements in the front of the array\n        //      -> shift succeeding elements in the back of the array\n\n        val internalIndex = internalIndex(index)\n\n        if (index < (size + 1) shr 1) {\n            // closer to the first element -> shift preceding elements\n            val decrementedInternalIndex = decremented(internalIndex)\n            val decrementedHead = decremented(head)\n\n            if (decrementedInternalIndex >= head) {\n                elementData[decrementedHead] = elementData[head]  // head can be zero\n                elementData.copyInto(elementData, head, head + 1, decrementedInternalIndex + 1)\n            } else { // head > tail\n                elementData.copyInto(elementData, head - 1, head, elementData.size) // head can't be zero\n                elementData[elementData.size - 1] = elementData[0]\n                elementData.copyInto(elementData, 0, 1, decrementedInternalIndex + 1)\n            }\n\n            elementData[decrementedInternalIndex] = element\n            head = decrementedHead\n        } else {\n            // closer to the last element -> shift succeeding elements\n            val tail = internalIndex(size)\n\n            if (internalIndex < tail) {\n                elementData.copyInto(elementData, internalIndex + 1, internalIndex, tail)\n            } else { // head > tail\n                elementData.copyInto(elementData, 1, 0, tail)\n                elementData[0] = elementData[elementData.size - 1]\n                elementData.copyInto(elementData, internalIndex + 1, internalIndex, elementData.size - 1)\n            }\n\n            elementData[internalIndex] = element\n        }\n        size += 1\n    }\n\n    private fun copyCollectionElements(internalIndex: Int, elements: Collection<E>) {\n        val iterator = elements.iterator()\n\n        for (index in internalIndex until elementData.size) {\n            if (!iterator.hasNext()) break\n            elementData[index] = iterator.next()\n        }\n        for (index in 0 until head) {\n            if (!iterator.hasNext()) break\n            elementData[index] = iterator.next()\n        }\n\n        size += elements.size\n    }\n\n    public override fun addAll(elements: Collection<E>): Boolean {\n        if (elements.isEmpty()) return false\n        ensureCapacity(this.size + elements.size)\n        copyCollectionElements(internalIndex(size), elements)\n        return true\n    }\n\n    public override fun addAll(index: Int, elements: Collection<E>): Boolean {\n        AbstractList.checkPositionIndex(index, size)\n\n        if (elements.isEmpty()) {\n            return false\n        } else if (index == size) {\n            return addAll(elements)\n        }\n\n        ensureCapacity(this.size + elements.size)\n\n        val tail = internalIndex(size)\n        val internalIndex = internalIndex(index)\n        val elementsSize = elements.size\n\n        if (index < (size + 1) shr 1) {\n            // closer to the first element -> shift preceding elements\n\n            var shiftedHead = head - elementsSize\n\n            if (internalIndex >= head) {\n                if (shiftedHead >= 0) {\n                    elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n                } else { // head < tail, insertion leads to head >= tail\n                    shiftedHead += elementData.size\n                    val elementsToShift = internalIndex - head\n                    val shiftToBack = elementData.size - shiftedHead\n\n                    if (shiftToBack >= elementsToShift) {\n                        elementData.copyInto(elementData, shiftedHead, head, internalIndex)\n                    } else {\n                        elementData.copyInto(elementData, shiftedHead, head, head + shiftToBack)\n                        elementData.copyInto(elementData, 0, head + shiftToBack, internalIndex)\n                    }\n                }\n            } else { // head > tail, internalIndex < tail\n                elementData.copyInto(elementData, shiftedHead, head, elementData.size)\n                if (elementsSize >= internalIndex) {\n                    elementData.copyInto(elementData, elementData.size - elementsSize, 0, internalIndex)\n                } else {\n                    elementData.copyInto(elementData, elementData.size - elementsSize, 0, elementsSize)\n                    elementData.copyInto(elementData, 0, elementsSize, internalIndex)\n                }\n            }\n\n            head = shiftedHead\n            copyCollectionElements(negativeMod(internalIndex - elementsSize), elements)\n        } else {\n            // closer to the last element -> shift succeeding elements\n\n            val shiftedInternalIndex = internalIndex + elementsSize\n\n            if (internalIndex < tail) {\n                if (tail + elementsSize <= elementData.size) {\n                    elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail)\n                } else { // head < tail, insertion leads to head >= tail\n                    if (shiftedInternalIndex >= elementData.size) {\n                        elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, tail)\n                    } else {\n                        val shiftToFront = tail + elementsSize - elementData.size\n
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elementData.copyInto(elementData, 0, tail - shiftToFront, tail)\n                elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, tail - shiftToFront)\n            }\n        }\n    } else { // head > tail, internalIndex > head\n        elementData.copyInto(elementData, elementsSize, 0, tail)\n        if (shiftedInternalIndex >= elementData.size) {\n            elementData.copyInto(elementData, shiftedInternalIndex - elementData.size, internalIndex, elementData.size)\n        } else {\n            elementData.copyInto(elementData, 0, elementData.size - elementsSize, elementData.size)\n            elementData.copyInto(elementData, shiftedInternalIndex, internalIndex, elementData.size - elementsSize)\n        }\n    }\n    copyCollectionElements(internalIndex, elements)\n}\n\n    return true\n}\n\npublic override fun get(index: Int): E {\n    AbstractList.checkElementIndex(index, size)\n\n    return internalGet(internalIndex(index))\n}\n\npublic override fun set(index: Int, element: E): E {\n    AbstractList.checkElementIndex(index, size)\n\n    val internalIndex = internalIndex(index)\n    val oldElement = internalGet(internalIndex)\n    elementData[internalIndex] = element\n\n    return oldElement\n}\n\npublic override fun contains(element: E): Boolean = indexOf(element) != -1\n\npublic override fun indexOf(element: E): Int {\n    val tail = internalIndex(size)\n\n    if (head < tail) {\n        for (index in head until tail) {\n            if (element == elementData[index]) return index - head\n        }\n    } else if (head >= tail) {\n        for (index in head until elementData.size) {\n            if (element == elementData[index]) return index - head\n        }\n        for (index in 0 until tail) {\n            if (element == elementData[index]) return index + elementData.size - head\n        }\n    }\n\n    return -1\n}\n\npublic override fun lastIndexOf(element: E): Int {\n    val tail = internalIndex(size)\n\n    if (head < tail) {\n        for (index in tail - 1 downTo head) {\n            if (element == elementData[index]) return index - head\n        }\n    } else if (head > tail) {\n        for (index in tail - 1 downTo 0) {\n            if (element == elementData[index]) return index + elementData.size - head\n        }\n        for (index in elementData.lastIndex downTo head) {\n            if (element == elementData[index]) return index - head\n        }\n    }\n\n    return -1\n}\n\npublic override fun remove(element: E): Boolean {\n    val index = indexOf(element)\n    if (index == -1) return false\n    removeAt(index)\n    return true\n}\n\npublic override fun removeAt(index: Int): E {\n    AbstractList.checkElementIndex(index, size)\n\n    if (index == lastIndex) {\n        return removeLast()\n    } else if (index == 0) {\n        return removeFirst()\n    }\n\n    val internalIndex = internalIndex(index)\n    val element = internalGet(internalIndex)\n\n    if (index < size shr 1) {\n        // closer to the first element -> shift preceding elements\n        if (internalIndex >= head) {\n            elementData.copyInto(elementData, head + 1, head, internalIndex)\n        } else { // head > tail, internalIndex < head\n            elementData.copyInto(elementData, 1, 0, internalIndex)\n            elementData[0] = elementData[elementData.size - 1]\n            elementData.copyInto(elementData, head + 1, head, elementData.size - 1)\n        }\n\n        elementData[head] = null\n        head = incremented(head)\n    } else {\n        // closer to the last element -> shift succeeding elements\n        val internalLastIndex = internalIndex(lastIndex)\n\n        if (internalIndex <= internalLastIndex) {\n            elementData.copyInto(elementData, internalIndex, internalIndex + 1, internalLastIndex + 1)\n        } else { // head > tail, internalIndex > head\n            elementData.copyInto(elementData, internalIndex, internalIndex + 1, elementData.size)\n            elementData[elementData.size - 1] = elementData[0]\n            elementData.copyInto(elementData, 0, 1, internalLastIndex + 1)\n        }\n\n        elementData[internalLastIndex] = null\n    }\n    size -= 1\n\n    return element\n}\n\npublic override fun removeAll(elements: Collection<E>): Boolean = filterInPlace { !elements.contains(it) }\n\npublic override fun retainAll(elements: Collection<E>): Boolean = filterInPlace { elements.contains(it) }\n\nprivate inline fun filterInPlace(predicate: (E) -> Boolean): Boolean {\n    if (this.isEmpty() || elementData.isEmpty())\n        return false\n\n    val tail = internalIndex(size)\n    var newTail = head\n    var modified = false\n\n    if (head < tail) {\n        for (index in head until tail) {\n            val element = elementData[index]\n\n            @Suppress(\"UNCHECKED_CAST\")\n            if (predicate(element as E))\n                elementData[newTail++] = element\n            else\n                modified = true\n        }\n\n        elementData.fill(null, newTail, tail)\n\n    } else {\n        for (index in head until elementData.size) {\n            val element = elementData[index]\n            elementData[index] = null\n\n
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@Suppress(\"UNCHECKED_CAST\")\n                if (predicate(element as E))\n
elementData[newTail++] = element\n                else\n                modified = true\n            }\n\n            newTail =
positiveMod(newTail)\n\n            for (index in 0 until tail) {\n                val element = elementData[index]\n
elementData[index] = null\n\n                @Suppress(\"UNCHECKED_CAST\")\n                if (predicate(element as
E)) {\n                    elementData[newTail] = element\n                    newTail = incremented(newTail)\n                }
else {\n                    modified = true\n                }\n            }\n        }\n        if (modified)\n            size =
negativeMod(newTail - head)\n\n        return modified\n    }\n\n    public override fun clear() {\n        val tail =
internalIndex(size)\n        if (head < tail) {\n            elementData.fill(null, head, tail)\n        } else if (isNotEmpty())
{\n            elementData.fill(null, head, elementData.size)\n            elementData.fill(null, 0, tail)\n        }\n        head =
0\n        size = 0\n    }\n\n    internal companion object {\n        private val emptyElementData =
emptyArray<Any?>()\n        private const val maxArraySize = Int.MAX_VALUE - 8\n        private const val
defaultMinCapacity = 10\n\n        internal fun newCapacity(oldCapacity: Int, minCapacity: Int): Int {\n            //
overflow-conscious\n            var newCapacity = oldCapacity + (oldCapacity shr 1)\n            if (newCapacity -
minCapacity < 0)\n                newCapacity = minCapacity\n            if (newCapacity - maxArraySize > 0)\n
newCapacity = if (minCapacity > maxArraySize) Int.MAX_VALUE else maxArraySize\n            return
newCapacity\n        }\n    }\n\n    // For testing only\n    internal fun internalStructure(structure: (head: Int, elements:
Array<Any?>) -> Unit) {\n        val tail = internalIndex(size)\n\n        if (isEmpty()) {\n            structure(head,
emptyArray())\n            return\n        }\n\n        val elements = arrayOfNulls<Any?>(size)\n        if (head < tail) {\n
elementData.copyInto(elements, startIndex = head, endIndex = tail)\n            structure(head, elements)\n        }
else {\n            elementData.copyInto(elements, startIndex = head)\n            elementData.copyInto(elements,
elementData.size - head, startIndex = 0, endIndex = tail)\n            structure(head - elementData.size, elements)\n
}\n    }\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of
this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"ArraysKt\")\n\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\n\n/**\n * Returns a single list of all elements from all arrays in the
given array.\n * @sample samples.collections.Arrays.Transformations.flattenArray\n */\npublic fun <T> Array<out
Array<out T>>.flatten(): List<T> {\n    val result = ArrayList<T>(sumBy { it.size })\n    for (element in this) {\n
result.addAll(element)\n    }\n    return result\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from
the first values of each pair from this array,\n * *second* list is built from the second values of each pair from this
array.\n * @sample samples.collections.Arrays.Transformations.unzipArray\n */\npublic fun <T, R> Array<out
Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n    val listT = ArrayList<T>(size)\n    val listR =
ArrayList<R>(size)\n    for (pair in this) {\n        listT.add(pair.first)\n        listR.add(pair.second)\n    }\n    return
listT to listR\n}\n\n/**\n * Returns `true` if this nullable array is either null or empty.\n * @sample
samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n
*/\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline fun Array<*>?.isNullOrEmpty(): Boolean
{\n    contract {\n        returns(false) implies (this@isNullOrEmpty != null)\n    }\n\n    return this == null ||
this.isEmpty()\n}\n\n/**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n *\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
*/\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Suppress(\"UPPER_BOUND_CANNOT_BE_ARRAY\
")\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<*>, C : R =\n    if (isEmpty())
defaultValue() else
this\n\n\n@OptIn(ExperimentalUnsignedTypes::class)\n@SinceKotlin(\"1.3\")\n@PublishedApi\n@kotlin.jvm.JvmName(\"contentDeepEquals\")\n@kotlin.js.JsName(\"contentDeepEqualsImpl\")\ninternal fun <T> Array<out
T>?.contentDeepEqualsImpl(other: Array<out T>?): Boolean {\n    if (this === other) return true\n    if (this == null
|| other == null || this.size != other.size) return false\n\n    for (i in indices) {\n        val v1 = this[i]\n        val v2 =
other[i]\n\n        if (v1 === v2) {\n            continue\n        } else if (v1 == null || v2 == null) {\n            return false\n
    }\n\n        when {\n            v1 is Array<*>     && v2 is Array<*>     -> if (!v1.contentDeepEquals(v2)) return
false\n            v1 is ByteArray    && v2 is ByteArray    -> if (!v1.contentEquals(v2)) return false\n            v1 is
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ShortArray && v2 is ShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is IntArray && v2 is IntArray -> if (!v1.contentEquals(v2)) return false\n v1 is LongArray && v2 is LongArray -> if (!v1.contentEquals(v2)) return false\n v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2)) return false\n v1 is DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n v1 is CharArray && v2 is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is BooleanArray && v2 is BooleanArray -> if (!v1.contentEquals(v2)) return false\n\n v1 is UByteArray && v2 is UByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is UShortArray && v2 is UShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2)) return false\n v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n\n else -> if (v1 != v2) return false\n }\n\n }\n return true\n}\n\n@SinceKotlin(\"1.3\")\n@PublishedApi\n@kotlin.jvm.JvmName(\"contentDeepToString\")\n@kotlin.js.JsName(\"contentDeepToStringImpl\")\ninternal fun <T> Array<out T>?.contentDeepToStringImpl(): String {\n if (this == null) return \"null\"\n val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not to overflow Int.MAX_VALUE\n return buildString(length) {\n contentDeepToStringInternal(this, mutableListOf())\n }\n}\n\n@OptIn(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in processed) {\n result.append(\"[...]\")\n return\n }\n processed.add(this)\n result.append('[')\n\n for (i in indices) {\n if (i != 0) {\n result.append(\", \")\n }\n val element = this[i]\n when (element) {\n null -> result.append(\"null\")\n is Array<*> -> element.contentDeepToStringInternal(result, processed)\n is ByteArray -> result.append(element.contentToString())\n is ShortArray -> result.append(element.contentToString())\n is IntArray -> result.append(element.contentToString())\n is LongArray -> result.append(element.contentToString())\n is FloatArray -> result.append(element.contentToString())\n is DoubleArray -> result.append(element.contentToString())\n is CharArray -> result.append(element.contentToString())\n is BooleanArray -> result.append(element.contentToString())\n\n is UByteArray -> result.append(element.contentToString())\n is UShortArray -> result.append(element.contentToString())\n is UIntArray -> result.append(element.contentToString())\n is ULongArray -> result.append(element.contentToString())\n\n else -> result.append(element.toString())\n }\n }\n\n result.append(']')\n processed.removeAt(processed.lastIndex)\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Data class representing a value from a collection or sequence, along with its index in that collection or sequence.\n *\n * @property value the underlying value.\n * @property index the index of the value in the collection or sequence.\n */\npublic data class IndexedValue<out T>(public val index: Int, public val value: T)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"MapAccessorsKt\")\n\npackage kotlin.collections\n\nimport kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of the property for the given object from this read-only map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the metadata for the property, used to get the name of property and lookup the value corresponding to this name in the map.\n * @return the property value.\n *\n * @throws NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit default (see [withDefault]).\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> Map<in String, @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n @Suppress(\"UNCHECKED_CAST\") (getOrImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value of the property for the given object from this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the metadata for the property, used to get the name of property and lookup the value corresponding to this name in the map.\n * @return the property value.\n *\n * @throws
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NoSuchElementException when the map doesn't contain value for the property name and doesn't provide an implicit default (see [withDefault]).\n */\n@kotlin.jvm.JvmName(\"getVar\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n   @Suppress(\"UNCHECKED_CAST\") (getOrImplicitDefault(property.name) as V1)\n\n/**\n * Stores the value of the property for the given object in this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the metadata for the property, used to get the name of property and store the value associated with that name in the map.\n * @param value the value to set.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V> MutableMap<in String, in V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n   this.put(property.name, value)\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"MapsKt\")\n\npackage kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To create a map with implicit default value use [withDefault] method.\n *\n * @throws NoSuchElementException when the map doesn't contain a value for the specified key and no implicit default was provided for that map.\n */\n@kotlin.jvm.JvmName(\"getOrImplicitDefaultNullable\")\n@PublishedApi\ninternal fun <K, V> Map<K, V>.getOrImplicitDefault(key: K): V {\n   if (this is MapWithDefault)\n   return this.getOrImplicitDefault(key)\n\n   return getOrElseNullable(key, { throw NoSuchElementException(\"Key $key is missing in the map.\") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value provided with the specified function [defaultValue].\n *\n * This implicit default value is used when the original map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the map.\n *\n * When this map already has an implicit default value provided with a former call to [withDefault], it is being replaced by this call.\n */\npublic fun <K, V> Map<K, V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n   when (this) {\n   is MapWithDefault -> this.map.withDefault(defaultValue)\n   else -> MapWithDefaultImpl(this, defaultValue)\n   }\n\n/**\n * Returns a wrapper of this mutable map, having the implicit default value provided with the specified function [defaultValue].\n *\n * This implicit default value is used when the original map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the map.\n *\n * When this map already has an implicit default value provided with a former call to [withDefault], it is being replaced by this call.\n */\n@kotlin.jvm.JvmName(\"withDefaultMutable\")\npublic fun <K, V> MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n   when (this) {\n   is MutableMapWithDefault -> this.map.withDefault(defaultValue)\n   else -> MutableMapWithDefaultImpl(this, defaultValue)\n   }\n\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n   public val map: Map<K, V>\n   public fun getOrImplicitDefault(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> : MutableMap<K, V>, MapWithDefault<K, V> {\n   public override val map: MutableMap<K, V>\n}\n\n\nprivate class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) : MapWithDefault<K, V> {\n   override fun equals(other: Any?): Boolean = map.equals(other)\n   override fun hashCode(): Int = map.hashCode()\n   override fun toString(): String = map.toString()\n   override val size: Int get() = map.size\n   override fun isEmpty(): Boolean = map.isEmpty()\n   override fun containsKey(key: K): Boolean = map.containsKey(key)\n   override fun containsValue(value: @UnsafeVariance V): Boolean = map.containsValue(value)\n   override fun get(key: K): V? = map.get(key)\n   override val keys: Set<K> get() = map.keys\n   override val values: Collection<V> get() = map.values\n   override val entries: Set<Map.Entry<K, V>> get() = map.entries\n\n   override fun getOrImplicitDefault(key: K): V = map.getOrElseNullable(key, { default(key) })\n}\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K, V>, private val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n   override fun equals(other: Any?): Boolean = map.equals(other)\n   override fun hashCode(): Int = map.hashCode()\n   override fun toString(): String = map.toString()\n   override val size: Int get() = map.size\n   override fun isEmpty(): Boolean = map.isEmpty()\n

override fun containsKey(key: K): Boolean = map.containsKey(key)\n   override fun containsValue(value: @UnsafeVariance V): Boolean = map.containsValue(value)\n   override fun get(key: K): V? = map.get(key)\n override val keys: MutableSet<K> get() = map.keys\n   override val values: MutableCollection<V> get() = map.values\n   override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n\n override fun put(key: K, value: V): V? = map.put(key, value)\n   override fun remove(key: K): V? = map.remove(key)\n   override fun putAll(from: Map<out K, V>) = map.putAll(from)\n   override fun clear() = map.clear()\n\n   override fun getOrImplicitDefault(key: K): V = map.getOrElseNullable(key, { default(key) })\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage kotlin.collections\n\nimport kotlin.random.Random\n\n/**\n * Removes a single instance of the specified element from this\n * collection, if it is present.\n *\n * Allows to overcome type-safety restriction of `remove` that requires to pass an element of type `E`.\n *\n * @return `true` if the element has been successfully removed; `false` if it was not present in the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.remove(element: T): Boolean =\n   @Suppress(\"UNCHECKED_CAST\") (this as MutableCollection<T>).remove(element)\n\n/**\n * Removes all of this collection's elements that are also contained in the specified collection.\n\n * Allows to overcome type-safety restriction of `removeAll` that requires to pass a collection of type `Collection<E>`.\n *\n * @return `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean =\n   @Suppress(\"UNCHECKED_CAST\") (this as MutableCollection<T>).removeAll(elements)\n\n/**\n * Retains only the elements in this collection that are contained in the specified collection.\n *\n * Allows to overcome type-safety restriction of `retainAll` that requires to pass a collection of type `Collection<E>`.\n *\n * @return `true` if any element was removed from the collection, `false` if the collection was not modified.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.retainAll(elements: Collection<T>): Boolean =\n   @Suppress(\"UNCHECKED_CAST\") (this as MutableCollection<T>).retainAll(elements)\n\n/**\n * Adds the specified [element] to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(element: T) {\n   this.add(element)\n}\n\n/**\n * Adds all elements of the given [elements] collection to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Iterable<T>) {\n   this.addAll(elements)\n}\n\n/**\n * Adds all elements of the given [elements] array to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Array<T>) {\n   this.addAll(elements)\n}\n\n/**\n * Adds all elements of the given [elements] sequence to this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Sequence<T>) {\n this.addAll(elements)\n}\n\n/**\n * Removes a single instance of the specified [element] from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(element: T) {\n   this.remove(element)\n}\n\n/**\n * Removes all elements contained in the given [elements] collection from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {\n   this.removeAll(elements)\n}\n\n/**\n * Removes all elements contained in the given [elements] array from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Array<T>) {\n   this.removeAll(elements)\n}\n\n/**\n * Removes all elements contained in the given [elements] sequence from this mutable collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements: Sequence<T>) {\n   this.removeAll(elements)\n}\n\n/**\n * Adds all elements of the given [elements] collection to this [MutableCollection].\n */\npublic fun <T> MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {\n   when (elements) {\n   is Collection -> return addAll(elements)\n   else -> {\n   var result: Boolean = false\n   for (item in elements)\n

if (add(item)) result = true\n return result\n }\n }\n}\n\n/**\n * Adds all elements of the given [elements] sequence to this [MutableCollection].\n */\npublic fun <T> MutableCollection<in T>.addAll(elements: Sequence<T>): Boolean {\n var result: Boolean = false\n for (item in elements) {\n if (add(item)) result = true\n }\n return result\n}\n\n/**\n * Adds all elements of the given [elements] array to this [MutableCollection].\n */\npublic fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {\n return addAll(elements.asList())\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also contained in the given [elements] collection.\n */\npublic fun <T> MutableCollection<in T>.removeAll(elements: Iterable<T>): Boolean {\n return removeAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also contained in the given [elements] sequence.\n */\npublic fun <T> MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {\n val set = elements.toHashSet()\n return set.isNotEmpty() && removeAll(set)\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also contained in the given [elements] array.\n */\npublic fun <T> MutableCollection<in T>.removeAll(elements: Array<out T>): Boolean {\n return elements.isNotEmpty() && removeAll(elements.toHashSet())\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained in the given [elements] collection.\n */\npublic fun <T> MutableCollection<in T>.retainAll(elements: Iterable<T>): Boolean {\n return retainAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained in the given [elements] array.\n */\npublic fun <T> MutableCollection<in T>.retainAll(elements: Array<out T>): Boolean {\n if (elements.isNotEmpty())\n return retainAll(elements.toHashSet())\n else\n return retainNothing()\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained in the given [elements] sequence.\n */\npublic fun <T> MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {\n val set = elements.toHashSet()\n if (set.isNotEmpty())\n return retainAll(set)\n else\n return retainNothing()\n}\n\nprivate fun MutableCollection<*>.retainNothing(): Boolean {\n val result = isNotEmpty()\n clear()\n return result\n}\n\n/**\n * Removes all elements from this [MutableIterable] that match the given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when no elements were removed and collection was not modified.\n */\npublic fun <T> MutableIterable<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)\n\n/**\n * Retains only elements of this [MutableIterable] that match the given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when all elements were retained and collection was not modified.\n */\npublic fun <T> MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)\n\nprivate fun <T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n var result = false\n with(iterator()) {\n while (hasNext())\n if (predicate(next()) == predicateResultToRemove) {\n remove()\n result = true\n }\n }\n return result\n}\n\n/**\n * Removes the element at the specified [index] from this list.\n * In Kotlin one should use the [MutableList.removeAt] function instead.\n */\n@Deprecated(\"Use removeAt(index) instead.\", ReplaceWith(\"removeAt(index)\"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList<T>.remove(index: Int): T = removeAt(index)\n\n/**\n * Removes the first element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeFirst(): T = if (isEmpty()) throw NoSuchElementException(\"List is empty.\") else removeAt(0)\n\n/**\n * Removes the first element from this mutable list and returns that removed element, or returns `null` if this list is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeFirstOrNull(): T? = if (isEmpty()) null else removeAt(0)\n\n/**\n * Removes the last element from this mutable list and returns that removed element, or throws [NoSuchElementException] if this list is empty.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeLast(): T = if (isEmpty()) throw NoSuchElementException(\"List is empty.\") else removeAt(lastIndex)\n\n/**\n * Removes the last element from this mutable list and returns that removed element,

or returns `null` if this list is empty.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T> MutableList<T>.removeLastOrNull(): T? = if (isEmpty()) null else removeAt(lastIndex)\n\n/**\n * Removes all elements from this [MutableList] that match the given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when no elements were removed and collection was not modified.\n */\npublic fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, true)\n\n/**\n * Retains only elements of this [MutableList] that match the given [predicate].\n *\n * @return `true` if any element was removed from this collection, or `false` when all elements were retained and collection was not modified.\n */\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean = filterInPlace(predicate, false)\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean, predicateResultToRemove: Boolean): Boolean {\n   if (this !is RandomAccess)\n   return (this as MutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n\n   var writeIndex: Int = 0\n   for (readIndex in 0..lastIndex) {\n   val element = this[readIndex]\n   if (predicate(element) == predicateResultToRemove)\n   continue\n\n   if (writeIndex != readIndex)\n   this[writeIndex] = element\n\n   writeIndex++\n   }\n   if (writeIndex < size) {\n   for (removeIndex in lastIndex downTo writeIndex)\n   removeAt(removeIndex)\n\n   return true\n   } else {\n   return false\n   }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CollectionsKt\")\n\npackage kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) : AbstractList<T>() {\n   override val size: Int get() = delegate.size\n   override fun get(index: Int): T = delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) : AbstractMutableList<T>() {\n   override val size: Int get() = delegate.size\n   override fun get(index: Int): T = delegate[reverseElementIndex(index)]\n\n   override fun clear() = delegate.clear()\n   override fun removeAt(index: Int): T = delegate.removeAt(reverseElementIndex(index))\n\n   override fun set(index: Int, element: T): T = delegate.set(reverseElementIndex(index), element)\n   override fun add(index: Int, element: T) {\n   delegate.add(reversePositionIndex(index), element)\n   }\n}\n\nprivate fun List<*>.reverseElementIndex(index: Int) =\n   if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException(\"Element index $index must be in range [${0..lastIndex}].\")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n   if (index in 0..size) size - index else throw IndexOutOfBoundsException(\"Position index $index must be in range [${0..size}].\")\n\n\n/**\n * Returns a reversed read-only view of the original List.\n * All changes made in the original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n */\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n/**\n * Returns a reversed mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n */\n@kotlin.jvm.JvmName(\"asReversedMutable\")\npublic fun <T> MutableList<T>.asReversed(): MutableList<T> = ReversedList(this)\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"SequencesKt\")\n@file:OptIn(ExperimentalTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Builds a [Sequence] lazily yielding values one by one.\n *\n * @see kotlin.sequences.generateSequence\n *\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample samples.collections.Sequences.Building.buildFibonacciSequence\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> sequence(@BuilderInference block: suspend SequenceScope<T>.() -> Unit): Sequence<T> = Sequence { iterator(block) }\n\n@SinceKotlin(\"1.3\")\n@Deprecated(\"Use 'sequence { }' function instead.\", ReplaceWith(\"sequence(builderAction)\"), level =

DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline fun <T> buildSequence(@BuilderInference noinline builderAction: suspend SequenceScope<T>.() -> Unit): Sequence<T> = Sequence { iterator(builderAction) }\n\n/**\n * Builds an [Iterator] lazily yielding values one by one.\n *\n * @sample samples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n */\n@SinceKotlin(\"1.3\")\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>.() -> Unit): Iterator<T> {\n   val iterator = SequenceBuilderIterator<T>()\n   iterator.nextStep = block.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n   return iterator\n}\n\n@SinceKotlin(\"1.3\")\n@Deprecated(\"Use 'iterator { }' function instead.\", ReplaceWith(\"iterator(builderAction)\"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline fun <T> buildIterator(@BuilderInference noinline builderAction: suspend SequenceScope<T>.() -> Unit): Iterator<T> = iterator(builderAction)\n\n/**\n * The scope for yielding values of a [Sequence] or an [Iterator], provides [yield] and [yieldAll] suspension functions.\n *\n * @see sequence\n * @see iterator\n *\n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample samples.collections.Sequences.Building.buildFibonacciSequence\n */\n@RestrictsSuspension\n@SinceKotlin(\"1.3\")\npublic abstract class SequenceScope<in T> internal constructor() {\n   /**\n   * Yields a value to the [Iterator] being built and suspends\n   * until the next value is requested.\n   *\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   * @sample samples.collections.Sequences.Building.buildFibonacciSequence\n   */\n   public abstract suspend fun yield(value: T)\n\n   /**\n   * Yields all values from the `iterator` to the [Iterator] being built\n   * and suspends until all these values are iterated and the next one is requested.\n   *\n   * The sequence of values returned by the given iterator can be potentially infinite.\n   *\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   */\n   public abstract suspend fun yieldAll(iterator: Iterator<T>)\n\n   /**\n   * Yields a collections of values to the [Iterator] being built\n   * and suspends until all these values are iterated and the next one is requested.\n   *\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   */\n   public suspend fun yieldAll(elements: Iterable<T>) {\n   if (elements is Collection && elements.isEmpty()) return\n   return yieldAll(elements.iterator())\n   }\n\n   /**\n   * Yields potentially infinite sequence of values to the [Iterator] being built\n   * and suspends until all these values are iterated and the next one is requested.\n   *\n   * The sequence can be potentially infinite.\n   *\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   */\n   public suspend fun yieldAll(sequence: Sequence<T>) = yieldAll(sequence.iterator())\n}\n\n@Deprecated(\"Use SequenceScope class instead.\", ReplaceWith(\"SequenceScope<T>\"), level = DeprecationLevel.ERROR)\npublic typealias SequenceBuilder<T> = SequenceScope<T>\n\nprivate typealias State = Int\n\nprivate const val State_NotReady: State = 0\nprivate const val State_ManyNotReady: State = 1\nprivate const val State_ManyReady: State = 2\nprivate const val State_Ready: State = 3\nprivate const val State_Done: State = 4\nprivate const val State_Failed: State = 5\n\nprivate class SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> {\n   private var state = State_NotReady\n   private var nextValue: T? = null\n   private var nextIterator: Iterator<T>? = null\n   var nextStep: Continuation<Unit>? = null\n\n   override fun hasNext(): Boolean {\n   while (true) {\n   when (state) {\n   State_NotReady -> {}\n   State_ManyNotReady ->\n   if (nextIterator!!.hasNext()) {\n   state = State_ManyReady\n   return true\n   } else {\n   nextIterator = null\n   }\n   State_Done -> return false\n   State_Ready, State_ManyReady -> return true\n   else -> throw exceptionalState()\n   }\n\n   state = State_Failed\n   val step = nextStep!!\n   nextStep = null\n   step.resume(Unit)\n   }\n   }\n\n   override fun next(): T {\n   when (state) {\n   State_NotReady, State_ManyNotReady -> return nextNotReady()\n   State_ManyReady -> {\n   state = State_ManyNotReady\n   return nextIterator!!.next()\n   }\n   State_Ready -> {\n   state = State_NotReady\n   @Suppress(\"UNCHECKED_CAST\")\n   val result = nextValue as T\n   nextValue = null\n   return result\n   }\n   else -> throw exceptionalState()\n   }\n   }\n\n   private fun nextNotReady(): T {\n   if (!hasNext()) throw NoSuchElementException() else return next()\n   }\n\n   private fun

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exceptionalState(): Throwable = when (state) {\n        State_Done -> NoSuchElementException()\n        State_Failed -> IllegalStateException(\"Iterator has failed.\")\n        else -> IllegalStateException(\"Unexpected state of the iterator: $state\")\n    }\n\n\n    override suspend fun yield(value: T) {\n        nextValue = value\n        state = State_Ready\n        return suspendCoroutineUninterceptedOrReturn { c ->\n            nextStep = c\n            COROUTINE_SUSPENDED\n        }\n    }\n\n    override suspend fun yieldAll(iterator: Iterator<T>) {\n        if (!iterator.hasNext()) return\n        nextIterator = iterator\n        state = State_ManyReady\n        return suspendCoroutineUninterceptedOrReturn { c ->\n            nextStep = c\n            COROUTINE_SUSPENDED\n        }\n    }\n\n    // Completion continuation implementation\n    override fun resumeWith(result: Result<Unit>) {\n        result.getOrThrow() // just rethrow exception if it is there\n        state = State_Done\n    }\n\n    override val context: CoroutineContext\n        get() = EmptyCoroutineContext\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\ninternal fun checkWindowSizeStep(size: Int, step: Int) {\n    require(size > 0 && step > 0) {\n        if (size != step)\n            \"Both size $size and step $step must be greater than zero.\"\n        else\n            \"size $size must be greater than zero.\"\n    }\n}\n\ninternal fun <T> Sequence<T>.windowedSequence(size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean): Sequence<List<T>> {\n    checkWindowSizeStep(size, step)\n    return Sequence { windowedIterator(iterator(), size, step, partialWindows, reuseBuffer) }\n}\n\ninternal fun <T> windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean): Iterator<List<T>> {\n    if (!iterator.hasNext()) return EmptyIterator\n    return iterator<List<T>> {\n        val bufferInitialCapacity = size.coerceAtMost(1024)\n        val gap = step - size\n        if (gap >= 0) {\n            var buffer = ArrayList<T>(bufferInitialCapacity)\n            var skip = 0\n            for (e in iterator) {\n                if (skip > 0) { skip -= 1; continue }\n                buffer.add(e)\n                if (buffer.size == size) {\n                    yield(buffer)\n                    if (reuseBuffer) buffer.clear() else buffer = ArrayList(size)\n                    skip = gap\n                }\n            }\n            if (buffer.isNotEmpty()) {\n                if (partialWindows || buffer.size == size) yield(buffer)\n            }\n        } else {\n            var buffer = RingBuffer<T>(bufferInitialCapacity)\n            for (e in iterator) {\n                buffer.add(e)\n                if (buffer.isFull()) {\n                    if (buffer.size < size) { buffer = buffer.expanded(maxCapacity = size); continue }\n\n                    yield(if (reuseBuffer) buffer else ArrayList(buffer))\n                    buffer.removeFirst(step)\n                }\n            }\n            if (partialWindows) {\n                while (buffer.size > step) {\n                    yield(if (reuseBuffer) buffer else ArrayList(buffer))\n                    buffer.removeFirst(step)\n                }\n                if (buffer.isNotEmpty()) yield(buffer)\n            }\n        }\n    }\n}\n\ninternal class MovingSubList<out E>(private val list: List<E>) : AbstractList<E>(), RandomAccess {\n    private var fromIndex: Int = 0\n    private var _size: Int = 0\n\n    fun move(fromIndex: Int, toIndex: Int) {\n        checkRangeIndexes(fromIndex, toIndex, list.size)\n        this.fromIndex = fromIndex\n        this._size = toIndex - fromIndex\n    }\n\n    override fun get(index: Int): E {\n        checkElementIndex(index, _size)\n\n        return list[fromIndex + index]\n    }\n\n    override val size: Int get() = _size\n}\n\n\n/**\n * Provides ring buffer implementation.\n *\n * Buffer overflow is not allowed so [add] doesn't overwrite tail but raises an exception.\n */\nprivate class RingBuffer<T>(private val buffer: Array<Any?>, filledSize: Int) : AbstractList<T>(), RandomAccess {\n    init {\n        require(filledSize >= 0) { \"ring buffer filled size should not be negative but it is $filledSize\" }\n        require(filledSize <= buffer.size) { \"ring buffer filled size: $filledSize cannot be larger than the buffer size: ${buffer.size}\" }\n    }\n\n    constructor(capacity: Int) : this(arrayOfNulls<Any?>(capacity), 0)\n\n    private val capacity = buffer.size\n    private var startIndex: Int = 0\n\n    override var size: Int = filledSize\n        private set\n\n    override fun get(index: Int): T {\n        checkElementIndex(index, size)\n        @Suppress(\"UNCHECKED_CAST\")\n        return buffer[startIndex.forward(index)] as T\n    }\n\n    fun isFull() = size == capacity\n\n    override fun iterator(): Iterator<T> = object : AbstractIterator<T>() {\n        private var count = size\n        private var index = startIndex\n\n        override fun computeNext() {\n            if (count == 0) {\n                done()\n            } else {\n                @Suppress(\"UNCHECKED_CAST\")\n                setNext(buffer[index] as T)\n                index = index.forward(1)\n                count--\n            }\n        }\n    }\n\n    @Suppress(\"UNCHECKED_CAST\")\n    override fun <T> toArray(array: Array<T>): Array<T> {\n        val
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result: Array<T?> =\n if (array.size < this.size) array.copyOf(this.size) else array as Array<T?>\n\n val size = this.size\n\n var widx = 0\n var idx = startIndex\n\n while (widx < size && idx < capacity) {\n result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n\n idx = 0\n while (widx < size) {\n result[widx] = buffer[idx] as T\n widx++\n idx++\n }\n if (result.size > this.size) result[this.size] = null\n\n return result as Array<T>\n }\n\n override fun toArray(): Array<Any?> {\n return toArray(arrayOfNulls(size))\n }\n\n /**\n * Creates a new ring buffer with the capacity equal to the minimum of [maxCapacity] and 1.5 * [capacity].\n * The returned ring buffer contains the same elements as this ring buffer.\n */\n fun expanded(maxCapacity: Int): RingBuffer<T> {\n val newCapacity = (capacity + (capacity shr 1) + 1).coerceAtMost(maxCapacity)\n val newBuffer = if (startIndex == 0) buffer.copyOf(newCapacity) else toArray(arrayOfNulls(newCapacity))\n return RingBuffer(newBuffer, size)\n }\n\n /**\n * Add [element] to the buffer or fail with [IllegalStateException] if no free space available in the buffer\n */\n fun add(element: T) {\n if (isFull()) {\n throw IllegalStateException(\"ring buffer is full\")\n }\n\n buffer[startIndex.forward(size)] = element\n size++\n }\n\n /**\n * Removes [n] first elements from the buffer or fails with [IllegalArgumentException] if not enough elements in the buffer to remove\n */\n fun removeFirst(n: Int) {\n require(n >= 0) { \"n shouldn't be negative but it is $n\" }\n require(n <= size) { \"n shouldn't be greater than the buffer size: n = $n, size = $size\" }\n\n if (n > 0) {\n val start = startIndex\n val end = start.forward(n)\n\n if (start > end) {\n buffer.fill(null, start, capacity)\n buffer.fill(null, 0, end)\n } else {\n buffer.fill(null, start, end)\n }\n\n startIndex = end\n size -= n\n }\n }\n\n @Suppress(\"NOTHING_TO_INLINE\")\n private inline fun Int.forward(n: Int): Int = (this + n) % capacity\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n// UByteArray ==\n@ExperimentalUnsignedTypes\nprivate fun partition(\n array: UByteArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UByteArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// UShortArray ==\n@ExperimentalUnsignedTypes\nprivate fun partition(\n array: UShortArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UShortArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// UIntArray ==\n@ExperimentalUnsignedTypes\nprivate fun partition(\n array: UIntArray, left: Int, right: Int): Int {\n var i = left\n var j = right\n val pivot = array[(left + right) / 2]\n while (i <= j) {\n while (array[i] < pivot)\n i++\n while (array[j] > pivot)\n j--\n if (i <= j) {\n val tmp = array[i]\n array[i] = array[j]\n array[j] = tmp\n i++\n j--\n }\n }\n return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n array: UIntArray, left: Int, right: Int) {\n val index = partition(array, left, right)\n if (left < index - 1)\n quickSort(array, left, index - 1)\n if (index < right)\n quickSort(array, index, right)\n}\n\n// ULongArray ==\n@ExperimentalUnsignedTypes\nprivate fun partition(\n array: ULongArray, left: Int, right: Int): Int {\n var i = left\n

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var j = right\n    val pivot = array[(left + right) / 2]\n    while (i <= j) {\n        while (array[i] < pivot)\n            i++\n        while (array[j] > pivot)\n            j--\n        if (i <= j) {\n            val tmp = array[i]\n            array[i] = array[j]\n            array[j] = tmp\n            i++\n            j--\n        }\n    }\n    return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun quickSort(\n    array: ULongArray, left: Int, right: Int) {\n    val index = partition(array, left, right)\n    if (left < index - 1)\n        quickSort(array, left, index - 1)\n    if (index < right)\n        quickSort(array, index, right)\n}\n\n\n// Interfaces
==========\n/**\n * Sorts the given array using qsort algorithm.\n */\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UByteArray, fromIndex: Int, toIndex: Int)    = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UShortArray, fromIndex: Int, toIndex: Int)   = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: UIntArray, fromIndex: Int, toIndex: Int)     = quickSort(array, fromIndex, toIndex - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array: ULongArray, fromIndex: Int, toIndex: Int)    = quickSort(array, fromIndex, toIndex - 1)","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.contracts\n\nimport kotlin.internal.ContractsDsl\nimport kotlin.internal.InlineOnly\n\n/**\n * This marker distinguishes the experimental contract declaration API and is used to opt-in for that feature\n * when declaring contracts of user functions.\n *\n * Any usage of a declaration annotated with `@ExperimentalContracts` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalContracts::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.contracts.ExperimentalContracts`.\n */\n@Suppress(\"DEPRECATION\")\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.3\")\n@Experimental\n@RequiresOptIn\n@MustBeDocumented\npublic annotation class ExperimentalContracts\n\n/**\n * Provides a scope, where the functions of the contract DSL, such as [returns], [callsInPlace], etc.,\n * can be used to describe the contract of a function.\n *\n * This type is used as a receiver type of the lambda function passed to the [contract] function.\n *\n * @see contract\n */\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin(\"1.3\")\npublic interface ContractBuilder {\n    /**\n     * Describes a situation when a function returns normally, without any exceptions thrown.\n     *\n     * Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n     *\n     */\n    // @sample samples.contracts.returnsContract\n    @ContractsDsl public fun returns(): Returns\n\n    /**\n     * Describes a situation when a function returns normally with the specified return [value].\n     *\n     * The possible values of [value] are limited to `true`, `false` or `null`.\n     *\n     * Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n     *\n     */\n    // @sample samples.contracts.returnsTrueContract\n    // @sample samples.contracts.returnsFalseContract\n    // @sample samples.contracts.returnsNullContract\n    @ContractsDsl public fun returns(value: Any?): Returns\n\n    /**\n     * Describes a situation when a function returns normally with any value that is not `null`.\n     *\n     * Use [SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n     *\n     */\n    // @sample samples.contracts.returnsNotNullContract\n    @ContractsDsl public fun returnsNotNull(): ReturnsNotNull\n\n    /**\n     * Specifies that the function parameter [lambda] is invoked in place.\n     *\n     * This contract specifies that:\n     * 1. the function [lambda] can only be invoked during the call of the owner function,\n     *  and it won't be invoked after that owner function call is completed;\n     * 2. _(optionally)_ the function [lambda] is invoked the amount of times specified by the [kind] parameter,\n     *  see the [InvocationKind] enum for possible values.\n     *\n     * A function declaring the `callsInPlace` effect must be _inline_.\n     *\n     */\n    /* @sample samples.contracts.callsInPlaceAtMostOnceContract\n    * @sample samples.contracts.callsInPlaceAtLeastOnceContract\n    * @sample samples.contracts.callsInPlaceExactlyOnceContract\n    * @sample samples.contracts.callsInPlaceUnknownContract\n    */\n    @ContractsDsl public fun <R> callsInPlace(lambda: Function<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace\n}\n\n/**\n * Specifies how
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many times a function invokes its function parameter in place.\n *\n * See [ContractBuilder.callsInPlace] for the details of the call-in-place function contract.\n */\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin(\"1.3\")\npublic enum class InvocationKind {\n /**\n * A function parameter will be invoked one time or not invoked at all.\n */\n // @sample samples.contracts.callsInPlaceAtMostOnceContract\n @ContractsDsl AT_MOST_ONCE,\n\n /**\n * A function parameter will be invoked one or more times.\n *\n */\n // @sample samples.contracts.callsInPlaceAtLeastOnceContract\n @ContractsDsl AT_LEAST_ONCE,\n\n /**\n * A function parameter will be invoked exactly one time.\n *\n */\n // @sample samples.contracts.callsInPlaceExactlyOnceContract\n @ContractsDsl EXACTLY_ONCE,\n\n /**\n * A function parameter is called in place, but it's unknown how many times it can be called.\n *\n */\n // @sample samples.contracts.callsInPlaceUnknownContract\n @ContractsDsl UNKNOWN\n}\n\n/**\n * Specifies the contract of a function.\n *\n * The contract description must be at the beginning of a function and have at least one effect.\n *\n * Only the top-level functions can have a contract for now.\n *\n * @param builder the lambda where the contract of a function is described with the help of the [ContractBuilder] members.\n *\n */\n/* @sample samples.contracts.returnsContract\n* @sample samples.contracts.returnsTrueContract\n* @sample samples.contracts.returnsFalseContract\n* @sample samples.contracts.returnsNullContract\n* @sample samples.contracts.returnsNotNullContract\n* @sample samples.contracts.callsInPlaceAtMostOnceContract\n* @sample samples.contracts.callsInPlaceAtLeastOnceContract\n* @sample samples.contracts.callsInPlaceExactlyOnceContract\n* @sample samples.contracts.callsInPlaceUnknownContract\n*/\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@SinceKotlin(\"1.3\")\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline fun contract(builder: ContractBuilder.() -> Unit) { }\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\n/**\n * Marks coroutine context element that intercepts coroutine continuations.\n * The coroutines framework uses [ContinuationInterceptor.Key] to retrieve the interceptor and\n * intercepts all coroutine continuations with [interceptContinuation] invocations.\n *\n * [ContinuationInterceptor] behaves like a [polymorphic element][AbstractCoroutineContextKey], meaning that\n * its implementation delegates [get][CoroutineContext.Element.get] and [minusKey][CoroutineContext.Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey] respectively.\n * [ContinuationInterceptor] subtypes can be extracted from the coroutine context using either [ContinuationInterceptor.Key]\n * or subtype key if it extends [AbstractCoroutineContextKey].\n */\n@SinceKotlin(\"1.3\")\npublic interface ContinuationInterceptor : CoroutineContext.Element {\n /**\n * The key that defines *the* context interceptor.\n */\n companion object Key : CoroutineContext.Key<ContinuationInterceptor>\n\n /**\n * Returns continuation that wraps the original [continuation], thus intercepting all resumptions.\n * This function is invoked by coroutines framework when needed and the resulting continuations are\n * cached internally per each instance of the original [continuation].\n *\n * This function may simply return original [continuation] if it does not want to intercept this particular continuation.\n *\n * When the original [continuation] completes, coroutine framework invokes [releaseInterceptedContinuation]\n * with the resulting continuation if it was intercepted, that is if `interceptContinuation` had previously\n * returned a different continuation instance.\n */\n public fun <T> interceptContinuation(continuation: Continuation<T>): Continuation<T>\n\n /**\n * Invoked for the continuation instance returned by [interceptContinuation] when the original\n * continuation completes and will not be used anymore. This function is invoked only if [interceptContinuation]\n * had returned a different continuation instance from the one it was invoked with.\n *\n * Default implementation does nothing.\n *\n * @param continuation Continuation instance returned by this interceptor's [interceptContinuation] invocation.\n */\n public fun releaseInterceptedContinuation(continuation: Continuation<*>) {\n /* do nothing by default */\n }\n\n public override operator fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>): E? {\n // getPolymorphicKey specialized for ContinuationInterceptor key\n

@OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n @Suppress(\"UNCHECKED_CAST\")\n return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null\n }\n @Suppress(\"UNCHECKED_CAST\")\n return if (ContinuationInterceptor === key) this as E else null\n }\n\n\n public override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext {\n // minusPolymorphicKey specialized for ContinuationInterceptor key\n @OptIn(ExperimentalStdlibApi::class)\n if (key is AbstractCoroutineContextKey<*, *>) {\n return if (key.isSubKey(this.key) && key.tryCast(this) != null) EmptyCoroutineContext else this\n }\n return if (ContinuationInterceptor === key) EmptyCoroutineContext else this\n }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\n/**\n * Persistent context for the coroutine. It is an indexed set of [Element] instances.\n * An indexed set is a mix between a set and a map.\n * Every element in this set has a unique [Key].\n */\n@SinceKotlin(\"1.3\")\npublic interface CoroutineContext {\n /**\n * Returns the element with the given [key] from this context or `null`.\n */\n public operator fun <E : Element> get(key: Key<E>): E?\n\n /**\n * Accumulates entries of this context starting with [initial] value and applying [operation]\n * from left to right to current accumulator value and each element of this context.\n */\n public fun <R> fold(initial: R, operation: (R, Element) -> R): R\n\n /**\n * Returns a context containing elements from this context and elements from other [context].\n * The elements from this context with the same key as in the other one are dropped.\n */\n public operator fun plus(context: CoroutineContext): CoroutineContext =\n if (context === EmptyCoroutineContext) this else // fast path -- avoid lambda creation\n context.fold(this) { acc, element ->\n val removed = acc.minusKey(element.key)\n if (removed === EmptyCoroutineContext) element else {\n // make sure interceptor is always last in the context (and thus is fast to get when present)\n val interceptor = removed[ContinuationInterceptor]\n if (interceptor == null) CombinedContext(removed, element) else {\n val left = removed.minusKey(ContinuationInterceptor)\n if (left === EmptyCoroutineContext) CombinedContext(element, interceptor) else\n CombinedContext(CombinedContext(left, element), interceptor)\n }\n }\n }\n\n /**\n * Returns a context containing elements from this context, but without an element with\n * the specified [key].\n */\n public fun minusKey(key: Key<*>): CoroutineContext\n\n /**\n * Key for the elements of [CoroutineContext]. [E] is a type of element with this key.\n */\n public interface Key<E : Element>\n\n /**\n * An element of the [CoroutineContext]. An element of the coroutine context is a singleton context by itself.\n */\n public interface Element : CoroutineContext {\n /**\n * A key of this coroutine context element.\n */\n public val key: Key<*>\n\n public override operator fun <E : Element> get(key: Key<E>): E? =\n @Suppress(\"UNCHECKED_CAST\")\n if (this.key == key) this as E else null\n\n public override fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n operation(initial, this)\n\n public override fun minusKey(key: Key<*>): CoroutineContext =\n if (this.key == key) EmptyCoroutineContext else this\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.CoroutineContext.Element\nimport kotlin.coroutines.CoroutineContext.Key\n\n/**\n * Base class for [CoroutineContext.Element] implementations.\n */\n@SinceKotlin(\"1.3\")\npublic abstract class AbstractCoroutineContextElement(public override val key: Key<*>) : Element\n\n/**\n * Base class for [CoroutineContext.Key] associated with polymorphic [CoroutineContext.Element] implementation.\n * Polymorphic element implementation implies delegating its [get][Element.get] and [minusKey][Element.minusKey]\n * to [getPolymorphicElement] and [minusPolymorphicKey] respectively.\n *\n * Polymorphic elements can be extracted from the coroutine context using both element key and its supertype key.\n * Example of polymorphic elements:\n * ```\n * open class BaseElement : CoroutineContext.Element {\n * companion object Key : CoroutineContext.Key<BaseElement>\n * override val key: CoroutineContext.Key<*> get() = Key\n * // It is important to use getPolymorphicKey and minusPolymorphicKey\n * override fun <E : CoroutineContext.Element> get(key: CoroutineContext.Key<E>):

E? = getPolymorphicElement(key)\n *   override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext = minusPolymorphicKey(key)\n * }\n *\n * class DerivedElement : BaseElement() {\n * companion object Key : AbstractCoroutineContextKey<BaseElement, DerivedElement>(BaseElement, { it as? DerivedElement })\n * }\n * // Now it is possible to query both `BaseElement` and `DerivedElement`\n * someContext[BaseElement] // Returns BaseElement?, non-null both for BaseElement and DerivedElement instances\n * someContext[DerivedElement] // Returns DerivedElement?, non-null only for DerivedElement instance\n * ```\n * @param B base class of a polymorphic element\n * @param baseKey an instance of base key\n * @param E element type associated with the current key\n * @param safeCast a function that can safely cast abstract [CoroutineContext.Element] to the concrete [E] type\n *   and return the element if it is a subtype of [E] or `null` otherwise.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic abstract class AbstractCoroutineContextKey<B : Element, E : B>(\n   baseKey: Key<B>,\n   private val safeCast: (element: Element) -> E?\n) : Key<E> {\n   private val topmostKey: Key<*> = if (baseKey is AbstractCoroutineContextKey<*, *>) baseKey.topmostKey else baseKey\n\n   internal fun tryCast(element: Element): E? = safeCast(element)\n   internal fun isSubKey(key: Key<*>): Boolean = key === this || topmostKey === key\n}\n\n/**\n * Returns the current element if it is associated with the given [key] in a polymorphic manner or `null` otherwise.\n * This method returns non-null value if either [Element.key] is equal to the given [key] or if the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See [AbstractCoroutineContextKey] for the example of usage.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun <E : Element> Element.getPolymorphicElement(key: Key<E>): E? {\n   if (key is AbstractCoroutineContextKey<*, *>) {\n   @Suppress(\"UNCHECKED_CAST\")\n   return if (key.isSubKey(this.key)) key.tryCast(this) as? E else null\n   }\n   @Suppress(\"UNCHECKED_CAST\")\n   return if (this.key === key) this as E else null\n}\n\n/**\n * Returns empty coroutine context if the element is associated with the given [key] in a polymorphic manner\n * or `null` otherwise.\n * This method returns empty context if either [Element.key] is equal to the given [key] or if the [key] is associated\n * with [Element.key] via [AbstractCoroutineContextKey].\n * See [AbstractCoroutineContextKey] for the example of usage.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun Element.minusPolymorphicKey(key: Key<*>): CoroutineContext {\n   if (key is AbstractCoroutineContextKey<*, *>) {\n   return if (key.isSubKey(this.key) && key.tryCast(this) != null) EmptyCoroutineContext else this\n   }\n   return if (this.key === key) EmptyCoroutineContext else this\n}\n\n/**\n * An empty coroutine context.\n */\n@SinceKotlin(\"1.3\")\npublic object EmptyCoroutineContext : CoroutineContext, Serializable {\n   private const val serialVersionUID: Long = 0\n   private fun readResolve(): Any = EmptyCoroutineContext\n\n   public override fun <E : Element> get(key: Key<E>): E? = null\n   public override fun <R> fold(initial: R, operation: (R, Element) -> R): R = initial\n   public override fun plus(context: CoroutineContext): CoroutineContext = context\n   public override fun minusKey(key: Key<*>): CoroutineContext = this\n   public override fun hashCode(): Int = 0\n   public override fun toString(): String = \"EmptyCoroutineContext\"\n}\n\n//---------------------- internal impl ----------------------\n\n// this class is not exposed, but is hidden inside implementations\n// this is a left-biased list, so that `plus` works naturally\n@SinceKotlin(\"1.3\")\ninternal class CombinedContext(\n   private val left: CoroutineContext,\n   private val element: Element\n) : CoroutineContext, Serializable {\n\n   override fun <E : Element> get(key: Key<E>): E? {\n   var cur = this\n   while (true) {\n   cur.element[key]?.let { return it }\n   val next = cur.left\n   if (next is CombinedContext) {\n   cur = next\n   } else {\n   return next[key]\n   }\n   }\n   }\n\n   public override fun <R> fold(initial: R, operation: (R, Element) -> R): R =\n   operation(left.fold(initial, operation), element)\n\n   public override fun minusKey(key: Key<*>): CoroutineContext {\n   element[key]?.let { return left }\n   val newLeft = left.minusKey(key)\n   return when {\n   newLeft === left -> this\n   newLeft === EmptyCoroutineContext -> element\n   else -> CombinedContext(newLeft, element)\n   }\n   }\n\n   private fun size(): Int {\n   var cur = this\n   var size = 2\n   while (true) {\n   cur = cur.left as? CombinedContext ?: return size\n   size++\n   }\n   }\n\n   private fun contains(element: Element): Boolean =\n   get(element.key) == element\n\n   private fun

containsAll(context: CombinedContext): Boolean {\n var cur = context\n while (true) {\n if (!contains(cur.element)) return false\n val next = cur.left\n if (next is CombinedContext) {\n cur = next\n } else {\n return contains(next as Element)\n }\n }\n }\n\n override fun equals(other: Any?): Boolean =\n this === other || other is CombinedContext && other.size() == size() && other.containsAll(this)\n\n override fun hashCode(): Int = left.hashCode() + element.hashCode()\n\n override fun toString(): String =\n \"[\" + fold(\"\") { acc, element ->\n if (acc.isEmpty()) element.toString() else \"$acc, $element\"\n } + \"]\"\n\n private fun writeReplace(): Any {\n val n = size()\n val elements = arrayOfNulls<CoroutineContext>(n)\n var index = 0\n fold(Unit) { _, element -> elements[index++] = element }\n check(index == n)\n @Suppress(\"UNCHECKED_CAST\")\n return Serialized(elements as Array<CoroutineContext>)\n }\n\n private class Serialized(val elements: Array<CoroutineContext>) : Serializable {\n companion object {\n private const val serialVersionUID: Long = 0L\n }\n\n private fun readResolve(): Any = elements.fold(EmptyCoroutineContext, CoroutineContext::plus)\n }\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"IntrinsicsKt\")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin.coroutines.intrinsics\n\nimport kotlin.contracts.*\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Obtains the current continuation instance inside suspend functions and either suspends\n * currently running coroutine or returns result immediately without suspension.\n *\n * If the [block] returns the special [COROUTINE_SUSPENDED] value, it means that suspend function did suspend the execution and will\n * not return any result immediately. In this case, the [Continuation] provided to the [block] shall be\n * resumed by invoking [Continuation.resumeWith] at some moment in the\n * future when the result becomes available to resume the computation.\n *\n * Otherwise, the return value of the [block] must have a type assignable to [T] and represents the result of this suspend function.\n * It means that the execution was not suspended and the [Continuation] provided to the [block] shall not be invoked.\n * As the result type of the [block] is declared as `Any?` and cannot be correctly type-checked,\n * its proper return type remains on the conscience of the suspend function's author.\n *\n * Invocation of [Continuation.resumeWith] resumes coroutine directly in the invoker's thread without going through the\n * [ContinuationInterceptor] that might be present in the coroutine's [CoroutineContext].\n * It is the invoker's responsibility to ensure that a proper invocation context is established.\n * [Continuation.intercepted] can be used to acquire the intercepted continuation.\n *\n * Note that it is not recommended to call either [Continuation.resume] nor [Continuation.resumeWithException] functions synchronously\n * in the same stackframe where suspension function is run. Use [suspendCoroutine] as a safer way to obtain current\n * continuation instance.\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\n@Suppress(\"UNUSED_PARAMETER\", \"RedundantSuspendModifier\")\npublic suspend inline fun <T> suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T {\n contract { callsInPlace(block, InvocationKind.EXACTLY_ONCE) }\n throw NotImplementedError(\"Implementation of suspendCoroutineUninterceptedOrReturn is intrinsic\")\n}\n\n/**\n * This value is used as a return value of [suspendCoroutineUninterceptedOrReturn] `block` argument to state that\n * the execution was suspended and will not return any result immediately.\n *\n * **Note: this value should not be used in general code.** Using it outside of the context of\n * `suspendCoroutineUninterceptedOrReturn` function return value (including, but not limited to,\n * storing this value in other properties, returning it from other functions, etc)\n * can lead to unspecified behavior of the code.\n */\n// It is implemented as property with getter to avoid ProGuard <clinit> problem with multifile IntrinsicsKt class\n@SinceKotlin(\"1.3\")\npublic val COROUTINE_SUSPENDED: Any get() = CoroutineSingletons.COROUTINE_SUSPENDED\n\n// Using enum here ensures two important properties:\n// 1. It makes SafeContinuation serializable with all kinds of serialization frameworks (since all of them natively support enums)\n// 2. It improves debugging experience, since you clearly see toString() value of those objects and what package they come from\n@SinceKotlin(\"1.3\")\n@PublishedApi // This class is Published API via serialized representation of SafeContinuation, don't rename/move\ninternal enum class CoroutineSingletons {

COROUTINE_SUSPENDED, UNDECIDED, RESUMED }\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.experimental\n\n/** Performs a bitwise AND operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.and(other: Byte): Byte = (this.toInt() and other.toInt()).toByte()\n\n/** Performs a bitwise OR operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.or(other: Byte): Byte = (this.toInt() or other.toInt()).toByte()\n\n/** Performs a bitwise XOR operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.xor(other: Byte): Byte = (this.toInt() xor other.toInt()).toByte()\n\n/** Inverts the bits in this value. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte = (this.toInt().inv()).toByte()\n\n\n/** Performs a bitwise AND operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short = (this.toInt() and other.toInt()).toShort()\n\n/** Performs a bitwise OR operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short = (this.toInt() or other.toInt()).toShort()\n\n/** Performs a bitwise XOR operation between the two values. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short = (this.toInt() xor other.toInt()).toShort()\n\n/** Inverts the bits in this value. */\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short = (this.toInt().inv()).toShort()\n\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.experimental\n\n/**\n * The experimental marker for type inference augmenting annotations.\n *\n * Any usage of a declaration annotated with `@ExperimentalTypeInference` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalTypeInference::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.experimental.ExperimentalTypeInference`.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental(level = Experimental.Level.ERROR)\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(AnnotationTarget.ANNOTATION_CLASS)\n@SinceKotlin(\"1.3\")\npublic annotation class ExperimentalTypeInference\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding type should be ignored during type inference.\n */\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class NoInfer\n\n/**\n * Specifies that the constraint built for the type during type inference should be an equality one.\n */\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class Exact\n\n/**\n * Specifies that a corresponding member has the lowest priority in overload resolution.\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class LowPriorityInOverloadResolution\n\n/**\n * Specifies that the corresponding member has the highest priority in overload resolution. Effectively this means that\n * an extension annotated with this annotation will win in overload resolution over a member with the same signature.\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class HidesMembers\n\n/**\n * The value of this type parameter should be mentioned in input types (argument types, receiver type or expected type).\n */\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class OnlyInputTypes\n\n/**\n * Specifies that this function should not be called directly without inlining\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.PROPERTY_GETTER,

AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class InlineOnly\n\n/**\n * Specifies that this declaration can have dynamic receiver type.\n */\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class DynamicExtension\n\n/**\n * The value of this parameter should be a property reference expression (`this::foo`), referencing a `lateinit` property,\n * the backing field of which is accessible at the point where the corresponding argument is passed.\n */\n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.2\")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/**\n * Specifies that this declaration is only completely supported since the specified version.\n *\n * The Kotlin compiler of an earlier version is going to report a diagnostic on usages of this declaration.\n * The diagnostic message can be specified with [message], or via [errorCode] (takes less space, but might not be immediately clear\n * to the user). The diagnostic severity can be specified with [level]: WARNING/ERROR mean that either a warning or an error\n * is going to be reported, HIDDEN means that the declaration is going to be removed from resolution completely.\n *\n * [versionKind] specifies which version should be compared with the [version] value, when compiling the usage of the annotated declaration.\n * Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE_VERSION] was supported, so the Kotlin compiler before 1.2 is going to\n * treat any [RequireKotlin] as if it requires the language version. Since 1.2, the Kotlin compiler supports\n * [RequireKotlinVersionKind.LANGUAGE_VERSION], [RequireKotlinVersionKind.COMPILER_VERSION] and [RequireKotlinVersionKind.API_VERSION].\n * If the actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n * Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a requirement\n * on the language version.\n *\n * This annotation is erased at compile time; its arguments are stored in a more compact form in the Kotlin metadata.\n */\n@Target(AnnotationTarget.CLASS, AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR, AnnotationTarget.TYPEALIAS)\n@Retention(AnnotationRetention.SOURCE)\n@Repeatable\n@SinceKotlin(\"1.2\")\ninternal annotation class RequireKotlin(\n   val version: String,\n   val message: String = \"\",\n   val level: DeprecationLevel = DeprecationLevel.ERROR,\n   val versionKind: RequireKotlinVersionKind = RequireKotlinVersionKind.LANGUAGE_VERSION,\n   val errorCode: Int = -1)\n\n/**\n * The kind of the version that is required by [RequireKotlin].\n */\n@SinceKotlin(\"1.2\")\ninternal enum class RequireKotlinVersionKind {\n   LANGUAGE_VERSION,\n   COMPILER_VERSION,\n   API_VERSION,\n}\n\n/**\n * Specifies that this declaration is a part of special DSL, used for constructing function's contract.\n */\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin(\"1.2\")\ninternal annotation class ContractsDsl\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Standard property delegates.\n */\npublic object Delegates {\n   /**\n   * Returns a property delegate for a read/write property with a non-`null` value that is initialized not during\n   * object construction time but at a later time. Trying to read the property before the initial value has been\n   * assigned results in an exception.\n   *\n   * @sample samples.properties.Delegates.notNullDelegate\n   */\n   public fun <T : Any> notNull(): ReadWriteProperty<Any?, T> = NotNullVar()\n\n   /**\n   * Returns a property delegate for a read/write property that calls a specified callback function when changed.\n   * @param initialValue the initial value of the property.\n   * @param onChange the callback which is called after the change of the property is made. The value of the property\n   * has already been changed when this callback is invoked.\n   *\n   * @sample samples.properties.Delegates.observableDelegate\n   */\n   public inline fun <T> observable(initialValue: T, crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Unit):\n   ReadWriteProperty<Any?, T> =\n   object : ObservableProperty<T>(initialValue) {\n   override fun afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n   }\n\n   /**\n   * Returns a property delegate for a read/write property that calls a specified callback function when

changed,\n * allowing the callback to veto the modification.\n * @param initialValue the initial value of the property.\n * @param onChange the callback which is called before a change to the property value is attempted.\n * The value of the property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the value of the property is being set to the new value,\n * and if the callback returns `false` the new value is discarded and the property remains its old value.\n *\n * @sample samples.properties.Delegates.vetoableDelegate\n * @sample samples.properties.Delegates.throwVetoableDelegate\n */\n public inline fun <T> vetoable(initialValue: T, crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n ReadWriteProperty<Any?, T> =\n object : ObservableProperty<T>(initialValue) {\n override fun beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue, newValue)\n }\n\n}\n\n\nprivate class NotNullVar<T : Any>() : ReadWriteProperty<Any?, T> {\n private var value: T? = null\n\n public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n return value ?: throw IllegalStateException(\"Property ${property.name} should be initialized before get.\")\n }\n\n public override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n this.value = value\n }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Base interface that can be used for implementing property delegates of read-only properties.\n *\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your property delegate has methods with the same signatures.\n *\n * @param T the type of object which owns the delegated property.\n * @param V the type of the property value.\n */\npublic fun interface ReadOnlyProperty<in T, out V> {\n /**\n * Returns the value of the property for the given object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata for the property.\n * @return the property value.\n */\n public operator fun getValue(thisRef: T, property: KProperty<*>): V\n}\n\n/**\n * Base interface that can be used for implementing property delegates of read-write properties.\n *\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your property delegate has methods with the same signatures.\n *\n * @param T the type of object which owns the delegated property.\n * @param V the type of the property value.\n */\npublic interface ReadWriteProperty<in T, V> : ReadOnlyProperty<T, V> {\n /**\n * Returns the value of the property for the given object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata for the property.\n * @return the property value.\n */\n public override operator fun getValue(thisRef: T, property: KProperty<*>): V\n\n /**\n * Sets the value of the property for the given object.\n * @param thisRef the object for which the value is requested.\n * @param property the metadata for the property.\n * @param value the value to set.\n */\n public operator fun setValue(thisRef: T, property: KProperty<*>, value: V)\n}\n\n/**\n * Base interface that can be used for implementing property delegate providers.\n *\n * This is provided only for convenience; you don't have to extend this interface\n * as long as your delegate provider has a method with the same signature.\n *\n * @param T the type of object which owns the delegated property.\n * @param D the type of property delegates this provider provides.\n */\n@SinceKotlin(\"1.4\")\npublic fun interface PropertyDelegateProvider<in T, out D> {\n /**\n * Returns the delegate of the property for the given object.\n *\n * This function can be used to extend the logic of creating the object (e.g. perform validation checks)\n * to which the property implementation is delegated.\n *\n * @param thisRef the object for which property delegate is requested.\n * @param property the metadata for the property.\n * @return the property delegate.\n */\n public operator fun provideDelegate(thisRef: T, property: KProperty<*>): D\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Implements the core logic of a property delegate for a read/write property that calls callback functions when changed.\n * @param initialValue the initial value of the property.\n */\npublic abstract class ObservableProperty<V>(initialValue: V) : ReadWriteProperty<Any?, V> {\n private var value = initialValue\n\n

/**\n * The callback which is called before a change to the property value is attempted.\n * The value of the property hasn't been changed yet, when this callback is invoked.\n * If the callback returns `true` the value of the property is being set to the new value,\n * and if the callback returns `false` the new value is discarded and the property remains its old value.\n */\n protected open fun beforeChange(property: KProperty<*>, oldValue: V, newValue: V): Boolean = true\n\n /**\n * The callback which is called after the change of the property is made. The value of the property\n * has already been changed when this callback is invoked.\n */\n protected open fun afterChange(property: KProperty<*>, oldValue: V, newValue: V): Unit {}\n\n public override fun getValue(thisRef: Any?, property: KProperty<*>): V {\n return value\n }\n\n public override fun setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n val oldValue = this.value\n if (!beforeChange(property, oldValue, value)) {\n return\n }\n this.value = value\n afterChange(property, oldValue, value)\n }\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"PackageDirectoryMismatch\")\npackage kotlin\n\nimport kotlin.reflect.*\n\n/**\n * An extension operator that allows delegating a read-only property of type [V]\n * to a property reference to a property of type [V] or its subtype.\n *\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n * The reference is without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n *\n * Example:\n *\n * ```\n * class Login(val username: String)\n * val defaultLogin = Login(\"Admin\")\n * val defaultUsername by defaultLogin::username\n * // equivalent to\n * val defaultUserName get() = defaultLogin.username\n * ```\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V> KProperty0<V>.getValue(thisRef: Any?, property: KProperty<*>): V {\n return get()\n}\n\n/**\n * An extension operator that allows delegating a mutable property of type [V]\n * to a property reference to a mutable property of the same type [V].\n *\n * @receiver A property reference to a mutable property of type [V].\n * The reference is without a receiver, i.e. it either references a top-level property or\n * has the receiver bound to it.\n *\n * Example:\n *\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int = 0)\n * val defaultLogin = Login(\"Admin\")\n * var defaultLoginAttempts by defaultLogin::incorrectAttemptCounter\n * // equivalent to\n * var defaultLoginAttempts: Int\n * get() = defaultLogin.incorrectAttemptCounter\n * set(value) { defaultLogin.incorrectAttemptCounter = value }\n * ```\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V> KMutableProperty0<V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n set(value)\n}\n\n\n/**\n * An extension operator that allows delegating a read-only member or extension property of type [V]\n * to a property reference to a member or extension property of type [V] or its subtype.\n *\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n * The reference has an unbound receiver of type [T].\n *\n * Example:\n *\n * ```\n * class Login(val username: String)\n * val Login.user by Login::username\n * // equivalent to\n * val Login.user get() = this.username\n * ```\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KProperty1<T, V>.getValue(thisRef: T, property: KProperty<*>): V {\n return get(thisRef)\n}\n\n/**\n * An extension operator that allows delegating a mutable member or extension property of type [V]\n * to a property reference to a member or extension mutable property of the same type [V].\n *\n * @receiver A property reference to a read-only or mutable property of type [V] or its subtype.\n * The reference has an unbound receiver of type [T].\n *\n * Example:\n *\n * ```\n * class Login(val username: String, var incorrectAttemptCounter: Int)\n * var Login.attempts by Login::incorrectAttemptCounter\n * // equivalent to\n * var Login.attempts: Int\n * get() = this.incorrectAttemptCounter\n * set(value) { this.incorrectAttemptCounter = value }\n * ```\n */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, V> KMutableProperty1<T, V>.setValue(thisRef: T, property: KProperty<*>, value: V) {\n set(thisRef, value)\n}","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\nimport kotlin.math.nextDown\n\n/**\n * An abstract class that is implemented by random number generator algorithms.\n

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*\n * The companion object [Random.Default] is the default instance of [Random].\n *\n * To get a seeded instance of random generator use [Random] function.\n *\n * @sample samples.random.Randoms.defaultRandom\n */\n@SinceKotlin(\"1.3\")\npublic abstract class Random {\n\n    /**\n     * Gets the next random [bitCount] number of bits.\n     *\n     * Generates an `Int` whose lower [bitCount] bits are filled with random values and the remaining upper bits are zero.\n     *\n     * @param bitCount number of bits to generate, must be in range 0..32, otherwise the behavior is unspecified.\n     */\n    public abstract fun nextBits(bitCount: Int): Int\n\n    /**\n     * Gets the next random `Int` from the random number generator.\n     *\n     * Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE` (inclusive).\n     */\n    public open fun nextInt(): Int = nextBits(32)\n\n    /**\n     * Gets the next random non-negative `Int` from the random number generator less than the specified [until] bound.\n     *\n     * Generates an `Int` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n     *\n     * @param until must be positive.\n     *\n     * @throws IllegalArgumentException if [until] is negative or zero.\n     */\n    public open fun nextInt(until: Int): Int = nextInt(0, until)\n\n    /**\n     * Gets the next random `Int` from the random number generator in the specified range.\n     *\n     * Generates an `Int` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n     *\n     * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n     */\n    public open fun nextInt(from: Int, until: Int): Int {\n        checkRangeBounds(from, until)\n        val n = until - from\n        if (n > 0 || n == Int.MIN_VALUE) {\n            val rnd = if (n and -n == n) {\n                val bitCount = fastLog2(n)\n                nextBits(bitCount)\n            } else {\n                var v: Int\n                do {\n                    val bits = nextInt().ushr(1)\n                    v = bits % n\n                } while (bits - v + (n - 1) < 0)\n                v\n            }\n            return from + rnd\n        } else {\n            while (true) {\n                val rnd = nextInt()\n                if (rnd in from until until) return rnd\n            }\n        }\n    }\n\n    /**\n     * Gets the next random `Long` from the random number generator.\n     *\n     * Generates a `Long` random value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE` (inclusive).\n     */\n    public open fun nextLong(): Long = nextInt().toLong().shl(32) + nextInt()\n\n    /**\n     * Gets the next random non-negative `Long` from the random number generator less than the specified [until] bound.\n     *\n     * Generates a `Long` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n     *\n     * @param until must be positive.\n     *\n     * @throws IllegalArgumentException if [until] is negative or zero.\n     */\n    public open fun nextLong(until: Long): Long = nextLong(0, until)\n\n    /**\n     * Gets the next random `Long` from the random number generator in the specified range.\n     *\n     * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n     *\n     * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n     */\n    public open fun nextLong(from: Long, until: Long): Long {\n        checkRangeBounds(from, until)\n        val n = until - from\n        if (n > 0) {\n            val rnd: Long\n            if (n and -n == n) {\n                val nLow = n.toInt()\n                val nHigh = (n ushr 32).toInt()\n                rnd = when {\n                    nLow != 0 -> {\n                        val bitCount = fastLog2(nLow)\n                        // toUInt().toLong()\n                        nextBits(bitCount).toLong() and 0xFFFF_FFFF\n                    }\n                    nHigh == 1 ->\n                        // toUInt().toLong()\n                        nextInt().toLong() and 0xFFFF_FFFF\n                    else -> {\n                        val bitCount = fastLog2(nHigh)\n                        nextBits(bitCount).toLong().shl(32) + nextInt()\n                    }\n                }\n            } else {\n                var v: Long\n                do {\n                    val bits = nextLong().ushr(1)\n                    v = bits % n\n                } while (bits - v + (n - 1) < 0)\n                rnd = v\n            }\n            return from + rnd\n        } else {\n            while (true) {\n                val rnd = nextLong()\n                if (rnd in from until until) return rnd\n            }\n        }\n    }\n\n    /**\n     * Gets the next random [Boolean] value.\n     */\n    public open fun nextBoolean(): Boolean = nextBits(1) != 0\n\n    /**\n     * Gets the next random [Double] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n     */\n    public open fun nextDouble(): Double = doubleFromParts(nextBits(26), nextBits(27))\n\n    /**\n     * Gets the next random non-negative `Double` from the random number generator less than the specified [until] bound.\n     *\n     * Generates a `Double` random value uniformly distributed between 0 (inclusive) and [until] (exclusive).\n     *\n     * @throws IllegalArgumentException if [until] is negative or zero.\n     */\n    public open fun nextDouble(until: Double): Double = nextDouble(0.0, until)\n\n    /**\n     * Gets the next random `Double` from
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the random number generator in the specified range.\n *\n * Generates a `Double` random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * [from] and [until] must be finite otherwise the behavior is unspecified.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n */\n public open fun nextDouble(from: Double, until: Double): Double {\n checkRangeBounds(from, until)\n val size = until - from\n val r = if (size.isInfinite() && from.isFinite() && until.isFinite()) {\n val r1 = nextDouble() * (until / 2 - from / 2)\n from + r1 + r1\n } else {\n from + nextDouble() * size\n }\n return if (r >= until) until.nextDown() else r\n }\n\n /**\n * Gets the next random [Float] value uniformly distributed between 0 (inclusive) and 1 (exclusive).\n */\n public open fun nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()\n\n /**\n * Fills a subrange of the specified byte [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive\n * with random bytes.\n *\n * @return [array] with the subrange filled with random bytes.\n */\n public open fun nextBytes(array: ByteArray, fromIndex: Int = 0, toIndex: Int = array.size): ByteArray {\n require(fromIndex in 0..array.size && toIndex in 0..array.size) { \"fromIndex ($fromIndex) or toIndex ($toIndex) are out of range: 0..${array.size}.\" }\n require(fromIndex <= toIndex) { \"fromIndex ($fromIndex) must be not greater than toIndex ($toIndex).\" }\n\n val steps = (toIndex - fromIndex) / 4\n\n var position = fromIndex\n repeat(steps) {\n val v = nextInt()\n array[position] = v.toByte()\n array[position + 1] = v.ushr(8).toByte()\n array[position + 2] = v.ushr(16).toByte()\n array[position + 3] = v.ushr(24).toByte()\n position += 4\n }\n\n val remainder = toIndex - position\n val vr = nextBits(remainder * 8)\n for (i in 0 until remainder) {\n array[position + i] = vr.ushr(i * 8).toByte()\n }\n\n return array\n }\n\n /**\n * Fills the specified byte [array] with random bytes and returns it.\n *\n * @return [array] filled with random bytes.\n */\n public open fun nextBytes(array: ByteArray): ByteArray = nextBytes(array, 0, array.size)\n\n /**\n * Creates a byte array of the specified [size], filled with random bytes.\n */\n public open fun nextBytes(size: Int): ByteArray = nextBytes(ByteArray(size))\n\n\n /**\n * The default random number generator.\n *\n * On JVM this generator is thread-safe, its methods can be invoked from multiple threads.\n *\n * @sample samples.random.Randoms.defaultRandom\n */\n companion object Default : Random() {\n\n private val defaultRandom: Random = defaultPlatformRandom()\n\n override fun nextBits(bitCount: Int): Int = defaultRandom.nextBits(bitCount)\n override fun nextInt(): Int = defaultRandom.nextInt()\n override fun nextInt(until: Int): Int = defaultRandom.nextInt(until)\n override fun nextInt(from: Int, until: Int): Int = defaultRandom.nextInt(from, until)\n\n override fun nextLong(): Long = defaultRandom.nextLong()\n override fun nextLong(until: Long): Long = defaultRandom.nextLong(until)\n override fun nextLong(from: Long, until: Long): Long = defaultRandom.nextLong(from, until)\n\n override fun nextBoolean(): Boolean = defaultRandom.nextBoolean()\n\n override fun nextDouble(): Double = defaultRandom.nextDouble()\n override fun nextDouble(until: Double): Double = defaultRandom.nextDouble(until)\n override fun nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)\n\n override fun nextFloat(): Float = defaultRandom.nextFloat()\n\n override fun nextBytes(array: ByteArray): ByteArray = defaultRandom.nextBytes(array)\n override fun nextBytes(size: Int): ByteArray = defaultRandom.nextBytes(size)\n override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int): ByteArray = defaultRandom.nextBytes(array, fromIndex, toIndex)\n }\n}\n\n/**\n * Returns a repeatable random number generator seeded with the given [seed] `Int` value.\n *\n * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.\n *\n * *Note:* Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return\n * a sequence of values different from the current one for a given seed.\n *\n * On JVM the returned generator is NOT thread-safe. Do not invoke it from multiple threads without proper synchronization.\n *\n * @sample samples.random.Randoms.seededRandom\n */\n@SinceKotlin(\"1.3\")\npublic fun Random(seed: Int): Random = XorWowRandom(seed, seed.shr(31))\n\n/**\n * Returns a repeatable random number generator seeded with the given [seed] `Long` value.\n *\n * Two generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.\n *\n * *Note:* Future versions of Kotlin may change the algorithm of this seeded number generator so that it will return\n * a sequence of values different from the current one for a given seed.\n *\n * On JVM the returned generator is NOT

thread-safe. Do not invoke it from multiple threads without proper synchronization.\n *\n * @sample samples.random.Randoms.seededRandom\n */\n@SinceKotlin(\"1.3\")\npublic fun Random(seed: Long): Random = XorWowRandom(seed.toInt(), seed.shr(32).toInt())\n\n\n\n/**\n * Gets the next random `Int` from the random number generator in the specified [range].\n *\n * Generates an `Int` random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun Random.nextInt(range: IntRange): Int = when {\n   range.isEmpty() -> throw IllegalArgumentException(\"Cannot get random in empty range: $range\")\n   range.last < Int.MAX_VALUE -> nextInt(range.first, range.last + 1)\n   range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1\n   else -> nextInt()\n}\n\n/**\n * Gets the next random `Long` from the random number generator in the specified [range].\n *\n * Generates a `Long` random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n */\n@SinceKotlin(\"1.3\")\npublic fun Random.nextLong(range: LongRange): Long = when {\n   range.isEmpty() -> throw IllegalArgumentException(\"Cannot get random in empty range: $range\")\n   range.last < Long.MAX_VALUE -> nextLong(range.first, range.last + 1)\n   range.first > Long.MIN_VALUE -> nextLong(range.first - 1, range.last) + 1\n   else -> nextLong()\n}\n\n\ninternal expect fun defaultPlatformRandom(): Random\ninternal expect fun doubleFromParts(hi26: Int, low27: Int): Double\n\n@OptIn(ExperimentalStdlibApi::class)\ninternal fun fastLog2(value: Int): Int = 31 - value.countLeadingZeroBits()\n\n/** Takes upper [bitCount] bits (0..32) from this number. */\ninternal fun Int.takeUpperBits(bitCount: Int): Int =\n   this.ushr(32 - bitCount) and (-bitCount).shr(31)\n\ninternal fun checkRangeBounds(from: Int, until: Int) = require(until > from) { boundsErrorMessage(from, until) }\ninternal fun checkRangeBounds(from: Long, until: Long) = require(until > from) { boundsErrorMessage(from, until) }\ninternal fun checkRangeBounds(from: Double, until: Double) = require(until > from) { boundsErrorMessage(from, until) }\n\ninternal fun boundsErrorMessage(from: Any, until: Any) = \"Random range is empty: [$from, $until).\"\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\n\n/**\n * Gets the next random [UInt] from the random number generator.\n *\n * Generates a [UInt] random value uniformly distributed between [UInt.MIN_VALUE] and [UInt.MAX_VALUE] (inclusive).\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUInt(): UInt = nextInt().toUInt()\n\n/**\n * Gets the next random [UInt] from the random number generator less than the specified [until] bound.\n *\n * Generates a [UInt] random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws IllegalArgumentException if [until] is zero.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUInt(until: UInt): UInt = nextUInt(0u, until)\n\n/**\n * Gets the next random [UInt] from the random number generator in the specified range.\n *\n * Generates a [UInt] random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUInt(from: UInt, until: UInt): UInt {\n   checkUIntRangeBounds(from, until)\n\n   val signedFrom = from.toInt() xor Int.MIN_VALUE\n   val signedUntil = until.toInt() xor Int.MIN_VALUE\n\n   val signedResult = nextInt(signedFrom, signedUntil) xor Int.MIN_VALUE\n   return signedResult.toUInt()\n}\n\n/**\n * Gets the next random [UInt] from the random number generator in the specified [range].\n *\n * Generates a [UInt] random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUInt(range: UIntRange): UInt = when {\n   range.isEmpty() -> throw IllegalArgumentException(\"Cannot get random in empty range: $range\")\n   range.last < UInt.MAX_VALUE -> nextUInt(range.first, range.last + 1u)\n   range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) + 1u\n   else -> nextUInt()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator.\n *\n * Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and

[ULong.MAX_VALUE] (inclusive).\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(): ULong = nextLong().toULong()\n\n/**\n * Gets the next random [ULong] from the random number generator less than the specified [until] bound.\n *\n * Generates a [ULong] random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws IllegalArgumentException if [until] is zero.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong] from the random number generator in the specified range.\n *\n * Generates a [ULong] random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(from: ULong, until: ULong): ULong {\n checkULongRangeBounds(from, until)\n\n val signedFrom = from.toLong() xor Long.MIN_VALUE\n val signedUntil = until.toLong() xor Long.MIN_VALUE\n\n val signedResult = nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n return signedResult.toULong()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator in the specified [range].\n *\n * Generates a [ULong] random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive` inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(range: ULongRange): ULong = when {\n range.isEmpty() -> throw IllegalArgumentException(\"Cannot get random in empty range: $range\")\n range.last < ULong.MAX_VALUE -> nextULong(range.first, range.last + 1u)\n range.first > ULong.MIN_VALUE -> nextULong(range.first - 1u, range.last) + 1u\n else -> nextULong()\n}\n\n/**\n * Fills the specified unsigned byte [array] with random bytes and returns it.\n *\n * @return [array] filled with random bytes.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array: UByteArray): UByteArray {\n nextBytes(array.asByteArray())\n return array\n}\n\n/**\n * Creates an unsigned byte array of the specified [size], filled with random bytes.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray = nextBytes(size).asUByteArray()\n\n/**\n * Fills a subrange of the specified `UByte` [array] starting from [fromIndex] inclusive and ending [toIndex] exclusive with random UBytes.\n *\n * @return [array] with the subrange filled with random bytes.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array: UByteArray, fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n nextBytes(array.asByteArray(), fromIndex, toIndex)\n return array\n}\n\n\n@ExperimentalUnsignedTypes\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) = require(until > from) { boundsErrorMessage(from, until) }\n@ExperimentalUnsignedTypes\ninternal fun checkULongRangeBounds(from: ULong, until: ULong) = require(until > from) { boundsErrorMessage(from, until) }\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.random\n\n/**\n * Random number generator, using Marsaglia's \"xorwow\" algorithm\n *\n * Cycles after 2^192 - 2^32 repetitions.\n *\n * For more details, see Marsaglia, George (July 2003). \"Xorshift RNGs\". Journal of Statistical Software. 8 (14). doi:10.18637/jss.v008.i14\n *\n * Available at https://www.jstatsoft.org/v08/i14/paper\n *\n */\ninternal class XorWowRandom\ninternal constructor(\n private var x: Int,\n private var y: Int,\n private var z: Int,\n private var w: Int,\n private var v: Int,\n private var addend: Int\n) : Random() {\n\n internal constructor(seed1: Int, seed2: Int) :\n this(seed1, seed2, 0, 0, seed1.inv(), (seed1 shl 10) xor (seed2 ushr 4))\n\n init {\n require((x or y or z or w or v) != 0) { \"Initial state must have at least one non-zero element.\" }\n\n // some trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n repeat(64) { nextInt() }\n }\n\n override fun nextInt(): Int {\n // Equivalent to the xorxow algorithm\n // From Marsaglia, G. 2003. Xorshift RNGs. J. Statis. Soft. 8, 14, p. 5\n var t = x\n t = t xor (t ushr 2)\n x = y\n y = z\n z = w\n val v0 = v\n w = v0\n t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n v = t\n addend += 362437\n return t + addend\n }\n\n override fun nextBits(bitCount: Int): Int =\n nextInt().takeUpperBits(bitCount)\n}\n","/*\n * Copyright 2010-2018

JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"RangesKt\")\n\npackage kotlin.ranges\n\n/**\n * Represents a range of [Comparable] values.\n */\nprivate open class ComparableRange<T : Comparable<T>>(\n   override val start: T,\n   override val endInclusive: T\n) : ClosedRange<T> {\n\n   override fun equals(other: Any?): Boolean {\n   return other is ComparableRange<*> && (isEmpty() && other.isEmpty() ||\n   start == other.start && endInclusive == other.endInclusive)\n   }\n\n   override fun hashCode(): Int {\n   return if (isEmpty()) -1 else 31 * start.hashCode() + endInclusive.hashCode()\n   }\n\n   override fun toString(): String = \"$start..$endInclusive\"\n}\n\n/**\n * Creates a range from this [Comparable] value to the specified [that] value.\n *\n * This value needs to be smaller than [that] value, otherwise the returned range will be empty.\n * @sample samples.ranges.Ranges.rangeFromComparable\n */\npublic operator fun <T : Comparable<T>> T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n\n/**\n * Represents a range of floating point numbers.\n * Extends [ClosedRange] interface providing custom operation [lessThanOrEquals] for comparing values of range domain type.\n *\n * This interface is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n * achieve IEEE-754 comparison order instead of total order of floating point numbers.\n */\n@SinceKotlin(\"1.1\")\npublic interface ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {\n   override fun contains(value: T): Boolean = lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)\n   override fun isEmpty(): Boolean = !lessThanOrEquals(start, endInclusive)\n\n   /**\n   * Compares two values of range domain type and returns true if first is less than or equal to second.\n   */\n   fun lessThanOrEquals(a: T, b: T): Boolean\n}\n\n\n/**\n * A closed range of values of type `Double`.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n */\nprivate class ClosedDoubleRange(\n   start: Double,\n   endInclusive: Double\n) : ClosedFloatingPointRange<Double> {\n   private val _start = start\n   private val _endInclusive = endInclusive\n   override val start: Double get() = _start\n   override val endInclusive: Double get() = _endInclusive\n\n   override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b\n\n   override fun contains(value: Double): Boolean = value >= _start && value <= _endInclusive\n   override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n\n   override fun equals(other: Any?): Boolean {\n   return other is ClosedDoubleRange && (isEmpty() && other.isEmpty() ||\n   _start == other._start && _endInclusive == other._endInclusive)\n   }\n\n   override fun hashCode(): Int {\n   return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n   }\n\n   override fun toString(): String = \"$_start..$_endInclusive\"\n}\n\n/**\n * Creates a range from this [Double] value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n * @sample samples.ranges.Ranges.rangeFromDouble\n */\n@SinceKotlin(\"1.1\")\npublic operator fun Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)\n\n\n/**\n * A closed range of values of type `Float`.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n */\nprivate class ClosedFloatRange(\n   start: Float,\n   endInclusive: Float\n) : ClosedFloatingPointRange<Float> {\n   private val _start = start\n   private val _endInclusive = endInclusive\n   override val start: Float get() = _start\n   override val endInclusive: Float get() = _endInclusive\n\n   override fun lessThanOrEquals(a: Float, b: Float): Boolean = a <= b\n\n   override fun contains(value: Float): Boolean = value >= _start && value <= _endInclusive\n   override fun isEmpty(): Boolean = !(_start <= _endInclusive)\n\n   override fun equals(other: Any?): Boolean {\n   return other is ClosedFloatRange && (isEmpty() && other.isEmpty() ||\n   _start == other._start && _endInclusive == other._endInclusive)\n   }\n\n   override fun hashCode(): Int {\n   return if (isEmpty()) -1 else 31 * _start.hashCode() + _endInclusive.hashCode()\n   }\n\n   override fun toString(): String = \"$_start..$_endInclusive\"\n}\n\n/**\n * Creates a range from this [Float] value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-754.\n * @sample samples.ranges.Ranges.rangeFromFloat\n */\n@SinceKotlin(\"1.1\")\npublic operator fun Float.rangeTo(that: Float): ClosedFloatingPointRange<Float> = ClosedFloatRange(this, that)\n\n\n/**\n * Returns `true` if this iterable range contains the specified [element].\n *\n * Always returns `false` if the [element] is `null`.\n */\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\npublic inline operator fun <T, R> R.contains(element: T?):

Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =\n element != null && contains(element)\n\n\ninternal fun checkStepIsPositive(isPositive: Boolean, step: Number) {\n if (!isPositive) throw IllegalArgumentException(\"Step must be positive, was: $step.\")\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"KClasses\")\n@file:Suppress(\"UNCHECKED_CAST\")\n\npackage kotlin.reflect\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Casts the given [value] to the class represented by this [KClass] object.\n * Throws an exception if the value is `null` or if it is not an instance of this class.\n *\n * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n *\n * @see [KClass.isInstance]\n * @see [KClass.safeCast]\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@LowPriorityInOverloadResolution\nfun <T : Any> KClass<T>.cast(value: Any?): T {\n if (!isInstance(value)) throw ClassCastException(\"Value cannot be cast to $qualifiedOrSimpleName\")\n return value as T\n}\n\n// TODO: replace with qualifiedName when it is fully supported in K/JS\ninternal expect val KClass<*>.qualifiedOrSimpleName: String?\n\n/**\n * Casts the given [value] to the class represented by this [KClass] object.\n * Returns `null` if the value is `null` or if it is not an instance of this class.\n *\n * This is an experimental function that behaves as a similar function from kotlin.reflect.full on JVM.\n *\n * @see [KClass.isInstance]\n * @see [KClass.cast]\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@LowPriorityInOverloadResolution\nfun <T : Any> KClass<T>.safeCast(value: Any?): T? {\n return if (isInstance(value)) value as T else null\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\nimport kotlin.jvm.JvmField\nimport kotlin.jvm.JvmStatic\n\n\n\n/**\n * Represents a type projection. Type projection is usually the argument to another type in a type usage.\n * For example, in the type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class `Number`.\n *\n * Type projection is either the star projection, or an entity consisting of a specific type plus optional variance.\n *\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections)\n * for more information.\n */\n@SinceKotlin(\"1.1\")\npublic data class KTypeProjection constructor(\n /**\n * The use-site variance specified in the projection, or `null` if this is a star projection.\n */\n public val variance: KVariance?,\n /**\n * The type specified in the projection, or `null` if this is a star projection.\n */\n public val type: KType?\n) {\n\n init {\n require((variance == null) == (type == null)) {\n if (variance == null)\n \"Star projection must have no type specified.\"\n else\n \"The projection variance $variance requires type to be specified.\"\n }\n }\n\n override fun toString(): String = when (variance) {\n null -> \"*\"\n KVariance.INVARIANT -> type.toString()\n KVariance.IN -> \"in $type\"\n KVariance.OUT -> \"out $type\"\n }\n\n public companion object {\n // provided for compiler access\n @JvmField\n @PublishedApi\n internal val star: KTypeProjection = KTypeProjection(null, null)\n\n /**\n * Star projection, denoted by the `*` character.\n * For example, in the type `KClass<*>`, `*` is the star projection.\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections)\n * for more information.\n */\n public val STAR: KTypeProjection get() = star\n\n /**\n * Creates an invariant projection of a given type. Invariant projection is just the type itself,\n * without any use-site variance modifiers applied to it.\n * For example, in the type `Set<String>`, `String` is an invariant projection of the type represented by the class `String`.\n */\n @JvmStatic\n public fun invariant(type: KType): KTypeProjection =\n KTypeProjection(KVariance.INVARIANT, type)\n\n /**\n * Creates a contravariant projection of a given type, denoted by the `in` modifier applied to a type.\n * For example, in the type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.\n */\n @JvmStatic\n public fun contravariant(type: KType): KTypeProjection =\n KTypeProjection(KVariance.IN, type)\n\n /**\n * Creates a covariant projection of a given type, denoted by the `out` modifier applied to a type.\n * For example, in the type `Array<out Number>`, `out Number` is a

covariant projection of the type of class `Number`.\n */\n @JvmStatic\n public fun covariant(type: KType): KTypeProjection =\n KTypeProjection(KVariance.OUT, type)\n }\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\n/**\n * Represents variance applied to a type parameter on the declaration site (*declaration-site variance*),\n * or to a type in a projection (*use-site variance*).\n *\n * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#variance)\n * for more information.\n *\n * @see [KTypeParameter.variance]\n * @see [KTypeProjection]\n */\n@SinceKotlin(\"1.1\")\nenum class KVariance {\n /**\n * The affected type parameter or type is *invariant*, which means it has no variance applied to it.\n */\n INVARIANT,\n\n /**\n * The affected type parameter or type is *contravariant*. Denoted by the `in` modifier in the source code.\n */\n IN,\n\n /**\n * The affected type parameter or type is *covariant*. Denoted by the `out` modifier in the source code.\n */\n OUT,\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect\n\n/**\n * Returns a runtime representation of the given reified type [T] as an instance of [KType].\n */\n@Suppress(\"unused\") // KT-12448\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic inline fun <reified T> typeOf(): KType =\n throw UnsupportedOperationException(\"This function is implemented as an intrinsic on all supported platforms.\")\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\n/**\n * An object to which char sequences and values can be appended.\n */\nexpect interface Appendable {\n /**\n * Appends the specified character [value] to this Appendable and returns this instance.\n *\n * @param value the character to append.\n */\n fun append(value: Char): Appendable\n\n /**\n * Appends the specified character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the character sequence to append. If [value] is `null`, then the four characters `\"null\"` are appended to this Appendable.\n */\n fun append(value: CharSequence?): Appendable\n\n /**\n * Appends a subsequence of the specified character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the character sequence from which a subsequence is appended. If [value] is `null`,\n * then characters are appended as if [value] contained the four characters `\"null\"`.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n fun append(value: CharSequence?, startIndex: Int, endIndex: Int): Appendable\n}\n\n/**\n * Appends a subsequence of the specified character sequence [value] to this Appendable and returns this instance.\n *\n * @param value the character sequence from which a subsequence is appended.\n * @param startIndex the beginning (inclusive) of the subsequence to append.\n * @param endIndex the end (exclusive) of the subsequence to append.\n *\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of the [value] character sequence indices or when `startIndex > endIndex`.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic fun <T : Appendable> T.appendRange(value: CharSequence, startIndex: Int, endIndex: Int): T {\n @Suppress(\"UNCHECKED_CAST\")\n return append(value, startIndex, endIndex) as T\n}\n\n/**\n * Appends all arguments to the given [Appendable].\n */\npublic fun <T : Appendable> T.append(vararg value: CharSequence?): T {\n for (item in value)\n append(item)\n return this\n}\n\n/** Appends a line feed character (`\\n`) to this Appendable. */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(): Appendable = append('\\n')\n\n/** Appends value to the given Appendable and a line feed character (`\\n`) after it. */\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(value: CharSequence?): Appendable = append(value).appendLine()\n\n/** Appends value to the given Appendable and a line feed character (`\\n`) after it.

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*/\n@SinceKotlin(\"1.4\")\n@kotlin.internal.InlineOnly\npublic inline fun Appendable.appendLine(value: Char): Appendable = append(value).appendLine()\n\n\ninternal fun <T> Appendable.appendElement(element: T, transform: ((T) -> CharSequence)?) {\n    when {\n        transform != null -> append(transform(element))\n        element is CharSequence? -> append(element)\n        element is Char -> append(element)\n        else -> append(element.toString())\n    }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"CharsKt\")\n\npackage kotlin.text\n\n/**\n * Concatenates this Char and a String.\n *\n * @sample samples.text.Chars.plus\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun Char.plus(other: String): String = this.toString() + other\n\n/**\n * Returns `true` if this character is equal to the [other] character, optionally ignoring character case.\n *\n * @param ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n *\n * Two characters are considered the same ignoring case if at least one of the following is `true`:\n *   - The two characters are the same (as compared by the == operator)\n *   - Applying the method [toUpperCase] to each character produces the same result\n *   - Applying the method [toLowerCase] to each character produces the same result\n *\n * @sample samples.text.Chars.equals\n */\npublic fun Char.equals(other: Char, ignoreCase: Boolean = false): Boolean {\n    if (this == other) return true\n    if (!ignoreCase) return false\n\n    if (this.toUpperCase() == other.toUpperCase()) return true\n    if (this.toLowerCase() == other.toLowerCase()) return true\n    return false\n}\n\n/**\n * Returns `true` if this character is a Unicode surrogate code unit.\n */\npublic fun Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"StringsKt\")\n\npackage kotlin.text\n\n/**\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n *\n * Doesn't affect a line if it doesn't contain [marginPrefix] except the first and the last blank lines.\n *\n * Doesn't preserve the original line endings.\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is `|` (pipe character).\n *\n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see kotlin.text.isWhitespace\n */\npublic fun String.trimMargin(marginPrefix: String = \"|\"): String =\n    replaceIndentByMargin(\"\", marginPrefix)\n\n/**\n * Detects indent by [marginPrefix] as it does [trimMargin] and replace it with [newIndent].\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is `|` (pipe character).\n */\npublic fun String.replaceIndentByMargin(newIndent: String = \"\", marginPrefix: String = \"|\"): String {\n    require(marginPrefix.isNotBlank()) { \"marginPrefix must be non-blank string.\" }\n    val lines = lines()\n\n    return lines.reindent(length + newIndent.length * lines.size, getIndentFunction(newIndent), { line ->\n        val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace() }\n\n        when {\n            firstNonWhitespaceIndex == -1 -> null\n            line.startsWith(marginPrefix, firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n            else -> null\n        }\n    })\n}\n\n/**\n * Detects a common minimal indent of all the input lines, removes it from every line and also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n *\n * Note that blank lines do not affect the detected indent level.\n *\n * In case if there are non-blank lines with no leading whitespace characters (no indent at all) then the\n * common indent is 0, and therefore this function doesn't change the indentation.\n *\n * Doesn't preserve the original line endings.\n *\n * @sample samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n */\npublic fun String.trimIndent(): String = replaceIndent(\"\")\n\n/**\n * Detects a common minimal indent like it does [trimIndent] and replaces it with the specified [newIndent].\n */\npublic fun String.replaceIndent(newIndent: String = \"\"): String {\n    val lines = lines()\n\n    val minCommonIndent = lines\n        .filter(String::isNotBlank)\n        .map(String::indentWidth)\n        .minOrNull() ?: 0\n\n    return lines.reindent(length + newIndent.length * lines.size, getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n}\n\n/**\n * Prepends [indent]
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to every line of the original string.\n *\n * Doesn't preserve the original line endings.\n */\npublic fun String.prependIndent(indent: String = \"   \"): String =\n   lineSequence()\n   .map {\n   when {\n   it.isBlank() -> {\n   when {\n   it.length < indent.length -> indent\n   else -> it\n   }\n   }\n   else -> indent + it\n   }\n   }\n   .joinToString(\"\\n\")\n\nprivate fun String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun getIndentFunction(indent: String) = when {\n   indent.isEmpty() -> { line: String -> line }\n   else -> { line: String -> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n   resultSizeEstimate: Int,\n   indentAddFunction: (String) -> String,\n   indentCutFunction: (String) -> String?\n): String {\n   val lastIndex = lastIndex\n   return mapIndexedNotNull { index, value ->\n   if ((index == 0 || index == lastIndex) && value.isBlank())\n   null\n   else\n   indentCutFunction(value)?.let(indentAddFunction) ?: value\n   }\n   .joinTo(StringBuilder(resultSizeEstimate), \"\\n\")\n   .toString()\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Defines names for Unicode symbols used in proper Typography.\n */\npublic object Typography {\n   /** The character " \u2013 quotation mark */\n   public const val quote: Char = '\\u0022'\n   /** The character $ \u2013 dollar sign */\n   public const val dollar: Char = '\\u0024'\n   /** The character & \u2013 ampersand */\n   public const val amp: Char = '\\u0026'\n   /** The character < \u2013 less-than sign */\n   public const val less: Char = '\\u003C'\n   /** The character > \u2013 greater-than sign */\n   public const val greater: Char = '\\u003E'\n   /** The non-breaking space character */\n   public const val nbsp: Char = '\\u00A0'\n   /** The character × */\n   public const val times: Char = '\\u00D7'\n   /** The character ¢ */\n   public const val cent: Char = '\\u00A2'\n   /** The character £ */\n   public const val pound: Char = '\\u00A3'\n   /** The character § */\n   public const val section: Char = '\\u00A7'\n   /** The character © */\n   public const val copyright: Char = '\\u00A9'\n   /** The character « */\n   public const val leftGuillemete: Char = '\\u00AB'\n   /** The character » */\n   public const val rightGuillemete: Char = '\\u00BB'\n   /** The character ® */\n   public const val registered: Char = '\\u00AE'\n   /** The character ° */\n   public const val degree: Char = '\\u00B0'\n   /** The character ± */\n   public const val plusMinus: Char = '\\u00B1'\n   /** The character ¶ */\n   public const val paragraph: Char = '\\u00B6'\n   /** The character · */\n   public const val middleDot: Char = '\\u00B7'\n   /** The character ½ */\n   public const val half: Char = '\\u00BD'\n   /** The character – */\n   public const val ndash: Char = '\\u2013'\n   /** The character — */\n   public const val mdash: Char = '\\u2014'\n   /** The character ‘ */\n   public const val leftSingleQuote: Char = '\\u2018'\n   /** The character ’ */\n   public const val rightSingleQuote: Char = '\\u2019'\n   /** The character ‚ */\n   public const val lowSingleQuote: Char = '\\u201A'\n   /** The character “ */\n   public const val leftDoubleQuote: Char = '\\u201C'\n   /** The character ” */\n   public const val rightDoubleQuote: Char = '\\u201D'\n   /** The character „ */\n   public const val lowDoubleQuote: Char = '\\u201E'\n   /** The character † */\n   public const val dagger: Char = '\\u2020'\n   /** The character ‡ */\n   public const val doubleDagger: Char = '\\u2021'\n   /** The character • */\n   public const val bullet: Char = '\\u2022'\n   /** The character … */\n   public const val ellipsis: Char = '\\u2026'\n   /** The character ′ */\n   public const val prime: Char = '\\u2032'\n   /** The character ″ */\n   public const val doublePrime: Char = '\\u2033'\n   /** The character € */\n   public const val euro: Char = '\\u20AC'\n   /** The character ™ */\n   public const val tm: Char = '\\u2122'\n   /** The character ≈ */\n   public const val almostEqual: Char = '\\u2248'\n   /** The character ≠ */\n   public const val notEqual: Char = '\\u2260'\n   /** The character ≤ */\n   public const val lessOrEqual: Char = '\\u2264'\n   /** The character ≥ */\n   public const val greaterOrEqual: Char = '\\u2265'\n}","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Represents a collection of captured groups in a single match of a regular expression.\n *\n * This collection has size of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0 corresponds to the

entire match.\n *\n * An element of the collection at the particular index can be `null`,\n * if the corresponding group in the regular expression is optional and\n * there was no match captured by that group.\n */\npublic interface MatchGroupCollection : Collection<MatchGroup?> {\n\n /** Returns a group with the specified [index].\n *\n * @return An instance of [MatchGroup] if the group with the specified [index] was matched or `null` otherwise.\n *\n * Groups are indexed from 1 to the count of groups in the regular expression. A group with the index 0\n * corresponds to the entire match.\n */\n public operator fun get(index: Int): MatchGroup?\n}\n\n/**\n * Extends [MatchGroupCollection] by introducing a way to get matched groups by name, when regex supports it.\n */\n@SinceKotlin(\"1.1\")\npublic interface MatchNamedGroupCollection : MatchGroupCollection {\n /**\n * Returns a named group with the specified [name].\n * @return An instance of [MatchGroup] if the group with the specified [name] was matched or `null` otherwise.\n * @throws IllegalArgumentException if there is no group with the specified [name] defined in the regex pattern.\n * @throws UnsupportedOperationException if getting named groups isn't supported on the current platform.\n */\n public operator fun get(name: String): MatchGroup?\n}\n\n/**\n * Represents the results from a single regular expression match.\n */\npublic interface MatchResult {\n /** The range of indices in the original string where match was captured. */\n public val range: IntRange\n /** The substring from the input string captured by this match. */\n public val value: String\n /**\n * A collection of groups matched by the regular expression.\n *\n * This collection has size of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n */\n public val groups: MatchGroupCollection\n /**\n * A list of matched indexed group values.\n *\n * This list has size of `groupCount + 1` where `groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0 corresponds to the entire match.\n *\n * If the group in the regular expression is optional and there were no match captured by that group,\n * corresponding item in [groupValues] is an empty string.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val groupValues: List<String>\n\n /**\n * An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment of group values.\n *\n * component1 corresponds to the value of the first group, component2 \u2014 of the second, and so on.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val destructured: Destructured get() = Destructured(this)\n\n /** Returns a new [MatchResult] with the results for the next match, starting at the position\n * at which the last match ended (at the character after the last matched character).\n */\n public fun next(): MatchResult?\n\n /**\n * Provides components for destructuring assignment of group values.\n *\n * [component1] corresponds to the value of the first group, [component2] \u2014 of the second, and so on.\n *\n * If the group in the regular expression is optional and there were no match captured by that group,\n * corresponding component value is an empty string.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public class Destructured internal constructor(public val match: MatchResult) {\n @kotlin.internal.InlineOnly\n public operator inline fun component1(): String = match.groupValues[1]\n @kotlin.internal.InlineOnly\n public operator inline fun component2(): String = match.groupValues[2]\n @kotlin.internal.InlineOnly\n public operator inline fun component3(): String = match.groupValues[3]\n @kotlin.internal.InlineOnly\n public operator inline fun component4(): String = match.groupValues[4]\n @kotlin.internal.InlineOnly\n public operator inline fun component5(): String = match.groupValues[5]\n @kotlin.internal.InlineOnly\n public operator inline fun component6(): String = match.groupValues[6]\n @kotlin.internal.InlineOnly\n public operator inline fun component7(): String = match.groupValues[7]\n @kotlin.internal.InlineOnly\n public operator inline fun component8(): String = match.groupValues[8]\n @kotlin.internal.InlineOnly\n public operator inline fun component9(): String = match.groupValues[9]\n @kotlin.internal.InlineOnly\n public operator inline fun component10(): String = match.groupValues[10]\n\n /**\n * Returns destructured group values as a list of strings.\n * First value in the returned list corresponds to the value of the first group, and so on.\n *\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n public fun toList(): List<String> = match.groupValues.subList(1, match.groupValues.size)\n }\n}","/*\n * Copyright 2010-2020

JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.contracts.*\nimport kotlin.math.abs\n\n@OptIn(ExperimentalTime::class)\nprivate inline val storageUnit get() = DurationUnit.NANOSECONDS\n\n/**\n * Represents the amount of time one instant of time is away from another instant.\n *\n * A negative duration is possible in a situation when the second instant is earlier than the first one.\n * An infinite duration value [Duration.INFINITE] can be used to represent infinite timeouts.\n *\n * To construct a duration use either the extension function [toDuration],\n * or the extension properties [hours], [minutes], [seconds], and so on,\n * available on [Int], [Long], and [Double] numeric types.\n *\n * To get the value of this duration expressed in a particular [duration units][DurationUnit]\n * use the functions [toInt], [toLong], and [toDouble]\n * or the properties [inHours], [inMinutes], [inSeconds], [inNanoseconds], and so on.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Suppress(\"NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS\")\npublic inline class Duration internal constructor(internal val value: Double) : Comparable<Duration> {\n// TODO: backend fails on init block, wait for KT-28055\n\n//   init {\n//   require(_value.isNaN().not())\n//   }\n\n   companion object {\n   /** The duration equal to exactly 0 seconds. */\n   public val ZERO: Duration = Duration(0.0)\n\n   /** The duration whose value is positive infinity. It is useful for representing timeouts that should never expire. */\n   public val INFINITE: Duration = Duration(Double.POSITIVE_INFINITY)\n\n   /** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified [targetUnit]. */\n   public fun convert(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double =\n   convertDurationUnit(value, sourceUnit, targetUnit)\n   }\n\n   // arithmetic operators\n\n   /** Returns the negative of this value. */\n   public operator fun unaryMinus(): Duration = Duration(-value)\n\n   /** Returns a duration whose value is the sum of this and [other] duration values. */\n   public operator fun plus(other: Duration): Duration = Duration(value + other.value)\n\n   /** Returns a duration whose value is the difference between this and [other] duration values. */\n   public operator fun minus(other: Duration): Duration = Duration(value - other.value)\n\n   /** Returns a duration whose value is this duration value multiplied by the given [scale] number. */\n   public operator fun times(scale: Int): Duration = Duration(value * scale)\n\n   /** Returns a duration whose value is this duration value multiplied by the given [scale] number. */\n   public operator fun times(scale: Double): Duration = Duration(value * scale)\n\n   /** Returns a duration whose value is this duration value divided by the given [scale] number. */\n   public operator fun div(scale: Int): Duration = Duration(value / scale)\n\n   /** Returns a duration whose value is this duration value divided by the given [scale] number. */\n   public operator fun div(scale: Double): Duration = Duration(value / scale)\n\n   /** Returns a number that is the ratio of this and [other] duration values. */\n   public operator fun div(other: Duration): Double = this.value / other.value\n\n   /** Returns true, if the duration value is less than zero. */\n   public fun isNegative(): Boolean = value < 0\n\n   /** Returns true, if the duration value is greater than zero. */\n   public fun isPositive(): Boolean = value > 0\n\n   /** Returns true, if the duration value is infinite. */\n   public fun isInfinite(): Boolean = value.isInfinite()\n\n   /** Returns true, if the duration value is finite. */\n   public fun isFinite(): Boolean = value.isFinite()\n\n   /** Returns the absolute value of this value. The returned value is always non-negative. */\n   public val absoluteValue: Duration get() = if (isNegative()) -this else this\n\n   override fun compareTo(other: Duration): Int = this.value.compareTo(other.value)\n\n\n   // splitting to components\n\n   /**\n   * Splits this duration into days, hours, minutes, seconds, and nanoseconds and executes the given [action] with these components.\n   * The result of [action] is returned as the result of this function.\n   *\n   * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n   * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;\n   * - `minutes` represents the whole number of minutes in this duration, and its absolute value is less than 60;\n   * - `hours` represents the whole number of hours in this duration, and its absolute value is less than 24;\n   * - `days` represents the whole number of days in this duration.\n   * If the value doesn't fit in [Int] range, i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n   * it is coerced into that range.\n   */\n   public inline fun <T> toComponents(action: (days: Int, hours: Int, minutes: Int, seconds: Int, nanoseconds: Int) -> T): T {\n   contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n   return

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action(inDays.toInt(), hoursComponent, minutesComponent, secondsComponent, nanosecondsComponent)\n }\n\n    /**\n     * Splits this duration into hours, minutes, seconds, and nanoseconds and executes the given [action] with these components.\n     * The result of [action] is returned as the result of this function.\n     *\n     * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;\n     * - `minutes` represents the whole number of minutes in this duration, and its absolute value is less than 60;\n     * - `hours` represents the whole number of hours in this duration.\n     *  If the value doesn't fit in [Int] range, i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n     *  it is coerced into that range.\n     */\n    public inline fun <T> toComponents(action: (hours: Int, minutes: Int, seconds: Int, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n        return action(inHours.toInt(), minutesComponent, secondsComponent, nanosecondsComponent)\n    }\n\n    /**\n     * Splits this duration into minutes, seconds, and nanoseconds and executes the given [action] with these components.\n     * The result of [action] is returned as the result of this function.\n     *\n     * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this duration, and its absolute value is less than 60;\n     * - `minutes` represents the whole number of minutes in this duration.\n     *  If the value doesn't fit in [Int] range, i.e. it's greater than [Int.MAX_VALUE] or less than [Int.MIN_VALUE],\n     *  it is coerced into that range.\n     */\n    public inline fun <T> toComponents(action: (minutes: Int, seconds: Int, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n        return action(inMinutes.toInt(), secondsComponent, nanosecondsComponent)\n    }\n\n    /**\n     * Splits this duration into seconds, and nanoseconds and executes the given [action] with these components.\n     * The result of [action] is returned as the result of this function.\n     *\n     * - `nanoseconds` represents the whole number of nanoseconds in this duration, and its absolute value is less than 1_000_000_000;\n     * - `seconds` represents the whole number of seconds in this duration.\n     *  If the value doesn't fit in [Long] range, i.e. it's greater than [Long.MAX_VALUE] or less than [Long.MIN_VALUE],\n     *  it is coerced into that range.\n     */\n    public inline fun <T> toComponents(action: (seconds: Long, nanoseconds: Int) -> T): T {\n        contract { callsInPlace(action, InvocationKind.EXACTLY_ONCE) }\n        return action(inSeconds.toLong(), nanosecondsComponent)\n    }\n\n    @PublishedApi\n    internal val hoursComponent: Int get() = (inHours % 24).toInt()\n    @PublishedApi\n    internal val minutesComponent: Int get() = (inMinutes % 60).toInt()\n    @PublishedApi\n    internal val secondsComponent: Int get() = (inSeconds % 60).toInt()\n    @PublishedApi\n    internal val nanosecondsComponent: Int get() = (inNanoseconds % 1e9).toInt()\n\n\n    // conversion to units\n\n    /** Returns the value of this duration expressed as a [Double] number of the specified [unit]. */\n    public fun toDouble(unit: DurationUnit): Double = convertDurationUnit(value, storageUnit, unit)\n\n    /**\n     * Returns the value of this duration expressed as a [Long] number of the specified [unit].\n     *\n     * If the value doesn't fit in the range of [Long] type, it is coerced into that range, see the conversion [Double.toLong] for details.\n     */\n    public fun toLong(unit: DurationUnit): Long = toDouble(unit).toLong()\n\n    /**\n     * Returns the value of this duration expressed as an [Int] number of the specified [unit].\n     *\n     * If the value doesn't fit in the range of [Int] type, it is coerced into that range, see the conversion [Double.toInt] for details.\n     */\n    public fun toInt(unit: DurationUnit): Int = toDouble(unit).toInt()\n\n    /** The value of this duration expressed as a [Double] number of days. */\n    public val inDays: Double get() = toDouble(DurationUnit.DAYS)\n\n    /** The value of this duration expressed as a [Double] number of hours. */\n    public val inHours: Double get() = toDouble(DurationUnit.HOURS)\n\n    /** The value of this duration expressed as a [Double] number of minutes. */\n    public val inMinutes: Double get() = toDouble(DurationUnit.MINUTES)\n\n    /** The value of this duration expressed as a [Double] number of seconds. */\n    public val inSeconds: Double get() = toDouble(DurationUnit.SECONDS)\n\n    /** The value of this duration expressed as a [Double] number of milliseconds. */\n    public val inMilliseconds: Double get() = toDouble(DurationUnit.MILLISECONDS)\n\n    /** The value of this duration expressed as a [Double] number of microseconds. */\n    public val inMicroseconds: Double get() = toDouble(DurationUnit.MICROSECONDS)\n\n    /** The value of this duration expressed as a [Double] number of nanoseconds. */\n    public val inNanoseconds:
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Double get() = toDouble(DurationUnit.NANOSECONDS)\n\n    // shortcuts\n\n    /**\n     * Returns the value of this duration expressed as a [Long] number of nanoseconds.\n     *\n     * If the value doesn't fit in the range of [Long] type, it is coerced into that range, see the conversion [Double.toLong] for details.\n     *\n     * The range of durations that can be expressed as a `Long` number of nanoseconds is approximately \u00b1292 years.\n     */\n    public fun toLongNanoseconds(): Long = toLong(DurationUnit.NANOSECONDS)\n\n    /**\n     * Returns the value of this duration expressed as a [Long] number of milliseconds.\n     *\n     * The value is coerced to the range of [Long] type, if it doesn't fit in that range, see the conversion [Double.toLong] for details.\n     *\n     * The range of durations that can be expressed as a `Long` number of milliseconds is approximately \u00b1292 million years.\n     */\n    public fun toLongMilliseconds(): Long = toLong(DurationUnit.MILLISECONDS)\n\n    /**\n     * Returns a string representation of this duration value expressed in the unit which yields the most compact and readable number value.\n     *\n     * Special cases:\n     *  - zero duration is formatted as `\"0s\"`\n     *  - the infinite duration is formatted as `\"Infinity\"` without unit\n     *  - very small durations (less than 1e-15 s) are expressed in seconds and formatted in scientific notation\n     *  - very big durations (more than 1e+7 days) are expressed in days and formatted in scientific notation\n     *\n     * @return the value of duration in the automatically determined unit followed by that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n     *\n     * @sample samples.time.Durations.toStringDefault\n     */\n    override fun toString(): String = when {\n        isInfinite() -> value.toString()\n        value == 0.0 -> \"0s\"\n        else -> {\n            val absNs = absoluteValue.inNanoseconds\n            var scientific = false\n            var maxDecimals = 0\n            val unit = when {\n                absNs < 1e-6 -> DurationUnit.SECONDS.also { scientific = true }\n                absNs < 1 -> DurationUnit.NANOSECONDS.also { maxDecimals = 7 }\n                absNs < 1e3 -> DurationUnit.NANOSECONDS\n                absNs < 1e6 -> DurationUnit.MICROSECONDS\n                absNs < 1e9 -> DurationUnit.MILLISECONDS\n                absNs < 1000e9 -> DurationUnit.SECONDS\n                absNs < 60_000e9 -> DurationUnit.MINUTES\n                absNs < 3600_000e9 -> DurationUnit.HOURS\n                absNs < 86400e9 * 1e7 -> DurationUnit.DAYS\n                else -> DurationUnit.DAYS.also { scientific = true }\n            }\n            val value = toDouble(unit)\n            when {\n                scientific -> formatScientific(value)\n                maxDecimals > 0 -> formatUpToDecimals(value, maxDecimals)\n                else -> formatToExactDecimals(value, precision(abs(value)))\n            } + unit.shortName()\n        }\n    }\n\n    private fun precision(value: Double): Int = when {\n        value < 1 -> 3\n        value < 10 -> 2\n        value < 100 -> 1\n        else -> 0\n    }\n\n    /**\n     * Returns a string representation of this duration value expressed in the given [unit]\n     * and formatted with the specified [decimals] number of digits after decimal point.\n     *\n     * Special cases:\n     *  - the infinite duration is formatted as `\"Infinity\"` without unit\n     *\n     * @return the value of duration in the specified [unit] followed by that unit abbreviated name: `d`, `h`, `m`, `s`, `ms`, `us`, or `ns`.\n     *\n     * @throws IllegalArgumentException if [decimals] is less than zero.\n     *\n     * @sample samples.time.Durations.toStringDecimals\n     */\n    public fun toString(unit: DurationUnit, decimals: Int = 0): String {\n        require(decimals >= 0) { \"decimals must be not negative, but was $decimals\" }\n        if (isInfinite()) return value.toString()\n        val number = toDouble(unit)\n        return when {\n            abs(number) < 1e14 -> formatToExactDecimals(number, decimals.coerceAtMost(12))\n            else -> formatScientific(number)\n        } + unit.shortName()\n    }\n\n\n    /**\n     * Returns an ISO-8601 based string representation of this duration.\n     *\n     * The returned value is presented in the format `PThHmMs.fS`, where `h`, `m`, `s` are the integer components of this duration (see [toComponents])\n     * and `f` is a fractional part of second. Depending on the roundness of the value the fractional part can be formatted with either\n     * 0, 3, 6, or 9 decimal digits.\n     *\n     * If the hours component absolute value of this duration is greater than [Int.MAX_VALUE], it is replaced with [Int.MAX_VALUE],\n     * so the infinite duration is formatted as `\"PT2147483647H\".\n     *\n     * Negative durations are indicated with the sign `-` in the beginning of the returned string, for example, `\"-PT5M30S\"`.\n     *\n     * @sample samples.time.Durations.toIsoString\n     */\n    @OptIn(ExperimentalStdlibApi::class)\n    public fun toIsoString(): String = buildString {\n        if (isNegative()) append('-')\n        append(\"PT\")\n        absoluteValue.toComponents { hours, minutes, seconds, nanoseconds ->\n            val hasHours = hours != 0\n            val hasSeconds = seconds != 0 || nanoseconds != 0\n            val hasMinutes = minutes != 0 || (hasSeconds && hasHours)\n            if (hasHours) {\n                append(hours).append('H')\n            }\n            if (hasMinutes) {\n
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append(minutes).append('M')\n            }\n            if (hasSeconds || (!hasHours && !hasMinutes)) {\n
append(seconds)\n                if (nanoseconds != 0) {\n                    append('.')\n                    val nss =
nanoseconds.toString().padStart(9, '0')\n                    when {\n                        nanoseconds % 1_000_000 == 0 ->
appendRange(nss, 0, 3)\n                        nanoseconds % 1_000 == 0 -> appendRange(nss, 0, 6)\n                        else
-> append(nss)\n                    }\n                }\n                append('S')\n            }\n        }\n    }\n\n}\n\n// constructing
from number of units\n// extension functions\n\n/** Returns a [Duration] equal to this [Int] number of the specified
[unit]. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic fun Int.toDuration(unit: DurationUnit): Duration =
toDouble().toDuration(unit)\n\n/** Returns a [Duration] equal to this [Long] number of the specified [unit].
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic fun Long.toDuration(unit: DurationUnit): Duration =
toDouble().toDuration(unit)\n\n/** Returns a [Duration] equal to this [Double] number of the specified [unit].
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic fun Double.toDuration(unit: DurationUnit): Duration =
Duration(convertDurationUnit(this, unit, storageUnit))\n\n// constructing from number of units\n// extension
properties\n\n/** Returns a [Duration] equal to this [Int] number of nanoseconds.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.nanoseconds get() =
toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of
nanoseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.nanoseconds get() =
toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of
nanoseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.nanoseconds get() =
toDuration(DurationUnit.NANOSECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of
microseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of
microseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of
microseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.microseconds get() =
toDuration(DurationUnit.MICROSECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of
milliseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of
milliseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of
milliseconds. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.milliseconds get() =
toDuration(DurationUnit.MILLISECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of seconds.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Long] number of seconds.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Double] number of seconds.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.seconds get() =
toDuration(DurationUnit.SECONDS)\n\n/** Returns a [Duration] equal to this [Int] number of minutes.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.minutes get() =
toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Long] number of minutes.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.minutes get() =
toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Double] number of minutes.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.minutes get() =
toDuration(DurationUnit.MINUTES)\n\n/** Returns a [Duration] equal to this [Int] number of hours.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.hours get() =
toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Long] number of hours.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.hours get() =
toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Double] number of hours.
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.hours get() =
```

toDuration(DurationUnit.HOURS)\n\n/** Returns a [Duration] equal to this [Int] number of days. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Int.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Long] number of days. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Long.days get() = toDuration(DurationUnit.DAYS)\n\n/** Returns a [Duration] equal to this [Double] number of days. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic val Double.days get() = toDuration(DurationUnit.DAYS)\n\n\n/** Returns a duration whose value is the specified [duration] value multiplied by this number. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@kotlin.internal.InlineOnly\npublic inline operator fun Int.times(duration: Duration): Duration = duration * this\n\n/** Returns a duration whose value is the specified [duration] value multiplied by this number. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@kotlin.internal.InlineOnly\npublic inline operator fun Double.times(duration: Duration): Duration = duration * this\n\n\ninternal expect fun formatToExactDecimals(value: Double, decimals: Int): String\ninternal expect fun formatUpToDecimals(value: Double, decimals: Int): String\ninternal expect fun formatScientific(value: Double): String","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass()\n@file:kotlin.jvm.JvmName(\"DurationUnitKt\")\n\npackage kotlin.time\n\n\n/**\n * The list of possible time measurement units, in which a duration can be expressed.\n *\n * The smallest time unit is [NANOSECONDS] and the largest is [DAYS], which corresponds to exactly 24 [HOURS].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic expect enum class DurationUnit {\n   /**\n   * Time unit representing one nanosecond, which is 1/1000 of a microsecond.\n   */\n   NANOSECONDS,\n   /**\n   * Time unit representing one microsecond, which is 1/1000 of a millisecond.\n   */\n   MICROSECONDS,\n   /**\n   * Time unit representing one millisecond, which is 1/1000 of a second.\n   */\n   MILLISECONDS,\n   /**\n   * Time unit representing one second.\n   */\n   SECONDS,\n   /**\n   * Time unit representing one minute.\n   */\n   MINUTES,\n   /**\n   * Time unit representing one hour.\n   */\n   HOURS,\n   /**\n   * Time unit representing one day, which is always equal to 24 hours.\n   */\n   DAYS;\n}\n\n/** Converts the given time duration [value] expressed in the specified [sourceUnit] into the specified [targetUnit]. */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal expect fun convertDurationUnit(value: Double, sourceUnit: DurationUnit, targetUnit: DurationUnit): Double\n\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal fun DurationUnit.shortName(): String = when (this) {\n   DurationUnit.NANOSECONDS -> \"ns\"\n   DurationUnit.MICROSECONDS -> \"us\"\n   DurationUnit.MILLISECONDS -> \"ms\"\n   DurationUnit.SECONDS -> \"s\"\n   DurationUnit.MINUTES -> \"m\"\n   DurationUnit.HOURS -> \"h\"\n   DurationUnit.DAYS -> \"d\"\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.annotation.AnnotationTarget.*\n\n/**\n * This annotation marks the experimental preview of the standard library API for measuring time and working with durations.\n *\n * > Note that this API is in a preview state and has a very high chance of being changed in the future.\n * Do not use it if you develop a library since your library will become binary incompatible\n * with the future versions of the standard library.\n *\n * Any usage of a declaration annotated with `@ExperimentalTime` must be accepted either by\n * annotating that usage with the [OptIn] annotation, e.g. `@OptIn(ExperimentalTime::class)`,\n * or by using the compiler argument `-Xopt-in=kotlin.time.ExperimentalTime`.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental(level = Experimental.Level.ERROR)\n@RequiresOptIn(level = RequiresOptIn.Level.ERROR)\n@MustBeDocumented\n@Retention(AnnotationRetention.BINARY)\n@Target(\n   CLASS,\n   ANNOTATION_CLASS,\n   PROPERTY,\n   FIELD,\n   LOCAL_VARIABLE,\n   VALUE_PARAMETER,\n   CONSTRUCTOR,\n   FUNCTION,\n   PROPERTY_GETTER,\n   PROPERTY_SETTER,\n   TYPEALIAS\n)\n@SinceKotlin(\"1.3\")\npublic annotation class ExperimentalTime\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language

contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\n/**\n * A source of time for measuring time intervals.\n *\n * The only operation provided by the time source is [markNow]. It returns a [TimeMark], which can be used to query the elapsed time later.\n *\n * @see [measureTime]\n * @see [measureTimedValue]\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic interface TimeSource {\n   /**\n   * Marks a point in time on this time source.\n   *\n   * The returned [TimeMark] instance encapsulates the captured time point and allows querying\n   * the duration of time interval [elapsed][TimeMark.elapsedNow] from that point.\n   */\n   public fun markNow(): TimeMark\n\n   /**\n   * The most precise time source available in the platform.\n   *\n * This time source returns its readings from a source of monotonic time when it is available in a target platform,\n * and resorts to a non-monotonic time source otherwise.\n   */\n   public object Monotonic : TimeSource by MonotonicTimeSource {\n   override fun toString(): String = MonotonicTimeSource.toString()\n   }\n\n\n   public companion object {\n\n   }\n}\n\n/**\n * Represents a time point notched on a particular [TimeSource]. Remains bound to the time source it was taken from\n * and allows querying for the duration of time elapsed from that point (see the function [elapsedNow]).\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic abstract class TimeMark {\n   /**\n   * Returns the amount of time passed from this mark measured with the time source from which this mark was taken.\n   *\n   * Note that the value returned by this function can change on subsequent invocations.\n   */\n   public abstract fun elapsedNow(): Duration\n\n   /**\n   * Returns a time mark on the same time source that is ahead of this time mark by the specified [duration].\n   *\n   * The returned time mark is more _late_ when the [duration] is positive, and more _early_ when the [duration] is negative.\n   */\n   public open operator fun plus(duration: Duration): TimeMark = AdjustedTimeMark(this, duration)\n\n   /**\n   * Returns a time mark on the same time source that is behind this time mark by the specified [duration].\n   *\n   * The returned time mark is more _early_ when the [duration] is positive, and more _late_ when the [duration] is negative.\n   */\n   public open operator fun minus(duration: Duration): TimeMark = plus(-duration)\n\n\n   /**\n   * Returns true if this time mark has passed according to the time source from which this mark was taken.\n   *\n * Note that the value returned by this function can change on subsequent invocations.\n   * If the time source is monotonic, it can change only from `false` to `true`, namely, when the time mark becomes behind the current point of the time source.\n   */\n   public fun hasPassedNow(): Boolean = !elapsedNow().isNegative()\n\n   /**\n   * Returns false if this time mark has not passed according to the time source from which this mark was taken.\n   *\n   * Note that the value returned by this function can change on subsequent invocations.\n   * If the time source is monotonic, it can change only from `true` to `false`, namely, when the time mark becomes behind the current point of the time source.\n   */\n   public fun hasNotPassedNow(): Boolean = elapsedNow().isNegative()\n}\n\n\n\n@ExperimentalTime\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Deprecated(\n   \"Subtracting one TimeMark from another is not a well defined operation because these time marks could have been obtained from the different time sources.\",\n   level = DeprecationLevel.ERROR\n)\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline operator fun TimeMark.minus(other: TimeMark): Duration = throw Error(\"Operation is disallowed.\")\n\n@ExperimentalTime\n@SinceKotlin(\"1.3\")\n@kotlin.internal.InlineOnly\n@Deprecated(\n   \"Comparing one TimeMark to another is not a well defined operation because these time marks could have been obtained from the different time sources.\",\n   level = DeprecationLevel.ERROR\n)\n@Suppress(\"UNUSED_PARAMETER\")\npublic inline operator fun TimeMark.compareTo(other: TimeMark): Int = throw Error(\"Operation is disallowed.\")\n\n\n@ExperimentalTime\nprivate class AdjustedTimeMark(val mark: TimeMark, val adjustment: Duration) : TimeMark() {\n   override fun elapsedNow(): Duration = mark.elapsedNow() - adjustment\n\n   override fun plus(duration: Duration): TimeMark = AdjustedTimeMark(mark, adjustment + duration)\n}\n\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use TimeSource interface instead.\", ReplaceWith(\"TimeSource\", \"kotlin.time.TimeSource\"), DeprecationLevel.ERROR)\npublic typealias Clock = TimeSource\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use TimeMark class instead.\", ReplaceWith(\"TimeMark\", \"kotlin.time.TimeMark\"), DeprecationLevel.ERROR)\npublic typealias

ClockMark = TimeMark\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\ninternal expect object MonotonicTimeSource : TimeSource\n\n/**\n * An abstract class used to implement time sources that return their readings as [Long] values in the specified [unit].\n *\n * @property unit The unit in which this time source's readings are expressed.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic abstract class AbstractLongTimeSource(protected val unit: DurationUnit) : TimeSource {\n   /**\n   * This protected method should be overridden to return the current reading of the time source expressed as a [Long] number\n   * in the unit specified by the [unit] property.\n   */\n   protected abstract fun read(): Long\n\n   private class LongTimeMark(private val startedAt: Long, private val timeSource: AbstractLongTimeSource, private val offset: Duration) : TimeMark() {\n   override fun elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n   override fun plus(duration: Duration): TimeMark = LongTimeMark(startedAt, timeSource, offset + duration)\n   }\n\n   override fun markNow(): TimeMark = LongTimeMark(read(), this, Duration.ZERO)\n}\n\n/**\n * An abstract class used to implement time sources that return their readings as [Double] values in the specified [unit].\n *\n * @property unit The unit in which this time source's readings are expressed.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic abstract class AbstractDoubleTimeSource(protected val unit: DurationUnit) : TimeSource {\n   /**\n   * This protected method should be overridden to return the current reading of the time source expressed as a [Double] number\n   * in the unit specified by the [unit] property.\n   */\n   protected abstract fun read(): Double\n\n   private class DoubleTimeMark(private val startedAt: Double, private val timeSource: AbstractDoubleTimeSource, private val offset: Duration) : TimeMark() {\n   override fun elapsedNow(): Duration = (timeSource.read() - startedAt).toDuration(timeSource.unit) - offset\n   override fun plus(duration: Duration): TimeMark = DoubleTimeMark(startedAt, timeSource, offset + duration)\n   }\n\n   override fun markNow(): TimeMark = DoubleTimeMark(read(), this, Duration.ZERO)\n}\n\n/**\n * A time source that has programmatically updatable readings. It is useful as a predictable source of time in tests.\n *\n * The current reading value can be advanced by the specified duration amount with the operator [plusAssign]:\n *\n * ```\n * val timeSource = TestTimeSource()\n * timeSource += 10.seconds\n * ```\n *\n * Implementation note: the current reading value is stored as a [Long] number of nanoseconds,\n * thus it's capable to represent a time range of approximately \u00b1292 years.\n * Should the reading value overflow as the result of [plusAssign] operation, an [IllegalStateException] is thrown.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic class TestTimeSource : AbstractLongTimeSource(unit = DurationUnit.NANOSECONDS) {\n   private var reading: Long = 0L\n\n   override fun read(): Long = reading\n\n   /**\n   * Advances the current reading value of this time source by the specified [duration].\n   *\n   * [duration] value is rounded down towards zero when converting it to a [Long] number of nanoseconds.\n   * For example, if the duration being added is `0.6.nanoseconds`, the reading doesn't advance because\n   * the duration value is rounded to zero nanoseconds.\n   *\n   * @throws IllegalStateException when the reading value overflows as the result of this operation.\n   */\n   public operator fun plusAssign(duration: Duration) {\n   val delta = duration.toDouble(unit)\n   val longDelta = delta.toLong()\n   reading = if (longDelta != Long.MIN_VALUE && longDelta != Long.MAX_VALUE) {\n   // when delta fits in long, add it as long\n   val newReading = reading + longDelta\n   if (reading xor longDelta >= 0 && reading xor newReading < 0) overflow(duration)\n   newReading\n   } else {\n   // when delta is greater than long, add it as double\n   val newReading = reading + delta\n   if (newReading > Long.MAX_VALUE || newReading < Long.MIN_VALUE) overflow(duration)\n   newReading.toLong()\n   }\n   }\n\n   private fun overflow(duration: Duration) {\n   throw IllegalStateException(\"TestTimeSource will overflow if its reading ${reading}ns is advanced by $duration.\")\n   }\n}\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use TimeSource.Monotonic instead.\", ReplaceWith(\"TimeSource.Monotonic\", \"kotlin.time.TimeSource\"), DeprecationLevel.ERROR)\npublic typealias MonoClock = TimeSource.Monotonic\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use

AbstractLongTimeSource instead.\", ReplaceWith(\"AbstractLongTimeSource\", \"kotlin.time.AbstractLongTimeSource\"), DeprecationLevel.ERROR)\npublic typealias AbstractLongClock = AbstractLongTimeSource\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use AbstractDoubleTimeSource instead.\", ReplaceWith(\"AbstractDoubleTimeSource\", \"kotlin.time.AbstractDoubleTimeSource\"), DeprecationLevel.ERROR)\npublic typealias AbstractDoubleClock = AbstractDoubleTimeSource\n\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\n@Deprecated(\"Use TestTimeSource instead.\", ReplaceWith(\"TestTimeSource\", \"kotlin.time.TestTimeSource\"), DeprecationLevel.ERROR)\npublic typealias TestClock = TestTimeSource\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.time\n\nimport kotlin.contracts.*\n\n/**\n * Executes the given function [block] and returns the duration of elapsed time interval.\n *\n * The elapsed time is measured with [TimeSource.Monotonic].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic inline fun measureTime(block: () -> Unit): Duration {\n   contract {\n   callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n   }\n   return TimeSource.Monotonic.measureTime(block)\n}\n\n\n/**\n * Executes the given function [block] and returns the duration of elapsed time interval.\n *\n * The elapsed time is measured with the specified `this` [TimeSource] instance.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic inline fun TimeSource.measureTime(block: () -> Unit): Duration {\n   contract {\n   callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n   }\n\n   val mark = markNow()\n   block()\n   return mark.elapsedNow()\n}\n\n\n/**\n * Data class representing a result of executing an action, along with the duration of elapsed time interval.\n *\n * @property value the result of the action.\n * @property duration the time elapsed to execute the action.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic data class TimedValue<T>(val value: T, val duration: Duration)\n\n/**\n * Executes the given function [block] and returns an instance of [TimedValue] class, containing both\n * the result of the function execution and the duration of elapsed time interval.\n *\n * The elapsed time is measured with [TimeSource.Monotonic].\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic inline fun <T> measureTimedValue(block: () -> T): TimedValue<T> {\n   contract {\n   callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n   }\n\n   return TimeSource.Monotonic.measureTimedValue(block)\n}\n\n/**\n * Executes the given [block] and returns an instance of [TimedValue] class, containing both\n * the result of function execution and the duration of elapsed time interval.\n *\n * The elapsed time is measured with the specified `this` [TimeSource] instance.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalTime\npublic inline fun <T> TimeSource.measureTimedValue(block: () -> T): TimedValue<T> {\n   contract {\n   callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n   }\n\n   val mark = markNow()\n   val result = block()\n   return TimedValue(result, mark.elapsedNow())\n}\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.coroutines.*\nimport kotlin.coroutines.intrinsics.*\n\n/**\n * Defines deep recursive function that keeps its stack on the heap,\n * which allows very deep recursive computations that do not use the actual call stack.\n * To initiate a call to this deep recursive function use its [invoke] function.\n * As a rule of thumb, it should be used if recursion goes deeper than a thousand calls.\n *\n * The [DeepRecursiveFunction] takes one parameter of type [T] and returns a result of type [R].\n * The [block] of code defines the body of a recursive function. In this block\n * [callRecursive][DeepRecursiveScope.callRecursive] function can be used to make a recursive call\n * to the declared function. Other instances of [DeepRecursiveFunction] can be called\n * in this scope with `callRecursive` extension, too.\n *\n * For example, take a look at the following recursive tree class and a deeply\n * recursive instance of this tree with 100K nodes:\n *\n * ```\n * class Tree(val left: Tree? = null, val right: Tree? = null)\n * val deepTree = generateSequence(Tree()) { Tree(it) }.take(100_000).last()\n * ```\n *\n * A regular recursive function can be defined to compute a depth of a tree:\n *\n * ```\n * fun depth(t: Tree?): Int =\n *   if (t == null) 0 else max(depth(t.left), depth(t.right)) + 1\n * println(depth(deepTree)) // StackOverflowError\n * ```\n *\n * If this `depth` function is called for a `deepTree` it produces [StackOverflowError] because of deep recursion.\n *

However, the `depth` function can be rewritten using `DeepRecursiveFunction` in the following way, and then\n * it successfully computes [`depth(deepTree)`][DeepRecursiveFunction.invoke] expression:\n *\n * ```\n * val depth = DeepRecursiveFunction<Tree?, Int> { t ->\n *   if (t == null) 0 else max(callRecursive(t.left), callRecursive(t.right)) + 1\n * }\n * println(depth(deepTree)) // Ok\n * ```\n *\n * Deep recursive functions can also mutually call each other using a heap for the stack via\n * [callRecursive][DeepRecursiveScope.callRecursive] extension. For example, the\n * following pair of mutually recursive functions computes the number of tree nodes at even depth in the tree.\n *\n * ```\n * val mutualRecursion = object {\n *   val even: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->\n *   if (t == null) 0 else odd.callRecursive(t.left) + odd.callRecursive(t.right) + 1\n *   }\n *   val odd: DeepRecursiveFunction<Tree?, Int> = DeepRecursiveFunction { t ->\n *   if (t == null) 0 else even.callRecursive(t.left) + even.callRecursive(t.right)\n *   }\n * }\n * ```\n *\n * @param [T] the function parameter type.\n * @param [R] the function result type.\n * @param block the function body.\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalStdlibApi\npublic class DeepRecursiveFunction<T, R>(\n   internal val block: suspend DeepRecursiveScope<T, R>.(T) -> R\n)\n\n/**\n * Initiates a call to this deep recursive function, forming a root of the call tree.\n *\n * This operator should not be used from inside of [DeepRecursiveScope] as it uses the call stack slot for\n * initial recursive invocation. From inside of [DeepRecursiveScope] use\n * [callRecursive][DeepRecursiveScope.callRecursive].\n */\n@SinceKotlin(\"1.4\")\n@ExperimentalStdlibApi\npublic operator fun <T, R> DeepRecursiveFunction<T, R>.invoke(value: T): R =\n   DeepRecursiveScopeImpl<T, R>(block, value).runCallLoop()\n\n/**\n * A scope class for [DeepRecursiveFunction] function declaration that defines [callRecursive] methods to\n * recursively call this function or another [DeepRecursiveFunction] putting the call activation frame on the heap.\n *\n * @param [T] function parameter type.\n * @param [R] function result type.\n */\n@RestrictsSuspension\n@SinceKotlin(\"1.4\")\n@ExperimentalStdlibApi\npublic sealed class DeepRecursiveScope<T, R> {\n   /**\n   * Makes recursive call to this [DeepRecursiveFunction] function putting the call activation frame on the heap,\n   * as opposed to the actual call stack that is used by a regular recursive call.\n   */\n   public abstract suspend fun callRecursive(value: T): R\n\n   /**\n   * Makes call to the specified [DeepRecursiveFunction] function putting the call activation frame on the heap,\n   * as opposed to the actual call stack that is used by a regular call.\n   */\n   public abstract suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S\n\n   @Deprecated(\n   level = DeprecationLevel.ERROR,\n   message =\n   \"'invoke' should not be called from DeepRecursiveScope. \" +\n   \"Use 'callRecursive' to do recursion in the heap instead of the call stack.\",\n   replaceWith = ReplaceWith(\"this.callRecursive(value)\")\n   )\n   @Suppress(\"UNUSED_PARAMETER\")\n   public operator fun DeepRecursiveFunction<*, *>.invoke(value: Any?): Nothing =\n   throw UnsupportedOperationException(\"Should not be called from DeepRecursiveScope\")\n}\n\n// ================== Implementation ==================\n\n@ExperimentalStdlibApi\nprivate typealias DeepRecursiveFunctionBlock = suspend DeepRecursiveScope<*, *>.(Any?) -> Any?\n\nprivate val UNDEFINED_RESULT = Result.success(COROUTINE_SUSPENDED)\n\n@Suppress(\"UNCHECKED_CAST\")\n@ExperimentalStdlibApi\nprivate class DeepRecursiveScopeImpl<T, R>(\n   block: suspend DeepRecursiveScope<T, R>.(T) -> R,\n   value: T\n) : DeepRecursiveScope<T, R>(), Continuation<R> {\n   // Active function block\n   private var function: DeepRecursiveFunctionBlock = block as DeepRecursiveFunctionBlock\n\n   // Value to call function with\n   private var value: Any? = value\n\n   // Continuation of the current call\n   private var cont: Continuation<Any?>? = this as Continuation<Any?>\n\n   // Completion result (completion of the whole call stack)\n   private var result: Result<Any?> = UNDEFINED_RESULT\n\n   override val context: CoroutineContext\n   get() = EmptyCoroutineContext\n\n   override fun resumeWith(result: Result<R>) {\n   this.cont = null\n   this.result = result\n   }\n\n   override suspend fun callRecursive(value: T): R =\n   suspendCoroutineUninterceptedOrReturn { cont ->\n   // calling the same function that is currently active\n   this.cont = cont as Continuation<Any?>\n   this.value = value\n   COROUTINE_SUSPENDED\n   }\n\n   override suspend fun <U, S> DeepRecursiveFunction<U, S>.callRecursive(value: U): S =

suspendCoroutineUninterceptedOrReturn { cont ->\n // calling another recursive function\n val function = block as DeepRecursiveFunctionBlock\n with(this@DeepRecursiveScopeImpl) {\n val currentFunction = this.function\n if (function !== currentFunction) {\n // calling a different function -- create a trampoline to restore function ref\n this.function = function\n this.cont = crossFunctionCompletion(currentFunction, cont as Continuation<Any?>)\n } else {\n // calling the same function -- direct\n this.cont = cont as Continuation<Any?>\n }\n this.value = value\n }\n COROUTINE_SUSPENDED\n }\n\n private fun crossFunctionCompletion(\n currentFunction: DeepRecursiveFunctionBlock,\n cont: Continuation<Any?>\n): Continuation<Any?> = Continuation(EmptyCoroutineContext) {\n this.function = currentFunction\n // When going back from a trampoline we cannot just call cont.resume (stack usage!)\n // We delegate the cont.resumeWith(it) call to runCallLoop\n this.cont = cont\n this.result = it\n }\n\n @Suppress(\"UNCHECKED_CAST\")\n fun runCallLoop(): R {\n while (true) {\n // Note: cont is set to null in DeepRecursiveScopeImpl.resumeWith when the whole computation completes\n val result = this.result\n val cont = this.cont\n ?: return (result as Result<R>).getOrThrow() // done -- final result\n // The order of comparison is important here for that case of rogue class with broken equals\n if (UNDEFINED_RESULT == result) {\n // call \"function\" with \"value\" using \"cont\" as completion\n val r = try {\n // This is block.startCoroutine(this, value, cont)\n function.startCoroutineUninterceptedOrReturn(this, value, cont)\n } catch (e: Throwable) {\n cont.resumeWithException(e)\n continue\n }\n // If the function returns without suspension -- calls its continuation immediately\n if (r !== COROUTINE_SUSPENDED)\n cont.resume(r as R)\n } else {\n // we returned from a crossFunctionCompletion trampoline -- call resume here\n this.result = UNDEFINED_RESULT // reset result back\n cont.resumeWith(result)\n }\n }\n }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n\n/**\n * Returns a hash code value for the object or zero if the object is `null`.\n *\n * @see Any.hashCode\n */\n@SinceKotlin(\"1.3\")\n@InlineOnly\npublic inline fun Any?.hashCode(): Int = this?.hashCode() ?: 0\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\n/**\n * Represents a version of the Kotlin standard library.\n *\n * [major], [minor] and [patch] are integer components of a version,\n * they must be non-negative and not greater than 255 ([MAX_COMPONENT_VALUE]).\n *\n * @constructor Creates a version from all three components.\n */\n@SinceKotlin(\"1.1\")\npublic class KotlinVersion(val major: Int, val minor: Int, val patch: Int) : Comparable<KotlinVersion> {\n /**\n * Creates a version from [major] and [minor] components, leaving [patch] component zero.\n */\n public constructor(major: Int, minor: Int) : this(major, minor, 0)\n\n private val version = versionOf(major, minor, patch)\n\n private fun versionOf(major: Int, minor: Int, patch: Int): Int {\n require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in 0..MAX_COMPONENT_VALUE) {\n \"Version components are out of range: $major.$minor.$patch\"\n }\n return major.shl(16) + minor.shl(8) + patch\n }\n\n /**\n * Returns the string representation of this version\n */\n override fun toString(): String = \"$major.$minor.$patch\"\n\n override fun equals(other: Any?): Boolean {\n if (this === other) return true\n val otherVersion = (other as? KotlinVersion) ?: return false\n return this.version == otherVersion.version\n }\n\n override fun hashCode(): Int = version\n\n override fun compareTo(other: KotlinVersion): Int = version - other.version\n\n /**\n * Returns `true` if this version is not less than the version specified\n * with the provided [major] and [minor] components.\n */\n public fun isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)\n this.major > major || (this.major == major &&\n this.minor >= minor)\n\n /**\n * Returns `true` if this version is not less than the version specified\n * with the provided [major], [minor] and [patch] components.\n */\n public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor, patch)\n this.major > major || (this.major == major &&\n (this.minor > minor || this.minor == minor

&&\n this.patch >= patch))\n\n companion object {\n /**\n * Maximum value a version component can have, a constant value 255.\n */\n // NOTE: Must be placed before CURRENT because its initialization requires this field being initialized in JS\n public const val MAX_COMPONENT_VALUE = 255\n\n /**\n * Returns the current version of the Kotlin standard library.\n */\n @kotlin.jvm.JvmField\n public val CURRENT: KotlinVersion = KotlinVersion(1, 4, 10) // value is written here automatically during build\n }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"LateinitKt\")\n@file:Suppress(\"unused\")\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\nimport kotlin.internal.AccessibleLateinitPropertyLiteral\nimport kotlin.reflect.KProperty0\n\n/**\n * Returns `true` if this lateinit property has been assigned a value, and `false` otherwise.\n *\n * Cannot be used in an inline function, to avoid binary compatibility issues.\n */\n@SinceKotlin(\"1.2\")\n@InlineOnly\ninline val @receiver:AccessibleLateinitPropertyLiteral KProperty0<*>.isInitialized: Boolean\n get() = throw NotImplementedError(\"Implementation is intrinsic\")\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"LazyKt\")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin\n\nimport kotlin.reflect.KProperty\n\n/**\n * Represents a value with lazy initialization.\n *\n * To create an instance of [Lazy] use the [lazy] function.\n */\npublic interface Lazy<out T> {\n /**\n * Gets the lazily initialized value of the current Lazy instance.\n * Once the value was initialized it must not change during the rest of lifetime of this Lazy instance.\n */\n public val value: T\n\n /**\n * Returns `true` if a value for this Lazy instance has been already initialized, and `false` otherwise.\n * Once this function has returned `true` it stays `true` for the rest of lifetime of this Lazy instance.\n */\n public fun isInitialized(): Boolean\n}\n\n/**\n * Creates a new instance of the [Lazy] that is already initialized with the specified [value].\n */\npublic fun <T> lazyOf(value: T): Lazy<T> = InitializedLazyImpl(value)\n\n/**\n * An extension to delegate a read-only property of type [T] to an instance of [Lazy].\n *\n * This extension allows to use instances of Lazy for property delegation:\n * `val property: String by lazy { initializer }`\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <T> Lazy<T>.getValue(thisRef: Any?, property: KProperty<*>): T = value\n\n/**\n * Specifies how a [Lazy] instance synchronizes initialization among multiple threads.\n */\npublic enum class LazyThreadSafetyMode {\n\n /**\n * Locks are used to ensure that only a single thread can initialize the [Lazy] instance.\n */\n SYNCHRONIZED,\n\n /**\n * Initializer function can be called several times on concurrent access to uninitialized [Lazy] instance value,\n * but only the first returned value will be used as the value of [Lazy] instance.\n */\n PUBLICATION,\n\n /**\n * No locks are used to synchronize an access to the [Lazy] instance value; if the instance is accessed from multiple threads, its behavior is undefined.\n *\n * This mode should not be used unless the [Lazy] instance is guaranteed never to be initialized from more than one thread.\n */\n NONE,\n}\n\n\ninternal object UNINITIALIZED_VALUE\n\n// internal to be called from lazy in JS\ninternal class UnsafeLazyImpl<out T>(initializer: () -> T) : Lazy<T>, Serializable {\n private var initializer: (() -> T)? = initializer\n private var _value: Any? = UNINITIALIZED_VALUE\n\n override val value: T\n get() {\n if (_value === UNINITIALIZED_VALUE) {\n _value = initializer!!()\n initializer = null\n }\n @Suppress(\"UNCHECKED_CAST\")\n return _value as T\n }\n\n override fun isInitialized(): Boolean = _value !== UNINITIALIZED_VALUE\n\n override fun toString(): String = if (isInitialized()) value.toString() else \"Lazy value not initialized yet.\"\n\n private fun writeReplace(): Any = InitializedLazyImpl(value)\n}\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>, Serializable {\n\n override fun isInitialized(): Boolean = true\n\n override fun toString(): String = value.toString()\n\n}\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"NumbersKt\")\npackage kotlin\n\n/**\n *

Counts the number of set bits in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Int.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Int.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Int] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Int.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Int] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Int.takeHighestOneBit(): Int\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Int] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Int.takeLowestOneBit(): Int\n\n/**\n * Rotates the binary representation of this [Int] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic expect fun Int.rotateLeft(bitCount: Int): Int\n\n\n/**\n * Rotates the binary representation of this [Int] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Int.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic expect fun Int.rotateRight(bitCount: Int): Int\n\n\n/**\n * Counts the number of set bits in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.countOneBits(): Int\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.countLeadingZeroBits(): Int\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Long] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.countTrailingZeroBits(): Int\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Long] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.takeHighestOneBit(): Long\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Long] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\npublic expect fun Long.takeLowestOneBit(): Long\n\n/**\n * Rotates the binary representation of this [Long] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic expect fun Long.rotateLeft(bitCount: Int): Long\n\n/**\n * Rotates the binary representation of this [Long] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number

as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Long.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic expect fun Long.rotateRight(bitCount: Int): Long\n\n/**\n * Counts the number of set bits in the binary representation of this [Byte] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countOneBits(): Int = (toInt() and 0xFF).countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Byte] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countLeadingZeroBits(): Int = (toInt() and 0xFF).countLeadingZeroBits() - (Int.SIZE_BITS - Byte.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Byte] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.countTrailingZeroBits(): Int = (toInt() or 0x100).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Byte] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.takeHighestOneBit(): Byte = (toInt() and 0xFF).takeHighestOneBit().toByte()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [Byte] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Byte.takeLowestOneBit(): Byte = toInt().takeLowestOneBit().toByte()\n\n/**\n * Rotates the binary representation of this [Byte] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun Byte.rotateLeft(bitCount: Int): Byte =\n (toInt().shl(bitCount and 7) or (toInt() and 0xFF).ushr(8 - (bitCount and 7))).toByte()\n\n/**\n * Rotates the binary representation of this [Byte] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Byte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 8)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun Byte.rotateRight(bitCount: Int): Byte =\n (toInt().shl(8 - (bitCount and 7)) or (toInt() and 0xFF).ushr(bitCount and 7)).toByte()\n\n/**\n * Counts the number of set bits in the binary representation of this [Short] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countOneBits(): Int = (toInt() and 0xFFFF).countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [Short] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countLeadingZeroBits(): Int =\n (toInt() and 0xFFFF).countLeadingZeroBits() - (Int.SIZE_BITS - Short.SIZE_BITS)\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [Short] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npublic inline fun Short.countTrailingZeroBits(): Int = (toInt() or 0x10000).countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [Short] number,\n * or zero, if this

number is zero.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.takeHighestOneBit(): Short = (toInt() and 0xFFFF).takeHighestOneBit().toShort()\n\n/**\n *
Returns a number having a single bit set in the position of the least significant set bit of this [Short] number,\n * or
zero, if this number is zero.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@kotlin.internal.InlineOnly\npubli
c inline fun Short.takeLowestOneBit(): Short = toInt().takeLowestOneBit().toShort()\n\n\n/**\n * Rotates the binary
representation of this [Short] number left by the specified [bitCount] number of bits.\n * The most significant bits
pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the
number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-
n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns the same number, or
more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun Short.rotateLeft(bitCount: Int): Short =\n
(toInt().shl(bitCount and 15) or (toInt() and 0xFFFF).ushr(16 - (bitCount and 15))).toShort()\n\n/**\n * Rotates the
binary representation of this [Short] number right by the specified [bitCount] number of bits.\n * The least
significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n *
Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n *
`number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [Short.SIZE_BITS] (16) returns
the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\npublic fun Short.rotateRight(bitCount: Int): Short =\n
(toInt().shl(16 - (bitCount and 15)) or (toInt() and 0xFFFF).ushr(bitCount and 15)).toShort()\n","/*\n * Copyright
2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed
by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\nimport
kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n@kotlin.internal.InlineOnly\n@SinceKotlin(\"1.2\")\n@Suppress(\"IN
VISIBLE_MEMBER\", \"INVISIBLE_REFERENCE\")\n@RequireKotlin(\"1.2.30\", level =
DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic inline fun
<R> suspend(noinline block: suspend () -> R): suspend () -> R = block\n","/*\n * Copyright 2010-2018 JetBrains
s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0
license that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName(\"TuplesKt\")\n\npackage kotlin\n\n\n/**\n * Represents a generic pair of two
values.\n *\n * There is no meaning attached to values in this class, it can be used for any purpose.\n * Pair exhibits
value semantics, i.e. two pairs are equal if both components are equal.\n *\n * An example of decomposing it into
values:\n * @sample samples.misc.Tuples.pairDestructuring\n *\n * @param A type of the first value.\n * @param
B type of the second value.\n * @property first First value.\n * @property second Second value.\n * @constructor
Creates a new instance of Pair.\n */\npublic data class Pair<out A, out B>(\n   public val first: A,\n   public val
second: B\n) : Serializable {\n\n   /**\n   * Returns string representation of the [Pair] including its [first] and
[second] values.\n   */\n   public override fun toString(): String = \"($first, $second)\"\n}\n\n/**\n * Creates a tuple
of type [Pair] from this and [that].\n *\n * This can be useful for creating [Map] literals with less noise, for
example:\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n */\npublic infix fun <A, B>
A.to(that: B): Pair<A, B> = Pair(this, that)\n\n/**\n * Converts this pair into a list.\n * @sample
samples.misc.Tuples.pairToList\n */\npublic fun <T> Pair<T, T>.toList(): List<T> = listOf(first, second)\n\n/**\n *
Represents a triad of values\n *\n * There is no meaning attached to values in this class, it can be used for any
purpose.\n * Triple exhibits value semantics, i.e. two triples are equal if all three components are equal.\n * An
example of decomposing it into values:\n * @sample samples.misc.Tuples.tripleDestructuring\n *\n * @param A
type of the first value.\n * @param B type of the second value.\n * @param C type of the third value.\n * @property
first First value.\n * @property second Second value.\n * @property third Third value.\n */\npublic data class
Triple<out A, out B, out C>(\n   public val first: A,\n   public val second: B,\n   public val third: C\n) : Serializable

{\n\n   /**\n   * Returns string representation of the [Triple] including its [first], [second] and [third] values.\n   */\n   public override fun toString(): String = \"($first, $second, $third)\"\n}\n\n/**\n * Converts this triple into a list.\n * @sample samples.misc.Tuples.tripleToList\n */\npublic fun <T> Triple<T, T, T>.toList(): List<T> = listOf(first, second, third)\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n\nimport kotlin.internal.*\n\n/**\n * A range of values of type `UInt`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic class UIntRange(start: UInt, endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n   override val start: UInt get() = first\n   override val endInclusive: UInt get() = last\n\n   override fun contains(value: UInt): Boolean = first <= value && value <= last\n\n   override fun isEmpty(): Boolean = first > last\n\n   override fun equals(other: Any?): Boolean =\n   other is UIntRange && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n   override fun toString(): String = \"$first..$last\"\n\n   companion object {\n   /** An empty range of values of type UInt. */\n   public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)\n   }\n}\n\n/**\n * A progression of values of type `UInt`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic open class UIntProgression\ninternal constructor(\n   start: UInt,\n   endInclusive: UInt,\n   step: Int\n) : Iterable<UInt> {\n   init {\n   if (step == 0.toInt()) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n   if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than Int.MIN_VALUE to avoid overflow on negation.\")\n   }\n\n   /**\n   * The first element in the progression.\n   */\n   public val first: UInt = start\n\n   /**\n   * The last element in the progression.\n   */\n   public val last: UInt = getProgressionLastElement(start, endInclusive, step)\n\n   /**\n   * The step of the progression.\n   */\n   public val step: Int = step\n\n   override fun iterator(): UIntIterator = UIntProgressionIterator(first, last, step)\n\n   /** Checks if the progression is empty. */\n   public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n   override fun equals(other: Any?): Boolean =\n   other is UIntProgression && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last && step == other.step)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * (31 * first.toInt() + last.toInt()) + step.toInt())\n\n   override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n   companion object {\n   /**\n   * Creates UIntProgression within the specified bounds of a closed range.\n\n   * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n   * In order to go backwards the [step] must be negative.\n   *\n   * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n   */\n   public fun fromClosedRange(rangeStart: UInt, rangeEnd: UInt, step: Int): UIntProgression = UIntProgression(rangeStart, rangeEnd, step)\n   }\n}\n\n/**\n * An iterator over a progression of values of type `UInt`.\n * @property step the number by which the value is incremented on each step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\nprivate class UIntProgressionIterator(first: UInt, last: UInt, step: Int) : UIntIterator() {\n   private val finalElement = last\n   private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n   private val step = step.toUInt() // use 2-complement math for negative steps\n   private var next = if (hasNext) first else finalElement\n\n   override fun hasNext(): Boolean = hasNext\n\n   override fun nextUInt(): UInt {\n   val value = next\n   if (value == finalElement) {\n   if (!hasNext) throw kotlin.NoSuchElementException()\n   hasNext = false\n   }\n   else {\n   next += step\n   }\n   return value\n   }\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.collections\n\n/** An iterator over a sequence of values of type `UByte`. */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic abstract class UByteIterator : Iterator<UByte> {\n   override final fun next() = nextUByte()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextUByte(): UByte\n}\n\n/** An iterator over a sequence of values of type `UShort`. */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic abstract class UShortIterator : Iterator<UShort>

{\n   override final fun next() = nextUShort()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextUShort(): UShort\n}\n\n/** An iterator over a sequence of values of type `UInt`. */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic abstract class UIntIterator : Iterator<UInt> {\n   override final fun next() = nextUInt()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextUInt(): UInt\n}\n\n/** An iterator over a sequence of values of type `ULong`. */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic abstract class ULongIterator : Iterator<ULong> {\n   override final fun next() = nextULong()\n\n   /** Returns the next value in the sequence without boxing. */\n   public abstract fun nextULong(): ULong\n}\n\n","/*\n * Copyright 2010-2020 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n\n\nimport kotlin.internal.*\n\n/**\n * A range of values of type `ULong`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic class ULongRange(start: ULong, endInclusive: ULong) : ULongProgression(start, endInclusive, 1), ClosedRange<ULong> {\n   override val start: ULong get() = first\n   override val endInclusive: ULong get() = last\n\n   override fun contains(value: ULong): Boolean = first <= value && value <= last\n\n   override fun isEmpty(): Boolean = first > last\n\n   override fun equals(other: Any?): Boolean =\n   other is ULongRange && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr 32)).toInt())\n\n   override fun toString(): String = \"$first..$last\"\n\n   companion object {\n   /** An empty range of values of type ULong. */\n   public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE, ULong.MIN_VALUE)\n   }\n}\n\n/**\n * A progression of values of type `ULong`.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic open class ULongProgression\ninternal constructor(\n   start: ULong,\n   endInclusive: ULong,\n   step: Long\n) : Iterable<ULong> {\n   init {\n   if (step == 0.toLong()) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n   if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than Long.MIN_VALUE to avoid overflow on negation.\")\n   }\n\n   /**\n   * The first element in the progression.\n   */\n   public val first: ULong = start\n\n   /**\n   * The last element in the progression.\n   */\n   public val last: ULong = getProgressionLastElement(start, endInclusive, step)\n\n   /**\n   * The step of the progression.\n   */\n   public val step: Long = step\n\n   override fun iterator(): ULongIterator = ULongProgressionIterator(first, last, step)\n\n   /** Checks if the progression is empty. */\n   public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n   override fun equals(other: Any?): Boolean =\n   other is ULongProgression && (isEmpty() && other.isEmpty() ||\n   first == other.first && last == other.last && step == other.step)\n\n   override fun hashCode(): Int =\n   if (isEmpty()) -1 else (31 * (31 * (first xor (first shr 32)).toInt() + (last xor (last shr 32)).toInt()) + (step xor (step ushr 32)).toInt())\n\n   override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n   companion object {\n   /**\n   * Creates ULongProgression within the specified bounds of a closed range.\n\n   * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n   * In order to go backwards the [step] must be negative.\n   *\n   * [step] must be greater than `Long.MIN_VALUE` and not equal to zero.\n   */\n   public fun fromClosedRange(rangeStart: ULong, rangeEnd: ULong, step: Long): ULongProgression = ULongProgression(rangeStart, rangeEnd, step)\n   }\n}\n\n\n/**\n * An iterator over a progression of values of type `ULong`.\n * @property step the number by which the value is incremented on each step.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\nprivate class ULongProgressionIterator(first: ULong, last: ULong, step: Long) : ULongIterator() {\n   private val finalElement = last\n   private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n   private val step = step.toULong() // use 2-complement math for negative steps\n   private var next = if (hasNext) first else finalElement\n\n   override fun hasNext(): Boolean = hasNext\n\n   override fun nextULong(): ULong {\n   val value = next\n   if (value == finalElement) {\n   if (!hasNext) throw kotlin.NoSuchElementException()\n   hasNext = false\n   } else {\n   next += step\n   }\n   return value\n   }\n}\n\n","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed

by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.math\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun min(a: UInt, b: UInt): UInt {\n   return minOf(a, b)\n}\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun min(a: ULong, b: ULong): ULong {\n   return minOf(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun max(a: UInt, b: UInt): UInt {\n   return maxOf(a, b)\n}\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun max(a: ULong, b: ULong): ULong {\n   return maxOf(a, b)\n}","/*\n * Copyright 2010-2019 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"UNumbersKt\")\npackage kotlin\n\n/**\n * Counts the number of set bits in the binary representation of this [UInt] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countOneBits(): Int = toInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [UInt] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countLeadingZeroBits(): Int = toInt().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [UInt] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.countTrailingZeroBits(): Int = toInt().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeHighestOneBit(): UInt = toInt().takeHighestOneBit().toUInt()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UInt] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.takeLowestOneBit(): UInt = toInt().takeLowestOneBit().toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateLeft(bitCount: Int): UInt = toInt().rotateLeft(bitCount).toUInt()\n\n/**\n * Rotates the binary representation of this [UInt] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [UInt.SIZE_BITS] (32) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 32)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UInt.rotateRight(bitCount: Int): UInt = toInt().rotateRight(bitCount).toUInt()\n\n/**\n * Counts the number of set bits in the binary representation of this [ULong] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countOneBits(): Int = toLong().countOneBits()\n\n/**\n *

Counts the number of consecutive most significant bits that are zero in the binary representation of this [ULong] number.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countLeadingZeroBits(): Int = toLong().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [ULong] number.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.countTrailingZeroBits(): Int = toLong().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeHighestOneBit(): ULong = toLong().takeHighestOneBit().toULong()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [ULong] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.takeLowestOneBit(): ULong = toLong().takeLowestOneBit().toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 64)`\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateLeft(bitCount: Int): ULong = toLong().rotateLeft(bitCount).toULong()\n\n/**\n * Rotates the binary representation of this [ULong] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [ULong.SIZE_BITS] (64) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 64)`\n
*/\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULong.rotateRight(bitCount: Int): ULong = toLong().rotateRight(bitCount).toULong()\n\n/**\n * Counts the number of set bits in the binary representation of this [UByte] number.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countOneBits(): Int = toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [UByte] number.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countLeadingZeroBits(): Int = toByte().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [UByte] number.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.countTrailingZeroBits(): Int = toByte().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n
*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeHighestOneBit(): UByte = toInt().takeHighestOneBit().toUByte()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UByte] number,\n * or zero, if this number is zero.\n

*/\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.takeLowestOneBit(): UByte = toInt().takeLowestOneBit().toUByte()\n\n\n/**\n * Rotates the binary representation of this [UByte] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 8)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateLeft(bitCount: Int): UByte = toByte().rotateLeft(bitCount).toUByte()\n\n/**\n * Rotates the binary representation of this [UByte] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [UByte.SIZE_BITS] (8) returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 8)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByte.rotateRight(bitCount: Int): UByte = toByte().rotateRight(bitCount).toUByte()\n\n/**\n * Counts the number of set bits in the binary representation of this [UShort] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countOneBits(): Int = toUInt().countOneBits()\n\n/**\n * Counts the number of consecutive most significant bits that are zero in the binary representation of this [UShort] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countLeadingZeroBits(): Int = toShort().countLeadingZeroBits()\n\n/**\n * Counts the number of consecutive least significant bits that are zero in the binary representation of this [UShort] number.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.countTrailingZeroBits(): Int = toShort().countTrailingZeroBits()\n\n/**\n * Returns a number having a single bit set in the position of the most significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeHighestOneBit(): UShort = toInt().takeHighestOneBit().toUShort()\n\n/**\n * Returns a number having a single bit set in the position of the least significant set bit of this [UShort] number,\n * or zero, if this number is zero.\n */\n@SinceKotlin(\"1.4\")\n@WasExperimental(ExperimentalStdlibApi::class)\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.takeLowestOneBit(): UShort = toInt().takeLowestOneBit().toUShort()\n\n\n/**\n * Rotates the binary representation of this [UShort] number left by the specified [bitCount] number of bits.\n * The most significant bits pushed out from the left side reenter the number as the least significant bits on the right side.\n *\n * Rotating the number left by a negative bit count is the same as rotating it right by the negated bit count:\n * `number.rotateLeft(-n) == number.rotateRight(n)`\n *\n * Rotating by a multiple of [UShort.SIZE_BITS] (16) returns the same number, or more generally\n * `number.rotateLeft(n) == number.rotateLeft(n % 16)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateLeft(bitCount: Int): UShort = toShort().rotateLeft(bitCount).toUShort()\n\n/**\n * Rotates the binary representation of this [UShort] number right by the specified [bitCount] number of bits.\n * The least significant bits pushed out from the right side reenter the number as the most significant bits on the left side.\n *\n * Rotating the number right by a negative bit count is the same as rotating it left by the negated bit count:\n * `number.rotateRight(-n) == number.rotateLeft(n)`\n *\n * Rotating by a multiple of [UShort.SIZE_BITS] (16)

returns the same number, or more generally\n * `number.rotateRight(n) == number.rotateRight(n % 16)`\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalStdlibApi\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShort.rotateRight(bitCount: Int): UShort = toShort().rotateRight(bitCount).toUShort()\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:OptIn(ExperimentalUnsignedTypes::class)\npackage kotlin.internal\n\n// (a - b) mod c\nprivate fun differenceModulo(a: UInt, b: UInt, c: UInt): UInt {\n   val ac = a % c\n   val bc = b % c\n   return if (ac >= bc) ac - bc else ac - bc + c\n}\n\nprivate fun differenceModulo(a: ULong, b: ULong, c: ULong): ULong {\n   val ac = a % c\n   val bc = b % c\n   return if (ac >= bc) ac - bc else ac - bc + c\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step: Int): UInt = when {\n   step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n   step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n   else -> throw kotlin.IllegalArgumentException(\"Step is zero.\")\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n *\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n *\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n *\n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * @suppress\n */\n@PublishedApi\n@SinceKotlin(\"1.3\")\ninternal fun getProgressionLastElement(start: ULong, end: ULong, step: Long): ULong = when {\n   step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toULong())\n   step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n   else -> throw kotlin.IllegalArgumentException(\"Step is zero.\")\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"UStringsKt\") // string representation of unsigned numbers\n\npackage kotlin.text\n\n/**\n * Returns a string representation of this [Byte] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Short] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this [Int] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n/**\n * Returns a string representation of this [Long] value in the specified [radix].\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun ULong.toString(radix: Int): String = ulongToString(this.toLong(), checkRadix(radix))\n\n\n/**\n * Parses the string as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid

representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUByte(): UByte = toUByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUByte(radix: Int): UByte = toUByteOrNull(radix) ?: numberFormatError(this)\n\n\n/**\n * Parses the string as a [UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(): UShort = toUShortOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [UShort] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(radix: Int): UShort = toUShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as an [UInt] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUInt(): UInt = toUIntOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as an [UInt] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUInt(radix: Int): UInt = toUIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [ULong] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toULong(): ULong = toULongOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [ULong] number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toULong(radix: Int): ULong = toULongOrNull(radix) ?: numberFormatError(this)\n\n\n\n\n/**\n * Parses the string as an [UByte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUByteOrNull(): UByte? = toUByteOrNull(radix = 10)\n\n/**\n * Parses the string as an [UByte] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUByteOrNull(radix: Int): UByte? {\n   val int = this.toUIntOrNull(radix) ?: return null\n   if (int > UByte.MAX_VALUE) return null\n   return int.toUByte()\n}\n\n/**\n * Parses the string as an [UShort] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUShortOrNull(): UShort? = toUShortOrNull(radix = 10)\n\n/**\n * Parses the string as an [UShort] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUShortOrNull(radix: Int): UShort? {\n   val int = this.toUIntOrNull(radix) ?: return null\n   if (int > UShort.MAX_VALUE) return null\n   return int.toUShort()\n}\n\n/**\n * Parses the string as an [UInt] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUIntOrNull(): UInt? = toUIntOrNull(radix = 10)\n\n/**\n * Parses the string as an [UInt] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toUIntOrNull(radix: Int): UInt? {\n   checkRadix(radix)\n\n   val length = this.length\n   if (length == 0) return null\n\n   val limit: UInt = UInt.MAX_VALUE\n   val start: Int\n\n   val firstChar = this[0]\n   if (firstChar

< '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n val limitForMaxRadix = 119304647u // limit / 36\n\n var limitBeforeMul = limitForMaxRadix\n val uradix = radix.toUInt()\n var result = 0u\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / uradix\n\n if (result > limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n\n result *= uradix\n\n val beforeAdding = result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n\n return result\n}\n\n/**\n * Parses the string as an [ULong] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toULongOrNull(): ULong? = toULongOrNull(radix = 10)\n\n/**\n * Parses the string as an [ULong] number and returns the result\n * or `null` if the string is not a valid representation of a number.\n *\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\npublic fun String.toULongOrNull(radix: Int): ULong? {\n checkRadix(radix)\n\n val length = this.length\n if (length == 0) return null\n\n val limit: ULong = ULong.MAX_VALUE\n val start: Int\n\n val firstChar = this[0]\n if (firstChar < '0') {\n if (length == 1 || firstChar != '+') return null\n start = 1\n } else {\n start = 0\n }\n\n\n val limitForMaxRadix = 512409557603043100uL // limit / 36\n\n var limitBeforeMul = limitForMaxRadix\n val uradix = radix.toULong()\n var result = 0uL\n for (i in start until length) {\n val digit = digitOf(this[i], radix)\n\n if (digit < 0) return null\n if (result > limitBeforeMul) {\n if (limitBeforeMul == limitForMaxRadix) {\n limitBeforeMul = limit / uradix\n\n if (result > limitBeforeMul) {\n return null\n }\n } else {\n return null\n }\n }\n\n result *= uradix\n\n val beforeAdding = result\n result += digit.toUInt()\n if (result < beforeAdding) return null // overflow has happened\n }\n\n return result\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:Suppress(\"INVISIBLE_REFERENCE\", \"INVISIBLE_MEMBER\")\npackage kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport kotlin.internal.RequireKotlinVersionKind\n\n/**\n * Marks the API that is dependent on the experimental unsigned types, including those types themselves.\n *\n * Usages of such API will be reported as warnings unless an explicit opt-in with\n * the [OptIn] annotation, e.g. `@OptIn(ExperimentalUnsignedTypes::class)`,\n * or with the `-Xopt-in=kotlin.ExperimentalUnsignedTypes` compiler option is given.\n *\n * It's recommended to propagate the experimental status to the API that depends on unsigned types by annotating it with this annotation.\n */\n@Suppress(\"DEPRECATION\")\n@Experimental(level = Experimental.Level.WARNING)\n@RequiresOptIn(level = RequiresOptIn.Level.WARNING)\n@MustBeDocumented\n@Target(CLASS, ANNOTATION_CLASS, PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER, TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin(\"1.2.50\", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. and Kotlin Programming Language contributors.\n * Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName(\"MathKt\")\n\n\npackage kotlin.math\n\n\n\n// constants, can't use them from nativeMath as they are not constants there\n\n/** Ratio of the circumference of a circle to its diameter, approximately 3.14159. */\n@SinceKotlin(\"1.2\")\npublic const val PI: Double = 3.141592653589793\n/** Base of the natural logarithms, approximately 2.71828. */\n@SinceKotlin(\"1.2\")\npublic const val E: Double = 2.718281828459045\n\n// region ================== Double Math ======================================\n\n/** Computes the sine of the angle [x] given in radians.\n *\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sin(x: Double): Double\n\n/** Computes the cosine of the angle [x] given in radians.\n *\n * Special

cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun cos(x: Double): Double\n\n/** Computes the tangent of the angle [x] given in radians.\n *\n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun tan(x: Double): Double\n\n/**\n * Computes the arc sine of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun asin(x: Double): Double\n\n/**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the range from `0.0` to `PI` radians.\n *\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun acos(x: Double): Double\n\n/**\n * Computes the arc tangent of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n * - `atan(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun atan(x: Double): Double\n\n/**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to `PI` radians.\n *\n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for 'x > 0' and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for '-Inf < y < 0`\n *  - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n *  - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n *  - `atan2(+Inf, x)` is `PI/2` for finite `x`y\n *  - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n *  - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun atan2(y: Double, x: Double): Double\n\n/**\n * Computes the hyperbolic sine of the value [x].\n *\n * Special cases:\n *  - `sinh(NaN)` is `NaN`\n *  - `sinh(+Inf)` is `+Inf`\n *  - `sinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sinh(x: Double): Double\n\n/**\n * Computes the hyperbolic cosine of the value [x].\n *\n * Special cases:\n *  - `cosh(NaN)` is `NaN`\n *  - `cosh(+Inf|-Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun cosh(x: Double): Double\n\n/**\n * Computes the hyperbolic tangent of the value [x].\n *\n * Special cases:\n *  - `tanh(NaN)` is `NaN`\n *  - `tanh(+Inf)` is `1.0`\n *  - `tanh(-Inf)` is `-1.0`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun tanh(x: Double): Double\n\n/**\n * Computes the inverse hyperbolic sine of the value [x].\n *\n * The returned value is `y` such that `sinh(y) == x`.\n *\n * Special cases:\n *  - `asinh(NaN)` is `NaN`\n *  - `asinh(+Inf)` is `+Inf`\n *  - `asinh(-Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun asinh(x: Double): Double\n\n/**\n * Computes the inverse hyperbolic cosine of the value [x].\n *\n * The returned value is positive `y` such that `cosh(y) == x`.\n *\n * Special cases:\n *  - `acosh(NaN)` is `NaN`\n *  - `acosh(x)` is `NaN` when `x < 1`\n *  - `acosh(+Inf)` is `+Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun acosh(x: Double): Double\n\n/**\n * Computes the inverse hyperbolic tangent of the value [x].\n *\n * The returned value is `y` such that `tanh(y) == x`.\n *\n * Special cases:\n *  - `tanh(NaN)` is `NaN`\n *  - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n *  - `tanh(1.0)` is `+Inf`\n *  - `tanh(-1.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun atanh(x: Double): Double\n\n/**\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n *\n * Special cases:\n *  - returns `+Inf` if any of arguments is infinite\n *  - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n */\n@SinceKotlin(\"1.2\")\npublic expect fun hypot(x: Double, y: Double): Double\n\n/**\n * Computes the positive square root of the value [x].\n *\n * Special cases:\n *  - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sqrt(x: Double): Double\n\n/**\n * Computes Euler's number `e` raised to the power of the value [x].\n *\n * Special cases:\n *  - `exp(NaN)` is `NaN`\n *  - `exp(+Inf)` is `+Inf`\n *  - `exp(-Inf)` is `0.0`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun exp(x: Double): Double\n\n/**\n * Computes `exp(x) - 1`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n *  - `expm1(NaN)` is `NaN`\n *  - `expm1(+Inf)` is `+Inf`\n *  - `expm1(-Inf)` is `-1.0`\n *\n * @see [exp] function.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun expm1(x: Double): Double\n\n/**\n * Computes the logarithm of the value [x] to the given [base].\n *\n * Special cases:\n *  - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n *  - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n *  - `log(+Inf, +Inf)` is `NaN`\n *  - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n *  - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n *\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log(x: Double, base: Double): Double\n\n/**\n * Computes the

natural logarithm (base `E`) of the value [x].\n *\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ln(x: Double): Double\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log10(x: Double): Double\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log2(x: Double): Double\n\n/**\n * Computes `ln(x + 1)`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x < -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n *\n * @see [ln] function\n * @see [expm1] function\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ln1p(x: Double): Double\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n\n * @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ceil(x: Double): Double\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n\n * @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun floor(x: Double): Double\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n *\n * @return the value [x] having its fractional part truncated.\n *\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun truncate(x: Double): Double\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n *\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun round(x: Double): Double\n\n/**\n * Returns the absolute value of the given value [x].\n *\n * Special cases:\n * - `abs(NaN)` is `NaN`\n *\n * @see absoluteValue extension property for [Double]\n */\n@SinceKotlin(\"1.2\")\npublic expect fun abs(x: Double): Double\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `sign(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sign(x: Double): Double\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun min(a: Double, b: Double): Double\n\n/**\n * Returns the greater of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun max(a: Double, b: Double): Double\n\n// extensions\n\n/**\n * Raises this value to the power [x].\n *\n * Special cases:\n * - `b.pow(0.0)` is `1.0`\n * - `b.pow(1.0) == b`\n * - `b.pow(NaN)` is `NaN`\n * - `NaN.pow(x)` is `NaN` for `x != 0.0`\n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.pow(x: Double): Double\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of [pow] for details.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.pow(n: Int): Double\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\npublic expect val Double.absoluteValue: Double\n\n/**\n * Returns the sign of this value:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `NaN.sign` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect val Double.sign: Double\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n *\n * If [sign] is `NaN` the sign of the result is undefined.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.withSign(sign: Double): Double\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.withSign(sign: Int): Double\n\n/**\n * Returns the ulp (unit in the last place) of this value.\n *\n * An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.\n *\n * Special Cases:\n * - `NaN.ulp` is `NaN`\n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf`\n * - `0.0.ulp` is `Double.MIN_VALUE`\n */\n@SinceKotlin(\"1.2\")\npublic expect val Double.ulp: Double\n\n/**\n * Returns the [Double] value nearest to this value in direction of positive infinity.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.nextUp():

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Double\n\n/**\n * Returns the [Double] value nearest to this value in direction of negative infinity.\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun Double.nextDown(): Double\n\n/**\n * Returns the [Double] value
nearest to this value in direction from this value towards the value [to].\n *\n * Special cases:\n *   -
`x.nextTowards(y)` is `NaN` if either `x` or `y` are `NaN`\n *   - `x.nextTowards(x) == x`\n *\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun Double.nextTowards(to: Double): Double\n\n/**\n * Rounds this
[Double] value to the nearest integer and converts the result to [Int].\n * Ties are rounded towards positive infinity.\n
*\n * Special cases:\n *   - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n *   -
`x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException
when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Double.roundToInt(): Int\n\n/**\n *
Rounds this [Double] value to the nearest integer and converts the result to [Long].\n * Ties are rounded towards
positive infinity.\n *\n * Special cases:\n *   - `x.roundToLong() == Long.MAX_VALUE` when `x >
Long.MAX_VALUE`\n *   - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n *
@throws IllegalArgumentException when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun
Double.roundToLong(): Long\n\n// endregion\n\n\n\n// region ================ Float Math
======================================\n\n/** Computes the sine of the angle [x] given in
radians.\n *\n *  Special cases:\n *   - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun
sin(x: Float): Float\n\n/** Computes the cosine of the angle [x] given in radians.\n *\n *  Special cases:\n *   -
`cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun cos(x: Float): Float\n\n/** Computes
the tangent of the angle [x] given in radians.\n *\n *  Special cases:\n *   - `tan(NaN|+Inf|-Inf)` is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun tan(x: Float): Float\n\n/**\n * Computes the arc sine of the value
[x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n *   -
`asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun asin(x: Float):
Float\n\n/**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the range from `0.0`
to `PI` radians.\n *\n * Special cases:\n *   - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun acos(x: Float): Float\n\n/**\n * Computes the arc tangent of the value
[x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n *\n * Special cases:\n *   -
`atan(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun atan(x: Float): Float\n\n/**\n * Returns the
angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x, y)` by
computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to `PI`
radians.\n *\n * Special cases:\n *   - `atan2(0.0, 0.0)` is `0.0`\n *   - `atan2(0.0, x)` is  `0.0` for `x > 0` and `PI` for
`x < 0`\n *   - `atan2(-0.0, x)` is `-0.0` for 'x > 0` and `-PI` for `x < 0`\n *   - `atan2(y, +Inf)` is `0.0` for `0 < y <
+Inf` and `-0.0` for '-Inf < y < 0`\n *   - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n *   -
`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n *   - `atan2(+Inf, x)` is `PI/2` for finite `x`y\n *   -
`atan2(-Inf, x)` is `-PI/2` for finite `x`\n *   - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun atan2(y: Float, x: Float): Float\n\n/**\n * Computes the hyperbolic
sine of the value [x].\n *\n * Special cases:\n *   - `sinh(NaN)` is `NaN`\n *   - `sinh(+Inf)` is `+Inf`\n *   - `sinh(-
Inf)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sinh(x: Float): Float\n\n/**\n * Computes the
hyperbolic cosine of the value [x].\n *\n * Special cases:\n *   - `cosh(NaN)` is `NaN`\n *   - `cosh(+Inf|-Inf)` is
`+Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun cosh(x: Float): Float\n\n/**\n * Computes the hyperbolic
tangent of the value [x].\n *\n * Special cases:\n *   - `tanh(NaN)` is `NaN`\n *   - `tanh(+Inf)` is `1.0`\n *   - `tanh(-
Inf)` is `-1.0`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun tanh(x: Float): Float\n\n/**\n * Computes the inverse
hyperbolic sine of the value [x].\n *\n * The returned value is `y` such that `sinh(y) == x`.\n *\n * Special cases:\n *
- `asinh(NaN)` is `NaN`\n *   - `asinh(+Inf)` is `+Inf`\n *   - `asinh(-Inf)` is `-Inf`\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun asinh(x: Float): Float\n\n/**\n * Computes the inverse hyperbolic
cosine of the value [x].\n *\n * The returned value is positive `y` such that `cosh(y) == x`.\n *\n * Special cases:\n *
- `acosh(NaN)` is `NaN`\n *   - `acosh(x)` is `NaN` when `x < 1`\n *   - `acosh(+Inf)` is `+Inf`\n
*/\n@SinceKotlin(\"1.2\")\npublic expect fun acosh(x: Float): Float\n\n/**\n * Computes the inverse hyperbolic
tangent of the value [x].\n *\n * The returned value is `y` such that `tanh(y) == x`.\n *\n * Special cases:\n *   -
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`tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `tanh(1.0)` is `+Inf`\n * - `tanh(-1.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun atanh(x: Float): Float\n\n/**\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n *\n * Special cases:\n * - returns `+Inf` if any of arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n */\n@SinceKotlin(\"1.2\")\npublic expect fun hypot(x: Float, y: Float): Float\n\n/**\n * Computes the positive square root of the value [x].\n *\n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sqrt(x: Float): Float\n\n/**\n * Computes Euler's number `e` raised to the power of the value [x].\n *\n * Special cases:\n * - `exp(NaN)` is `NaN`\n * - `exp(+Inf)` is `+Inf`\n * - `exp(-Inf)` is `0.0`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun exp(x: Float): Float\n\n/**\n * Computes `exp(x) - 1`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n * - `expm1(-Inf)` is `-1.0`\n *\n * @see [exp] function.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun expm1(x: Float): Float\n\n/**\n * Computes the logarithm of the value [x] to the given [base].\n *\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n *\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log(x: Float, base: Float): Float\n\n/**\n * Computes the natural logarithm (base `E`) of the value [x].\n *\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ln(x: Float): Float\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log10(x: Float): Float\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n *\n * @see [ln] function for special cases.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun log2(x: Float): Float\n\n/**\n * Computes `ln(a + 1)`.\n *\n * This function can be implemented to produce more precise result for [x] near zero.\n *\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x < -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n *\n * @see [ln] function\n * @see [expm1] function\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ln1p(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n\n * @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun ceil(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity.\n\n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n *\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun floor(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n *\n * @return the value [x] having its fractional part truncated.\n *\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun truncate(x: Float): Float\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n *\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun round(x: Float): Float\n\n\n/**\n * Returns the absolute value of the given value [x].\n *\n * Special cases:\n * - `abs(NaN)` is `NaN`\n *\n * @see absoluteValue extension property for [Float]\n */\n@SinceKotlin(\"1.2\")\npublic expect fun abs(x: Float): Float\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `sign(NaN)` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun sign(x: Float): Float\n\n\n\n/**\n * Returns the smaller of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun min(a: Float, b: Float): Float\n\n/**\n * Returns the greater of two values.\n *\n * If either value is `NaN`, then the result is `NaN`.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun max(a: Float, b: Float): Float\n\n// extensions\n\n\n/**\n * Raises this value to the power [x].\n *\n * Special cases:\n * - `b.pow(0.0)` is `1.0`\n * - `b.pow(1.0) == b`\n * - `b.pow(NaN)` is `NaN`\n * - `NaN.pow(x)` is

`NaN` for `x != 0.0`\n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`\n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.pow(x: Float): Float\n\n/**\n * Raises this value to the integer power [n].\n *\n * See the other overload of [pow] for details.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.pow(n: Int): Float\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `NaN.absoluteValue` is `NaN`\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\npublic expect val Float.absoluteValue: Float\n\n/**\n * Returns the sign of this value:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n *\n * Special case:\n * - `NaN.sign` is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect val Float.sign: Float\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n *\n * If [sign] is `NaN` the sign of the result is undefined.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.withSign(sign: Float): Float\n\n/**\n * Returns this value with the sign bit same as of the [sign] value.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.withSign(sign: Int): Float\n\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`\n * - `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.roundToInt(): Int\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Long].\n * Ties are rounded towards positive infinity.\n *\n * Special cases:\n * - `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`\n * - `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`\n *\n * @throws IllegalArgumentException when this value is `NaN`\n */\n@SinceKotlin(\"1.2\")\npublic expect fun Float.roundToLong(): Long\n\n\n// endregion\n\n// region ================ Integer Math ==\n\n\n/**\n * Returns the absolute value of the given value [n].\n *\n * Special cases:\n * - `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow\n *\n * @see absoluteValue extension property for [Int]\n */\n@SinceKotlin(\"1.2\")\npublic expect fun abs(n: Int): Int\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun min(a: Int, b: Int): Int\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun max(a: Int, b: Int): Int\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\npublic expect val Int.absoluteValue: Int\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n */\n@SinceKotlin(\"1.2\")\npublic expect val Int.sign: Int\n\n\n/**\n * Returns the absolute value of the given value [n].\n *\n * Special cases:\n * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow\n *\n * @see absoluteValue extension property for [Long]\n */\n@SinceKotlin(\"1.2\")\npublic expect fun abs(n: Long): Long\n\n/**\n * Returns the smaller of two values.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun min(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin(\"1.2\")\npublic expect fun max(a: Long, b: Long): Long\n\n/**\n * Returns the absolute value of this value.\n *\n * Special cases:\n * - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n *\n * @see abs function\n */\n@SinceKotlin(\"1.2\")\npublic expect val Long.absoluteValue: Long\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n */\n@SinceKotlin(\"1.2\")\npublic expect val Long.sign: Int\n\n// endregion\n"],"names":[],"mappings":"AAWC,CAXA,yB;EACG,IAAI,OAAO,MAAO,KAAI,UAAW,IAAG,MAAM,IAA1C,C;IACI,MAAM,CAAC,QAAD,EAAW,CAAC,SAAD,EAAY,CAAC,SAAD,EAAY,CAAC,UAAD,EAAa,OAAAxB,C;SAEL,IAAI,OAAO,OAAQ,KAAI,QAAS,IAAG,C;IACD,OAAO,CAAC,MAAM,QAAP,C;IAAiB,IAAI,OAAO,C;;IAGP,IAAI,OAAQ,GAAE,E;IACd,OAAO,CAAC,IAAI,OAAO,C;;CAEd,IAAI,MAAM,QAAS,IAAG,kB;EAGC,MAAM,eAAgB,IAAG,C;IAAC,MAAM,CAAC,MAAM,QAAP,C;IAAiB,IAAI,OAAO,C;;IAGP,IAAI,OAAQ,GAAE,E;IACd,OAAO,CAAC

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,IAAI,CAAC,KAAL,C;QAAY,OAAO,I;MACnB,OAAO,M;K;IAGX,+B;MpB7+CI,IAAI,EoBu/CI,KAAK,CpBv/CT,CAAJ,C;QACI,coBs/Cc,sD;QpBr/Cd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoBs/CV,OAAO,uBAAoB,gBAAV,iBAAO,CAAP,IAAU,EAAc,CAAd,CAAc,B,C;K;IAGX,+B;MpB3/CI,IAAI,EoBqgDI,KAAK,CpBrgDT,CAAJ,C;QACI,coBog Dc,sD;QpBng Dd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoBog DV,OAAO,uBAAoB,gBAAV,iBAAO,CAAP,IAAU,EAAc,CAAd,CAAc,B,C;K;IAGX,+B;MpBzgDI,IAAI,EoBmhDI,KAAK,CpBnhDT,CAAJ,C;QACI,coBkh Dc,sD;QpBjh Dd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoBkh DV,OAAO,uBAAoB,gBAAV,iBAAO,CAAP,IAAU,EAAc,CAAd,CAAc,B,C;K;IAGX,+B;MpBvhDI,IAAI,EoBiiDI,KAAK,CpBjiDT,CAAJ,C;QACI,coBgi Dc,sD;QpB/h Dd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoBgi DV,OAAO,uBAAoB,gBAAV,iBAAO,CAAP,IAAU,EAAc,CAAd,CAAc,B,C;K;IAGX,+B;MpBriDI,IAAI,EoB+iDI,KAAK,CpB/iDT,CAAJ,C;QACI,coBgj Dc,sD;QpB/i Dd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoBgj DV,OAAO,uBAAoB,gBAAV,iBAAO,CAAP,IAAU,EAAc,CAAd,CAAc,B,C;K;IAGX,+B;MpBnjDI,IAAI,EoB6jDI,KAAK,CpB7jDT,CAAJ,C;QACI,coB4j Dc,sD;QpB3j Dd,MAAM,gCAAyB,OAAQ,WAAjC,C;OoB4j 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D,C;K;wCAGV,Y;MAAiC,8B;K;;;IA5BrC,iC;MAAA,gC;QAAA,e;OAAA,yB;K;IA+BA,iC;MAA8D,6BAAkB,SA
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pD,oB;MAAsE,c;;Qa0kDtD,Q;QADhB,IAAI,cbzkDyD,QaykDzD,iBbzkDyD,QaykDnC,UAA1B,C;UAAqC,aAAO
,I;UAAP,e;SACrB,Ob1kD6C,Qa0kD7C,W;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IAAI,Cb1kDkD,oBa0k
DvC,Ob1kDuC,Ca0kDtD,C;YAAyB,aAAO,K;YAAP,e;;QAC/C,aAAO,I;;;Mb3kDsD,iB;K;2CAC7D,Y;MAAuC,O
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+D;MAAA,mB;QAMwD,uB;O;KANxD,C;2FAQA,yB;MAAA,+D;MAAA,mB;QAMoD,uB;O;KANpD,C;IAQA,
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JP,U;UVI6B,eAAI,KUHtB,KVGsB,CAAJ,C;;QAC7B,OAAO,I;O;KAdX,C;wFAiBA,yB;McpGA,+D;MdoGA,gC;
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MX,yC;MAAkD,QAAM,cAAN,C;aAC9C,C;UAD8C,OACzC,W;aACL,C;UAF8C,OAEzC,OAAO,sBAAK,CAAL,
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;K;6CACpE,e;MAA+B,OAAA,QAAI,WAAI,GAAJ,C;K;0FACT,Y;MAAQ,OAAA,QAAI,K;K;4FACH,Y;MAAQ,
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,Y;MAAkC,OAAA,QAAI,W;K;iGACf,Y;MAAQ,OAAA,QAAI,K;K;kDACnC,Y;MAAkC,OAAA,QAAI,U;K;4D
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/C,Y;MAAuB,QAAI,Q;K;qEAE3B,e;MAAmD,gBAAJ,Q;MAAI,4B;M9JqOxC,Q;MALX,YAAY,oB8JhOyD,G9Jg
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A+B,Q;K;kCAC/B,Y;MAAkC,W;K;gFAEX,Y;MAAQ,Q;K;iCAC/B,Y;MAAkC,W;K;2CAElC,e;MAA+C,Y;K;6C
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;K;4FTuBX,yB;MAAA,wE;MAAA,mB;QAK8D,2B;O;KAL9D,C;IAOA,8B;MAU+E,OAAM,QAAN,KAAM,EAA
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CiB,aS3DxB,W;QT2DA,OS1DO,SIyB2C,Q;O;KbiBtD,C;uFAyBA,yB;MavCA,uE;MbuCA,0C;QalCyC,gBAA9B,
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1.18 javapoet 1.2.0

1.18.1 Available under license :

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* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/CodeWriter.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/JavaFile.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/TypeSpec.java
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* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/TypeVariableName.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/Util.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/ArrayTypeName.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/ParameterizedTypeName.java
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* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/WildcardTypeName.java
* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/MethodSpec.java
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* /opt/cola/permits/1294624941_1648234625.07/0/javapoet-1-2-0-sources-jar/com/squareup/javapoet/ClassName.java

1.19 kotlin-stdlib-common 1.4.10

1.19.1 Available under license :

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1.20 animal-sniffer-annotation 1.18

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1.21 io-grpc-grpc-context 1.46.0

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1.24 opentelemetry-java 1.13.0

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1.25 error_prone_annotations 2.10.0

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1.26 jackson-core 2.13.4

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1.27 opentracing-noop 0.31.0

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1.28 asm 9.0

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1.29 checker-qual 3.12.0

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```
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">

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 <meta http-equiv="Content-Type" content="text/html;charset=utf-8" />
 <title>EasyMock License</title>
 <link rel="stylesheet" href="easymock.css" />
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<body><div class="bodywidth">

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</div>
```

</body>
</html>

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1.34 apache-httpmime 4.5.12

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1.35 antlr 4.7.2

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*/

/** The definitive ANTLR v3 tree grammar to walk/visit ANTLR v4 grammars.
*  Parses trees created by ANTLRParser.g.
*
*  Rather than have multiple tree grammars, one for each visit, I'm
*  creating this generic visitor that knows about context. All of the
*  boilerplate pattern recognition is done here. Then, subclasses can
*  override the methods they care about. This prevents a lot of the same
*  context tracking stuff like "set current alternative for current
*  rule node" that is repeated in lots of tree filters.
*/
tree grammar GrammarTreeVisitor;
options {
 language      = Java;
 tokenVocab    = ANTLRParser;
 ASTLabelType  = GrammarAST;
}

// Include the copyright in this source and also the generated source
@header {
/*
```

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*/
```
package org.antlr.v4.parse;
import org.antlr.v4.Tool;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import java.lang.reflect.InvocationTargetException;
import java.lang.reflect.Method;
}

@members {
public String grammarName;
public GrammarAST currentRuleAST;
public String currentModeName = LexerGrammar.DEFAULT_MODE_NAME;
public String currentRuleName;
public GrammarAST currentOuterAltRoot;
public int currentOuterAltNumber = 1; // 1..n
public int rewriteEBNFLevel = 0;

public GrammarTreeVisitor() { this(null); }

// Should be abstract but can't make gen'd parser abstract;
// subclasses should implement else everything goes to stderr!
```

```
public ErrorManager getErrorManager() { return null; }

public void visitGrammar(GrammarAST t) { visit(t, "grammarSpec"); }
public void visit(GrammarAST t, String ruleName) {
 CommonTreeNodeStream nodes = new CommonTreeNodeStream(new GrammarASTAdaptor(), t);
 setTreeNodeStream(nodes);
 try {
  Method m = getClass().getMethod(ruleName);
  m.invoke(this);
 }
 catch (Throwable e) {
  ErrorManager errMgr = getErrorManager();
  if ( e instanceof InvocationTargetException ) {
   e = e.getCause();
  }
  //e.printStackTrace(System.err);
  if ( errMgr==null ) {
   System.err.println("can't find rule "+ruleName+
         " or tree structure error: "+t.toStringTree()
         );
   e.printStackTrace(System.err);
  }
  else errMgr.toolError(ErrorType.INTERNAL_ERROR, e);
 }
}

public void discoverGrammar(GrammarRootAST root, GrammarAST ID) { }
public void finishPrequels(GrammarAST firstPrequel) { }
public void finishGrammar(GrammarRootAST root, GrammarAST ID) { }

public void grammarOption(GrammarAST ID, GrammarAST valueAST) { }
public void ruleOption(GrammarAST ID, GrammarAST valueAST) { }
public void blockOption(GrammarAST ID, GrammarAST valueAST) { }
public void defineToken(GrammarAST ID) { }
public void defineChannel(GrammarAST ID) { }
public void globalNamedAction(GrammarAST scope, GrammarAST ID, ActionAST action) { }
public void importGrammar(GrammarAST label, GrammarAST ID) { }

public void modeDef(GrammarAST m, GrammarAST ID) { }

public void discoverRules(GrammarAST rules) { }
public void finishRules(GrammarAST rule) { }
public void discoverRule(RuleAST rule, GrammarAST ID, List<GrammarAST> modifiers,
      ActionAST arg, ActionAST returns, GrammarAST thrws,
      GrammarAST options, ActionAST locals,
      List<GrammarAST> actions,
      GrammarAST block) { }
public void finishRule(RuleAST rule, GrammarAST ID, GrammarAST block) { }
```

```
public void discoverLexerRule(RuleAST rule, GrammarAST ID, List<GrammarAST> modifiers,
                              GrammarAST block) { }
public void finishLexerRule(RuleAST rule, GrammarAST ID, GrammarAST block) { }
public void ruleCatch(GrammarAST arg, ActionAST action) { }
public void finallyAction(ActionAST action) { }
public void discoverOuterAlt(AltAST alt) { }
public void finishOuterAlt(AltAST alt) { }
public void discoverAlt(AltAST alt) { }
public void finishAlt(AltAST alt) { }

public void ruleRef(GrammarAST ref, ActionAST arg) { }
public void tokenRef(TerminalAST ref) { }
public void elementOption(GrammarASTWithOptions t, GrammarAST ID, GrammarAST valueAST) { }
public void stringRef(TerminalAST ref) { }
public void wildcardRef(GrammarAST ref) { }
public void actionInAlt(ActionAST action) { }
public void sempredInAlt(PredAST pred) { }
public void label(GrammarAST op, GrammarAST ID, GrammarAST element) { }
public void lexerCallCommand(int outerAltNumber, GrammarAST ID, GrammarAST arg) { }
public void lexerCommand(int outerAltNumber, GrammarAST ID) { }

protected void enterGrammarSpec(GrammarAST tree) { }
protected void exitGrammarSpec(GrammarAST tree) { }

protected void enterPrequelConstructs(GrammarAST tree) { }
protected void exitPrequelConstructs(GrammarAST tree) { }

protected void enterPrequelConstruct(GrammarAST tree) { }
protected void exitPrequelConstruct(GrammarAST tree) { }

protected void enterOptionsSpec(GrammarAST tree) { }
protected void exitOptionsSpec(GrammarAST tree) { }

protected void enterOption(GrammarAST tree) { }
protected void exitOption(GrammarAST tree) { }

protected void enterOptionValue(GrammarAST tree) { }
protected void exitOptionValue(GrammarAST tree) { }

protected void enterDelegateGrammars(GrammarAST tree) { }
protected void exitDelegateGrammars(GrammarAST tree) { }

protected void enterDelegateGrammar(GrammarAST tree) { }
protected void exitDelegateGrammar(GrammarAST tree) { }

protected void enterTokensSpec(GrammarAST tree) { }
protected void exitTokensSpec(GrammarAST tree) { }
```

```
protected void enterTokenSpec(GrammarAST tree) { }
protected void exitTokenSpec(GrammarAST tree) { }

protected void enterChannelsSpec(GrammarAST tree) { }
protected void exitChannelsSpec(GrammarAST tree) { }

protected void enterChannelSpec(GrammarAST tree) { }
protected void exitChannelSpec(GrammarAST tree) { }

protected void enterAction(GrammarAST tree) { }
protected void exitAction(GrammarAST tree) { }

protected void enterRules(GrammarAST tree) { }
protected void exitRules(GrammarAST tree) { }

protected void enterMode(GrammarAST tree) { }
protected void exitMode(GrammarAST tree) { }

protected void enterLexerRule(GrammarAST tree) { }
protected void exitLexerRule(GrammarAST tree) { }

protected void enterRule(GrammarAST tree) { }
protected void exitRule(GrammarAST tree) { }

protected void enterExceptionGroup(GrammarAST tree) { }
protected void exitExceptionGroup(GrammarAST tree) { }

protected void enterExceptionHandler(GrammarAST tree) { }
protected void exitExceptionHandler(GrammarAST tree) { }

protected void enterFinallyClause(GrammarAST tree) { }
protected void exitFinallyClause(GrammarAST tree) { }

protected void enterLocals(GrammarAST tree) { }
protected void exitLocals(GrammarAST tree) { }

protected void enterRuleReturns(GrammarAST tree) { }
protected void exitRuleReturns(GrammarAST tree) { }

protected void enterThrowsSpec(GrammarAST tree) { }
protected void exitThrowsSpec(GrammarAST tree) { }

protected void enterRuleAction(GrammarAST tree) { }
protected void exitRuleAction(GrammarAST tree) { }

protected void enterRuleModifier(GrammarAST tree) { }
protected void exitRuleModifier(GrammarAST tree) { }
```

```
protected void enterLexerRuleBlock(GrammarAST tree) { }
protected void exitLexerRuleBlock(GrammarAST tree) { }

protected void enterRuleBlock(GrammarAST tree) { }
protected void exitRuleBlock(GrammarAST tree) { }

protected void enterLexerOuterAlternative(AltAST tree) { }
protected void exitLexerOuterAlternative(AltAST tree) { }

protected void enterOuterAlternative(AltAST tree) { }
protected void exitOuterAlternative(AltAST tree) { }

protected void enterLexerAlternative(GrammarAST tree) { }
protected void exitLexerAlternative(GrammarAST tree) { }

protected void enterLexerElements(GrammarAST tree) { }
protected void exitLexerElements(GrammarAST tree) { }

protected void enterLexerElement(GrammarAST tree) { }
protected void exitLexerElement(GrammarAST tree) { }

protected void enterLabeledLexerElement(GrammarAST tree) { }
protected void exitLabeledLexerElement(GrammarAST tree) { }

protected void enterLexerBlock(GrammarAST tree) { }
protected void exitLexerBlock(GrammarAST tree) { }

protected void enterLexerAtom(GrammarAST tree) { }
protected void exitLexerAtom(GrammarAST tree) { }

protected void enterActionElement(GrammarAST tree) { }
protected void exitActionElement(GrammarAST tree) { }

protected void enterAlternative(AltAST tree) { }
protected void exitAlternative(AltAST tree) { }

protected void enterLexerCommand(GrammarAST tree) { }
protected void exitLexerCommand(GrammarAST tree) { }

protected void enterLexerCommandExpr(GrammarAST tree) { }
protected void exitLexerCommandExpr(GrammarAST tree) { }

protected void enterElement(GrammarAST tree) { }
protected void exitElement(GrammarAST tree) { }

protected void enterAstOperand(GrammarAST tree) { }
protected void exitAstOperand(GrammarAST tree) { }
```

```
protected void enterLabeledElement(GrammarAST tree) { }
protected void exitLabeledElement(GrammarAST tree) { }

protected void enterSubrule(GrammarAST tree) { }
protected void exitSubrule(GrammarAST tree) { }

protected void enterLexerSubrule(GrammarAST tree) { }
protected void exitLexerSubrule(GrammarAST tree) { }

protected void enterBlockSuffix(GrammarAST tree) { }
protected void exitBlockSuffix(GrammarAST tree) { }

protected void enterEbnfSuffix(GrammarAST tree) { }
protected void exitEbnfSuffix(GrammarAST tree) { }

protected void enterAtom(GrammarAST tree) { }
protected void exitAtom(GrammarAST tree) { }

protected void enterBlockSet(GrammarAST tree) { }
protected void exitBlockSet(GrammarAST tree) { }

protected void enterSetElement(GrammarAST tree) { }
protected void exitSetElement(GrammarAST tree) { }

protected void enterBlock(GrammarAST tree) { }
protected void exitBlock(GrammarAST tree) { }

protected void enterRuleref(GrammarAST tree) { }
protected void exitRuleref(GrammarAST tree) { }

protected void enterRange(GrammarAST tree) { }
protected void exitRange(GrammarAST tree) { }

protected void enterTerminal(GrammarAST tree) { }
protected void exitTerminal(GrammarAST tree) { }

protected void enterElementOptions(GrammarAST tree) { }
protected void exitElementOptions(GrammarAST tree) { }

protected void enterElementOption(GrammarAST tree) { }
protected void exitElementOption(GrammarAST tree) { }

 @Override
 public void traceIn(String ruleName, int ruleIndex)  {
  System.err.println("enter "+ruleName+": "+input.LT(1));
 }

 @Override
```

```
 public void traceOut(String ruleName, int ruleIndex)  {
  System.err.println("exit "+ruleName+": "+input.LT(1));
 }
}

grammarSpec
@init {
 enterGrammarSpec($start);
}
@after {
 exitGrammarSpec($start);
}
   :   ^( GRAMMAR ID {grammarName=$ID.text;}
      {discoverGrammar((GrammarRootAST)$GRAMMAR, $ID);}
       prequelConstructs
      {finishPrequels($prequelConstructs.firstOne);}
       rules mode*
      {finishGrammar((GrammarRootAST)$GRAMMAR, $ID);}
   )
 ;

prequelConstructs returns [GrammarAST firstOne=null]
@init {
 enterPrequelConstructs($start);
}
@after {
 exitPrequelConstructs($start);
}
 : {$firstOne=$start;} prequelConstruct+
 |
 ;

prequelConstruct
@init {
 enterPrequelConstructs($start);
}
@after {
 exitPrequelConstructs($start);
}
 :   optionsSpec
   |   delegateGrammars
   |   tokensSpec
   |   channelsSpec
   |   action
   ;

optionsSpec
@init {
```

```
 enterOptionsSpec($start);
}
@after {
 exitOptionsSpec($start);
}
 : ^(OPTIONS option*)
   ;

option
@init {
 enterOption($start);
 boolean rule = inContext("RULE ...");
 boolean block = inContext("BLOCK ...");
}
@after {
 exitOption($start);
}
   :   ^(a=ASSIGN ID v=optionValue)
     {
     if ( block ) blockOption($ID, $v.start); // most specific first
     else if ( rule ) ruleOption($ID, $v.start);
     else grammarOption($ID, $v.start);
     }
   ;

optionValue returns [String v]
@init {
 enterOptionValue($start);
 $v = $start.token.getText();
}
@after {
 exitOptionValue($start);
}
   :   ID
   |   STRING_LITERAL
   |   INT
   ;

delegateGrammars
@init {
 enterDelegateGrammars($start);
}
@after {
 exitDelegateGrammars($start);
}
 :   ^(IMPORT delegateGrammar+)
 ;
```

```
delegateGrammar
@init {
 enterDelegateGrammar($start);
}
@after {
 exitDelegateGrammar($start);
}
   :  ^(ASSIGN label=ID id=ID) {importGrammar($label, $id);}
   |  id=ID      {importGrammar(null, $id);}
   ;

tokensSpec
@init {
 enterTokensSpec($start);
}
@after {
 exitTokensSpec($start);
}
 :  ^(TOKENS_SPEC tokenSpec+)
 ;

tokenSpec
@init {
 enterTokenSpec($start);
}
@after {
 exitTokenSpec($start);
}
 : ID     {defineToken($ID);}
 ;

channelsSpec
@init {
 enterChannelsSpec($start);
}
@after {
 exitChannelsSpec($start);
}
 :  ^(CHANNELS channelSpec+)
 ;

channelSpec
@init {
 enterChannelSpec($start);
}
@after {
 exitChannelSpec($start);
}
```

```
 : ID     {defineChannel($ID);}
 ;

action
@init {
 enterAction($start);
}
@after {
 exitAction($start);
}
 : ^(AT sc=ID? name=ID ACTION) {globalNamedAction($sc, $name, (ActionAST)$ACTION);}
 ;

rules
@init {
 enterRules($start);
}
@after {
 exitRules($start);
}
   : ^(RULES {discoverRules($RULES);} (rule|lexerRule)* {finishRules($RULES);})
   ;

mode
@init {
 enterMode($start);
}
@after {
 exitMode($start);
}
 : ^( MODE ID {currentModeName=$ID.text; modeDef($MODE, $ID);} lexerRule* )
 ;

lexerRule
@init {
 enterLexerRule($start);
 List<GrammarAST> mods = new ArrayList<GrammarAST>();
 currentOuterAltNumber=0;
}
@after {
 exitLexerRule($start);
}
 : ^( RULE TOKEN_REF
   {currentRuleName=$TOKEN_REF.text; currentRuleAST=$RULE;}
   (^(RULEMODIFIERS m=FRAGMENT {mods.add($m);}))?
       {discoverLexerRule((RuleAST)$RULE, $TOKEN_REF, mods, (GrammarAST)input.LT(1));}
       lexerRuleBlock
       {
```

```
      finishLexerRule((RuleAST)$RULE, $TOKEN_REF, $lexerRuleBlock.start);
      currentRuleName=null; currentRuleAST=null;
      }
      )
 ;

rule
@init {
 enterRule($start);
 List<GrammarAST> mods = new ArrayList<GrammarAST>();
 List<GrammarAST> actions = new ArrayList<GrammarAST>(); // track roots
 currentOuterAltNumber=0;
}
@after {
 exitRule($start);
}
 :   ^( RULE RULE_REF {currentRuleName=$RULE_REF.text; currentRuleAST=$RULE;}
   (^(RULEMODIFIERS (m=ruleModifier{mods.add($m.start);})+))?
   ARG_ACTION?
      ret=ruleReturns?
      thr=throwsSpec?
      loc=locals?
      ( opts=optionsSpec
     |   a=ruleAction {actions.add($a.start);}
     )*
      {discoverRule((RuleAST)$RULE, $RULE_REF, mods, (ActionAST)$ARG_ACTION,
          $ret.start!=null?(ActionAST)$ret.start.getChild(0):null,
          $thr.start, $opts.start,
          $loc.start!=null?(ActionAST)$loc.start.getChild(0):null,
          actions, (GrammarAST)input.LT(1));}
      ruleBlock exceptionGroup
      {finishRule((RuleAST)$RULE, $RULE_REF, $ruleBlock.start); currentRuleName=null; currentRuleAST=null;}
      )
   ;

exceptionGroup
@init {
 enterExceptionGroup($start);
}
@after {
 exitExceptionGroup($start);
}
   : exceptionHandler* finallyClause?
   ;

exceptionHandler
@init {
 enterExceptionHandler($start);
```

```
}
@after {
 exitExceptionHandler($start);
}
 : ^(CATCH ARG_ACTION ACTION) {ruleCatch($ARG_ACTION, (ActionAST)$ACTION);}
 ;

finallyClause
@init {
 enterFinallyClause($start);
}
@after {
 exitFinallyClause($start);
}
 : ^(FINALLY ACTION)    {finallyAction((ActionAST)$ACTION);}
 ;

locals
@init {
 enterLocals($start);
}
@after {
 exitLocals($start);
}
 : ^(LOCALS ARG_ACTION)
 ;

ruleReturns
@init {
 enterRuleReturns($start);
}
@after {
 exitRuleReturns($start);
}
 : ^(RETURNS ARG_ACTION)
 ;

throwsSpec
@init {
 enterThrowsSpec($start);
}
@after {
 exitThrowsSpec($start);
}
   : ^(THROWS ID+)
   ;

ruleAction
```

```
@init {
 enterRuleAction($start);
}
@after {
 exitRuleAction($start);
}
 : ^(AT ID ACTION)
 ;

ruleModifier
@init {
 enterRuleModifier($start);
}
@after {
 exitRuleModifier($start);
}
   : PUBLIC
   | PRIVATE
   | PROTECTED
   | FRAGMENT
   ;

lexerRuleBlock
@init {
 enterLexerRuleBlock($start);
}
@after {
 exitLexerRuleBlock($start);
}
   : ^( BLOCK
      ( {
       currentOuterAltRoot = (GrammarAST)input.LT(1);
     currentOuterAltNumber++;
     }
       lexerOuterAlternative
     )+
    )
   ;

ruleBlock
@init {
 enterRuleBlock($start);
}
@after {
 exitRuleBlock($start);
}
   : ^( BLOCK
      ( {
```

```
      currentOuterAltRoot = (GrammarAST)input.LT(1);
    currentOuterAltNumber++;
    }
      outerAlternative
     )+
    )
   ;

lexerOuterAlternative
@init {
 enterLexerOuterAlternative((AltAST)$start);
 discoverOuterAlt((AltAST)$start);
}
@after {
 finishOuterAlt((AltAST)$start);
 exitLexerOuterAlternative((AltAST)$start);
}
 : lexerAlternative
 ;


outerAlternative
@init {
 enterOuterAlternative((AltAST)$start);
 discoverOuterAlt((AltAST)$start);
}
@after {
 finishOuterAlt((AltAST)$start);
 exitOuterAlternative((AltAST)$start);
}
 : alternative
 ;

lexerAlternative
@init {
 enterLexerAlternative($start);
}
@after {
 exitLexerAlternative($start);
}
 : ^(LEXER_ALT_ACTION lexerElements lexerCommand+)
   |   lexerElements
   ;

lexerElements
@init {
 enterLexerElements($start);
}
```

```
@after {
 exitLexerElements($start);
}
  : ^(ALT lexerElement+)
  ;

lexerElement
@init {
 enterLexerElement($start);
}
@after {
 exitLexerElement($start);
}
 : labeledLexerElement
 | lexerAtom
 | lexerSubrule
 |   ACTION      {actionInAlt((ActionAST)$ACTION);}
 |   SEMPRED      {sempredInAlt((PredAST)$SEMPRED);}
 |   ^(ACTION elementOptions) {actionInAlt((ActionAST)$ACTION);}
 |   ^(SEMPRED elementOptions) {sempredInAlt((PredAST)$SEMPRED);}
 | EPSILON
 ;

labeledLexerElement
@init {
 enterLabeledLexerElement($start);
}
@after {
 exitLabeledLexerElement($start);
}
  :   ^((ASSIGN|PLUS_ASSIGN) ID (lexerAtom|block))
 ;

lexerBlock
@init {
 enterLexerBlock($start);
}
@after {
 exitLexerBlock($start);
}
 : ^(BLOCK optionsSpec? lexerAlternative+)
  ;

lexerAtom
@init {
 enterLexerAtom($start);
}
@after {
```

```
 exitLexerAtom($start);
}
  :   terminal
  |   ^(NOT blockSet)
  |   blockSet
  |   ^(WILDCARD elementOptions)
  |   WILDCARD
  | LEXER_CHAR_SET
  |   range
  |   ruleref
  ;

actionElement
@init {
 enterActionElement($start);
}
@after {
 exitActionElement($start);
}
 : ACTION
 |   ^(ACTION elementOptions)
 |   SEMPRED
 |   ^(SEMPRED elementOptions)
 ;

alternative
@init {
 enterAlternative((AltAST)$start);
 discoverAlt((AltAST)$start);
}
@after {
 finishAlt((AltAST)$start);
 exitAlternative((AltAST)$start);
}
 : ^(ALT elementOptions? element+)
 | ^(ALT elementOptions? EPSILON)
   ;

lexerCommand
@init {
 enterLexerCommand($start);
}
@after {
 exitLexerCommand($start);
}
 : ^(LEXER_ACTION_CALL ID lexerCommandExpr)
      {lexerCallCommand(currentOuterAltNumber, $ID, $lexerCommandExpr.start);}
 | ID
```

```
      {lexerCommand(currentOuterAltNumber, $ID);}
 ;

lexerCommandExpr
@init {
 enterLexerCommandExpr($start);
}
@after {
 exitLexerCommandExpr($start);
}
 : ID
 | INT
 ;

element
@init {
 enterElement($start);
}
@after {
 exitElement($start);
}
 : labeledElement
 | atom
 | subrule
 |   ACTION      {actionInAlt((ActionAST)$ACTION);}
 |   SEMPRED      {sempredInAlt((PredAST)$SEMPRED);}
 |   ^(ACTION elementOptions) {actionInAlt((ActionAST)$ACTION);}
 |   ^(SEMPRED elementOptions) {sempredInAlt((PredAST)$SEMPRED);}
 | range
 | ^(NOT blockSet)
 | ^(NOT block)
 ;

astOperand
@init {
 enterAstOperand($start);
}
@after {
 exitAstOperand($start);
}
 : atom
 | ^(NOT blockSet)
 | ^(NOT block)
 ;

labeledElement
@init {
 enterLabeledElement($start);
```

```
}
@after {
 exitLabeledElement($start);
}
 : ^((ASSIGN|PLUS_ASSIGN) ID element) {label($start, $ID, $element.start);}
 ;

subrule
@init {
 enterSubrule($start);
}
@after {
 exitSubrule($start);
}
 : ^(blockSuffix block)
 | block
   ;

lexerSubrule
@init {
 enterLexerSubrule($start);
}
@after {
 exitLexerSubrule($start);
}
 : ^(blockSuffix lexerBlock)
 | lexerBlock
   ;

blockSuffix
@init {
 enterBlockSuffix($start);
}
@after {
 exitBlockSuffix($start);
}
   : ebnfSuffix
   ;

ebnfSuffix
@init {
 enterEbnfSuffix($start);
}
@after {
 exitEbnfSuffix($start);
}
 : OPTIONAL
  | CLOSURE
```

```
  | POSITIVE_CLOSURE
 ;

atom
@init {
 enterAtom($start);
}
@after {
 exitAtom($start);
}
 : ^(DOT ID terminal)
 | ^(DOT ID ruleref)
  | ^(WILDCARD elementOptions) {wildcardRef($WILDCARD);}
  | WILDCARD     {wildcardRef($WILDCARD);}
  |   terminal
  | blockSet
  |   ruleref
  ;

blockSet
@init {
 enterBlockSet($start);
}
@after {
 exitBlockSet($start);
}
 : ^(SET setElement+)
 ;

setElement
@init {
 enterSetElement($start);
}
@after {
 exitSetElement($start);
}
 : ^(STRING_LITERAL elementOptions)    {stringRef((TerminalAST)$STRING_LITERAL);}
 | ^(TOKEN_REF elementOptions)   {tokenRef((TerminalAST)$TOKEN_REF);}
 | STRING_LITERAL                 {stringRef((TerminalAST)$STRING_LITERAL);}
 | TOKEN_REF                   {tokenRef((TerminalAST)$TOKEN_REF);}
 | ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
  {
  stringRef((TerminalAST)$a);
  stringRef((TerminalAST)$b);
  }
     |      LEXER_CHAR_SET
 ;
```

```
block
@init {
 enterBlock($start);
}
@after {
 exitBlock($start);
}
   : ^(BLOCK optionsSpec? ruleAction* ACTION? alternative+)
   ;

ruleref
@init {
 enterRuleref($start);
}
@after {
 exitRuleref($start);
}
   : ^(RULE_REF arg=ARG_ACTION? elementOptions?)
    {
    ruleRef($RULE_REF, (ActionAST)$ARG_ACTION);
    if ( $arg!=null ) actionInAlt((ActionAST)$arg);
    }
   ;

range
@init {
 enterRange($start);
}
@after {
 exitRange($start);
}
   : ^(RANGE STRING_LITERAL STRING_LITERAL)
   ;

terminal
@init {
 enterTerminal($start);
}
@after {
 exitTerminal($start);
}
   :  ^(STRING_LITERAL elementOptions)
         {stringRef((TerminalAST)$STRING_LITERAL);}
   | STRING_LITERAL    {stringRef((TerminalAST)$STRING_LITERAL);}
   | ^(TOKEN_REF elementOptions) {tokenRef((TerminalAST)$TOKEN_REF);}
   | TOKEN_REF        {tokenRef((TerminalAST)$TOKEN_REF);}
   ;
```

```
elementOptions
@init {
 enterElementOptions($start);
}
@after {
 exitElementOptions($start);
}
  : ^(ELEMENT_OPTIONS elementOption[(GrammarASTWithOptions)$start.getParent()]*)
  ;

elementOption[GrammarASTWithOptions t]
@init {
 enterElementOption($start);
}
@after {
 exitElementOption($start);
}
  : ID        {elementOption(t, $ID, null);}
  |  ^(ASSIGN id=ID v=ID)   {elementOption(t, $id, $v);}
  |  ^(ASSIGN ID v=STRING_LITERAL) {elementOption(t, $ID, $v);}
  |  ^(ASSIGN ID v=ACTION)   {elementOption(t, $ID, $v);}
  |  ^(ASSIGN ID v=INT)    {elementOption(t, $ID, $v);}
  ;
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/GrammarTreeVisitor.g
No license file was found, but licenses were detected in source scan.

```
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```
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*/

SwiftTypeInitMap ::= [
 "Int":"0",
 "Int64":"0",
 "Float":"0.0",
 "Double":"0.0",
 "Bool":"false",
 default:"nil" // anything other than a primitive type is an object
]
SwiftTypeMap ::= [
 "int":"Int",
 "float":"Float",
 "long":"Int64",
 "double":"Double",
 "bool":"Bool",
 "boolean":"Bool",
 default : key
]
// args must be <object-model-object>, <fields-resulting-in-STs>

accessLevelOpenOK(obj) ::= "<obj.accessLevel; null=\"open\">"
accessLevelNotOpen(obj) ::= "<obj.accessLevel; null=\"public\">"

ParserFile(file, parser, namedActions,contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<namedActions.header>
import Antlr4

<parser>
>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
```

```
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
* This interface defines a complete listener for a parse tree produced by
* {@link <file.parserName>}.
*/
<accessLevelNotOpen(file)> protocol <file.grammarName>Listener: ParseTreeListener {
 <file.listenerNames:{lname |
/**
<if(file.listenerLabelRuleNames.(lname))>
* Enter a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
* Enter a parse tree produced by {@link <file.parserName>#<lname>\}.
<endif>
- Parameters:
  - ctx: the parse tree
*/
func enter<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context)
/**
<if(file.listenerLabelRuleNames.(lname))>
* Exit a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
* Exit a parse tree produced by {@link <file.parserName>#<lname>\}.
<endif>
- Parameters:
  - ctx: the parse tree
*/
func exit<lname; format="cap">(_ ctx: <file.parserName>.<lname; format="cap">Context)}; separator="\n">
}
>>

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>

import Antlr4


/**
* This class provides an empty implementation of {@link <file.grammarName>Listener},
```

```
* which can be extended to create a listener which only needs to handle a subset
* of the available methods.
*/
<accessLevelOpenOK(file)> class <file.grammarName>BaseListener: <file.grammarName>Listener {
    <accessLevelNotOpen(file)> init() { \}
 <file.listenerNames:{lname |

/**
* {@inheritDoc\}
*
* \<p>The default implementation does nothing.\</p>
*/
<accessLevelOpenOK(file)> func enter<lname; format="cap">(_ ctx: <file.parserName>.<lname;
format="cap">Context) { \}
/**
* {@inheritDoc\}
*
* \<p>The default implementation does nothing.\</p>
*/
<accessLevelOpenOK(file)> func exit<lname; format="cap">(_ ctx: <file.parserName>.<lname;
format="cap">Context) { \}}; separator="\n">

 /**
  * {@inheritDoc\}
  *
  * \<p>The default implementation does nothing.\</p>
  */
 <accessLevelOpenOK(file)> func enterEveryRule(_ ctx: ParserRuleContext) { }
 /**
  * {@inheritDoc\}
  *
  * \<p>The default implementation does nothing.\</p>
  */
 <accessLevelOpenOK(file)> func exitEveryRule(_ ctx: ParserRuleContext) { }
 /**
  * {@inheritDoc\}
  *
  * \<p>The default implementation does nothing.\</p>
  */
 <accessLevelOpenOK(file)> func visitTerminal(_ node: TerminalNode) { }
 /**
  * {@inheritDoc\}
  *
  * \<p>The default implementation does nothing.\</p>
  */
 <accessLevelOpenOK(file)> func visitErrorNode(_ node: ErrorNode) { }
}
>>
```

```
VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
* This interface defines a complete generic visitor for a parse tree produced
* by {@link <file.parserName>}.
*
* @param \<T> The return type of the visit operation. Use {@link Void} for
* operations with no return type.
*/
<accessLevelOpenOK(file)> class <file.grammarName>Visitor\<T>: ParseTreeVisitor\<T> {
 <file.visitorNames:{lname |
/**
<if(file.visitorLabelRuleNames.(lname))>
* Visit a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.visitorLabelRuleNames.(lname)>\}.
<else>
* Visit a parse tree produced by {@link <file.parserName>#<lname>\}.
<endif>
- Parameters:
 - ctx: the parse tree
- returns: the visitor result
*/
<accessLevelOpenOK(file)> func visit<lname; format="cap">(_ ctx: <file.parserName>.<lname;
format="cap">Context) -> T {
 fatalError(#function + " must be overridden")
\}
}; separator="\n">
}
>>

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
<!package <file.genPackage>;!>
<endif>
<header>
import Antlr4

/**
* This class provides an empty implementation of {@link <file.grammarName>Visitor},
* which can be extended to create a visitor which only needs to handle a subset
```

```
* of the available methods.
*
* @param \<T> The return type of the visit operation. Use {@link Void} for
* operations with no return type.
*/
<accessLevelOpenOK(file)> class <file.grammarName>BaseVisitor\<T>: AbstractParseTreeVisitor\<T> {
 <file.visitorNames:{lname |
/**
* {@inheritDoc\}
*
* \<p>The default implementation returns the result of calling
* {@link #visitChildren\} on {@code ctx\}.\</p>
*/
<accessLevelOpenOK(file)> func visit<lname; format="cap">(_ ctx: <file.parserName>.<lname;
format="cap">Context) -> T? { return visitChildren(ctx) \}}; separator="\n">
}
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<!//@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})!>
<accessLevelOpenOK(parser)> class <parser.name>: <superClass; null="Parser"> {

 internal static var _decisionToDFA: [DFA] = {
        var decisionToDFA = [DFA]()
        let length = <parser.name>._ATN.getNumberOfDecisions()
        for i in 0..\<length {
         <!// decisionToDFA[i] = DFA(<parser.name>._ATN.getDecisionState(i)!, i);!>
          decisionToDFA.append(DFA(<parser.name>._ATN.getDecisionState(i)!, i))
         }
         return decisionToDFA
    }()

 internal static let _sharedContextCache = PredictionContextCache()

 <if(parser.tokens)>
 <accessLevelNotOpen(parser)>
 enum Tokens: Int {
  case EOF = -1, <parser.tokens:{k | <k> = <parser.tokens.(k)>}; separator=", ", wrap, anchor>
 }
      <endif>
```

```
 <accessLevelNotOpen(parser)>
 static let <parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>

 <accessLevelNotOpen(parser)>
 static let ruleNames: [String] = [
  <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
 ]

 <vocabulary(parser.literalNames, parser.symbolicNames,
                accessLevelNotOpen(parser))>

 override <accessLevelOpenOK(parser)>
 func getGrammarFileName() -> String { return "<parser.grammarFileName; format="java-escape">" }

 override <accessLevelOpenOK(parser)>
 func getRuleNames() -> [String] { return <parser.name>.ruleNames }

 override <accessLevelOpenOK(parser)>
 func getSerializedATN() -> String { return <parser.name>._serializedATN }

 override <accessLevelOpenOK(parser)>
 func getATN() -> ATN { return <parser.name>._ATN }

 <namedActions.members>
 <parser:(ctor)()>
 <funcs; separator="\n">

<if(sempredFuncs)>
 override <accessLevelOpenOK(parser)>
 func sempred(_ _localctx: RuleContext?, _ ruleIndex: Int,  _ predIndex: Int)throws -> Bool {
  switch (ruleIndex) {
  <parser.sempredFuncs.values:{f|
case  <f.ruleIndex>:
 return try <f.name>_sempred(_localctx?.castdown(<f.ctxType>.self), predIndex)}; separator="\n">
     default: return true
  }
  <!return true;!>
 }
 <sempredFuncs.values; separator="\n">
<endif>

 <atn>

 <accessLevelNotOpen(parser)>
 static let _serializedATN = <parser.name>ATN().jsonString

 <accessLevelNotOpen(parser)>
```

```
 static let _ATN = ATNDeserializer().deserializeFromJson(_serializedATN)
}
>>

vocabulary(literalNames, symbolicNames, accessLevel) ::= <<
private static let _LITERAL_NAMES: [String?] = [
 <literalNames:{t | <t>}; null="nil", separator=", ", wrap, anchor>
]
private static let _SYMBOLIC_NAMES: [String?] = [
 <symbolicNames:{t | <t>}; null="nil", separator=", ", wrap, anchor>
]
<accessLevel>
static let VOCABULARY = Vocabulary(_LITERAL_NAMES, _SYMBOLIC_NAMES)
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
override <accessLevelOpenOK(parser)>
func action(_ _localctx: RuleContext?,  _ ruleIndex: Int, _ actionIndex: Int) throws {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f|
case <f.ruleIndex>:
 <f.name>_action((_localctx as <f.ctxType>?), actionIndex)
  }; separator="\n">
 default: break
 }
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
override <accessLevelOpenOK(parser)>
func sempred(_ _localctx: RuleContext?, _  ruleIndex: Int,_   predIndex: Int) throws -> Bool {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f|
case <f.ruleIndex>:
 return try <f.name>_sempred(_localctx?.castdown(<f.ctxType>.self), predIndex)}; separator="\n">
 default: return true
 }
 <!return true;!>
}
<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(p) ::= <<

override <accessLevelOpenOK(parser)>
func getVocabulary() -> Vocabulary {
```

```
  return <p.name>.VOCABULARY
}

override <accessLevelNotOpen(parser)>
init(_ input:TokenStream) throws {
  RuntimeMetaData.checkVersion("4.7.2", RuntimeMetaData.VERSION)
 try super.init(input)
 _interp = ParserATNSimulator(self,<p.name>._ATN,<p.name>._decisionToDFA,
<parser.name>._sharedContextCache)
}

>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<
private func <r.name>_action(_ _localctx: <r.ctxType>?,  _ actionIndex: Int) {
 switch (actionIndex) {
 <actions:{index|
case <index>:
 <actions.(index)>
  }; separator="\n">
  default: break
 }
}
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
private func <r.name>_sempred(_ _localctx: <r.ctxType>!,  _ predIndex: Int) throws -> Bool {
 switch (predIndex) {
 <actions:{index|
   case <index>:return <actions.(index)>}; separator="\n">
     default: return true
 }
 <!return true;!>
}
>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<
<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
@discardableResult
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else> <accessLevelOpenOK(parser)> func
```

```
<endif><currentRule.name>(<if(first(args))>_ <endif><args; separator=", _">) throws -> <currentRule.ctxType> {
 var _localctx: <currentRule.ctxType> = <currentRule.ctxType>(_ctx, getState()<currentRule.args:{a | ,
<a.name>}>)
 try enterRule(_localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>)
 <namedActions.init>
 <locals; separator="\n">
 defer {
    <finallyAction>
    try! exitRule()
  }
 do {
<if(currentRule.hasLookaheadBlock)>
 var _alt:Int
<endif>
  <code>
 <postamble; separator="\n">
  <namedActions.after>
 }
 <if(exceptions)>
 <exceptions; separator="\n">
 <else>
 catch ANTLRException.recognition(let re) {
  _localctx.exception = re
  _errHandler.reportError(self, re)
  try _errHandler.recover(self, re)
 }
 <endif>

 return _localctx
}
>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else> <accessLevelNotOpen(parser)> final <endif>
func <currentRule.name>( <if(first(args))>_ <endif><args; separator=", _">) throws -> <currentRule.ctxType>   {
 return try <currentRule.name>(0<currentRule.args:{a | , <a.name>}>)
}
@discardableResult
private func <currentRule.name>(_ _p<args:{a | , <a>}>: Int) throws -> <currentRule.ctxType>   {
 let _parentctx: ParserRuleContext? = _ctx
 var _parentState: Int = getState()
 var _localctx: <currentRule.ctxType> = <currentRule.ctxType>(_ctx, _parentState<currentRule.args:{a | ,
```

```
<a.name>}>)
 var  _prevctx: <currentRule.ctxType> = _localctx
 var _startState: Int = <currentRule.startState>
 try enterRecursionRule(_localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>, _p)
 <namedActions.init>
 <locals; separator="\n">
 defer {
    <finallyAction>
    try! unrollRecursionContexts(_parentctx)
  }
 do {
<if(currentRule.hasLookaheadBlock)>
 var _alt: Int
<endif>
 <code>
 <postamble; separator="\n">
 <namedActions.after>
 }
 catch ANTLRException.recognition(let re) {
 _localctx.exception = re
 _errHandler.reportError(self, re)
 try _errHandler.recover(self, re)
 }

 return _localctx;
}
>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>_localctx =  <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(_localctx);<endif>
try enterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<!//{!>
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
<!//}!>
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = try _input.LT(1)<endif>
<preamble; separator="\n">
```

```
switch (<parser.name>.Tokens(rawValue: try _input.LA(1))!) {
<choice.altLook,alts:{look,alt | <cases(ttypes=look)>
 <alt>
 break}; separator="\n">
default:
 <error>
}
>>

LL1OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
switch (<parser.name>.Tokens(rawValue: try _input.LA(1))!) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break}; separator="\n">
default:
 break
}
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<preamble; separator="\n">
if (<expr>) {
 <alts; separator="\n">
}
<!else if ( !(<followExpr>) ) <error>!>
>>

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<preamble; separator="\n">
while (<loopExpr>) {
 <alts; separator="\n">
 setState(<choice.loopBackStateNumber>)
 try _errHandler.sync(self)
 <iteration>
}
>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.blockStartStateNumber>) <! alt block decision !>
try _errHandler.sync(self)
<preamble; separator="\n">
repeat {
```

```
 <alts; separator="\n">
 setState(<choice.stateNumber>); <! loopback/exit decision !>
 try _errHandler.sync(self)
 <iteration>
} while (<loopExpr>)
>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = try _input.LT(1)<endif>
<preamble; separator="\n">
switch(try getInterpreter().adaptivePredict(_input,<choice.decision>, _ctx)) {
<alts:{alt |
case <i>:
 <alt>
 break}; separator="\n">
default: break
}
>>

OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
switch (try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)) {
<alts:{alt |
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break}; separator="\n">
default: break
}
>>

StarBlock(choice, alts, sync, iteration) ::= <<
setState(<choice.stateNumber>)
try _errHandler.sync(self)
_alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
while (_alt != <choice.exitAlt> && _alt != ATN.INVALID_ALT_NUMBER) {
 if ( _alt==1<if(!choice.ast.greedy)>+1<endif> ) {
  <iteration>
  <alts> <! should only be one !>
 }
 setState(<choice.loopBackStateNumber>)
 try _errHandler.sync(self)
 _alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
}
```

```
>>

PlusBlock(choice, alts, error) ::= <<
setState(<choice.blockStartStateNumber>); <! alt block decision !>
try _errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>;
repeat {
 switch (_alt) {
 <alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break}; separator="\n">
 default:
  <error>
 }
 setState(<choice.loopBackStateNumber>); <! loopback/exit decision !>
 try _errHandler.sync(self)
 _alt = try getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx)
} while (_alt != <choice.exitAlt> && _alt !=  ATN.INVALID_ALT_NUMBER)
>>

Sync(s) ::= "sync(<s.expecting.name>);"

ThrowNoViableAlt(t) ::= "throw ANTLRException.recognition(e: NoViableAltException(self))"

TestSetInline(s) ::= <<
<!<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">!>
//closure
{ () -> Bool in
    <if(rest(s.bitsets))>var<else>let<endif> testSet: Bool = <first(s.bitsets):{bits |
<if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s, bits)><endif>}>
        <rest(s.bitsets):{bits | testSet = testSet || <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s,
bits)><else><bitsetInlineComparison(s, bits)><endif>}; separator="\n">
    return testSet
}()
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <<
<!(<testShiftInRange({<offsetShift(s.varName, bits.shift)>})> && ((1 \<\< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ttype | (1 \<\< <offsetShift(ttype, bits.shift)>)}; separator=" | ">)) != 0)!>
{  () -> Bool in
```

```
  <! let test: Bool = (<testShiftInRange({<offsetShift(s.varName, bits.shift)>})>)!>
  <!var temp: Int64 =  Int64(<offsetShift(s.varName, bits.shift)>)!>
  <!temp = (temp \< 0) ? (64 + (temp % 64 )) : (temp % 64)!>
  <!let test1: Int64 = (Int64(1) \<\< temp)!>
  <!var test2: Int64 = (<first(bits.ttypes):{ttype | Utils.bitLeftShift(<offsetShift(parserName(ttype), bits.shift)>)}>)!>
  <!<rest(bits.ttypes):{ttype | test2 = test2 | Utils.bitLeftShift(<offsetShift(parserName(ttype), bits.shift)>)};
separator="\n">!>
  let testArray: [Int] = [<s.varName>, <bits.ttypes:{ttype |<parserName(ttype)>}; separator=",">]
  <!var test2: Int64 = Utils.testBitLeftShiftArray(testArray)!>
   return  Utils.testBitLeftShiftArray(testArray, <bits.shift>)
}()
>>

isZero ::= [
"0": true,
default: false
]
parserName(ttype) ::= <%
<parser.name>.Tokens.<ttype>.rawValue
%>
offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName> == <parser.name>.Tokens.<ttype>.rawValue}; separator=" || ">
%>

cases(ttypes) ::= <<
<trunc(ttypes): {t | case .<t>:fallthrough}  ; separator="\n">
<last(ttypes): {t | case .<t>:}  ; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
setState(<r.stateNumber>)
<if(r.labels)>
try {
  let assignmentValue = try
<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChunks>)
  <r.labels:{l | <labelref(l)> = assignmentValue} ; separator="\n">
    }()
<else>try
<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChunks>)<endif>
>>

MatchToken(m) ::= <<
setState(<m.stateNumber>)
```

```
<if(m.labels)>
try {
  let assignmentValue = try match(<parser.name>.Tokens.<m.name>.rawValue)
  <m.labels:{l | <labelref(l)> = assignmentValue}  ; separator="\n">
    }()
<else>try match(<parser.name>.Tokens.<m.name>.rawValue)<endif>
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
setState(<m.stateNumber>)
<if(m.labels)><m.labels:{l | <labelref(l)> = }>try _input.LT(1)<endif>
<capture>
if (<if(invert)><m.varName> \<= 0 || <else>!<endif>(<expr>)) {
 <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>try _errHandler.recoverInline(self)<if(m.labels)> as
Token<endif>
}
else {
 _errHandler.reportMatch(self)
 try consume()
}
>>

Wildcard(w) ::= <<
setState(<w.stateNumber>)
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>try matchWildcard();
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
setState(<p.stateNumber>)
if (!(<chunks>)) {
   throw ANTLRException.recognition(e:FailedPredicateException(self, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>))
}
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
```

```
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "skip()"
LexerMoreCommand()  ::= "more()"
LexerPopModeCommand() ::= "popMode()"

LexerTypeCommand(arg)      ::= "_type = <arg>"
LexerChannelCommand(arg)   ::= "_channel = <arg>"
LexerModeCommand(arg)      ::= "_mode = <arg>"
LexerPushModeCommand(arg)  ::= "pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<a.name>"
LocalRef(a) ::= "_localctx.<a.name>"
RetValueRef(a) ::= "_localctx.<a.name>"
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getText()! : \"\")"
TokenPropertyRef_type(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getType() : 0)"
TokenPropertyRef_line(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getLine() : 0)"
TokenPropertyRef_pos(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getCharPositionInLine() : 0)"
TokenPropertyRef_channel(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getChannel() : 0)"
TokenPropertyRef_index(t) ::= "(<ctx(t)>.<t.label> != nil ? <ctx(t)>.<t.label>!.getTokenIndex() : 0)"
TokenPropertyRef_int(t) ::= "(<ctx(t)>.<t.label> != nil ? Int(<ctx(t)>.<t.label>!.getText()!) : 0)"

RulePropertyRef_start(r) ::= "(<ctx(r)>.<r.label> != nil ? (<ctx(r)>.<r.label>!.start?.description ?? \"\") : \"\")"
RulePropertyRef_stop(r)  ::= "(<ctx(r)>.<r.label> != nil ? (<ctx(r)>.<r.label>!.stop?.description ?? \"\") : \"\")"
RulePropertyRef_text(r)  ::= "(<ctx(r)>.<r.label> != nil ? try
_input.getText(<ctx(r)>.<r.label>!.start,<ctx(r)>.<r.label>!.stop) : \"\")"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "self"

ThisRulePropertyRef_start(r) ::= "_localctx.start"
ThisRulePropertyRef_stop(r)  ::= "_localctx.stop"
ThisRulePropertyRef_text(r)  ::= "(try _input.getText(_localctx.start, try _input.LT(-1)))"
ThisRulePropertyRef_ctx(r)  ::= "_localctx"
```

```
ThisRulePropertyRef_parser(r)  ::= "self"

NonLocalAttrRef(s)   ::= "((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name>"
SetNonLocalAttr(s, rhsChunks)   ::=
 "((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

TokenDecl(t) ::= "<t.name>: <SwiftTypeMap.(TokenLabelType())>!"
TokenTypeDecl(t) ::= "var <t.name>: Int = 0"
TokenListDecl(t) ::= "<t.name>: [Token] = [Token]()"
RuleContextDecl(r) ::= "<r.name>: <r.ctxName>!"
RuleContextListDecl(rdecl) ::= "<rdecl.name>: [<rdecl.ctxName>] = [<rdecl.ctxName>]()"

ContextTokenGetterDecl(t) ::= <<
 <accessLevelOpenOK(parser)>
 func <t.name>() -> TerminalNode? {
  return getToken(<parser.name>.Tokens.<t.name>.rawValue, 0)
 }
>>
ContextTokenListGetterDecl(t) ::= <<
 <accessLevelOpenOK(parser)>
 func <t.name>() -> [TerminalNode] {
  return getTokens(<parser.name>.Tokens.<t.name>.rawValue)
 }
>>
ContextTokenListIndexedGetterDecl(t) ::= <<
 <accessLevelOpenOK(parser)>
 func <t.name>(_ i:Int) -> TerminalNode? {
  return getToken(<parser.name>.Tokens.<t.name>.rawValue, i)
 }
>>
ContextRuleGetterDecl(r) ::= <<
 <accessLevelOpenOK(parser)>
 func <r.name>() -> <r.ctxName>? {
  return getRuleContext(<r.ctxName>.self, 0)
 }
>>
ContextRuleListGetterDecl(r) ::= <<
 <accessLevelOpenOK(parser)>
 func <r.name>() -> [<r.ctxName>] {
  return getRuleContexts(<r.ctxName>.self)
 }
>>
ContextRuleListIndexedGetterDecl(r)   ::= <<
 <accessLevelOpenOK(parser)>
 func <r.name>(_ i: Int) -> <r.ctxName>? {
  return getRuleContext(<r.ctxName>.self, i)
```

```
 }
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
* r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName)   ::= "_<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = try _input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = try _input.LA(1)"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers,
        superClass={ParserRuleContext}) ::= <<

<accessLevelNotOpen(parser)> class <struct.name>:
<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)>, <interfaces;
separator=", "><endif> {
 <attrs:{a | <accessLevelOpenOK(parser)> var <a>}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 <! <if(ctorAttrs)> <accessLevelNotOpen(parser)> init(_ parent: ParserRuleContext,_ invokingState: Int) {
super.init(parent, invokingState)  }<endif> !>
 <if(ctorAttrs)>
 <accessLevelNotOpen(parser)> convenience init(_ parent: ParserRuleContext?, _ invokingState: Int<ctorAttrs:{a | ,
_ <a>}>) {
  self.init(parent, invokingState)
  <struct.ctorAttrs:{a | self.<a.name> = <a.name>;}; separator="\n">
 }
 <endif>

 override <accessLevelOpenOK(parser)>
 func getRuleIndex() -> Int {
  return <parser.name>.RULE_<struct.derivedFromName>
 }
<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 <! <accessLevelNotOpen(parser)> init() { }!>
 <accessLevelOpenOK(parser)>
 func copyFrom(_ ctx: <struct.name>) {
  super.copyFrom(ctx)
  <struct.attrs:{a | self.<a.name> = ctx.<a.name>;}; separator="\n">
 }
<endif>
```

```
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">
}
>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
<accessLevelNotOpen(parser)> class <struct.name>: <currentRule.name; format="cap">Context {
 <attrs:{a | <accessLevelNotOpen(parser)> var <a>}; separator="\n">
 <getters:{g | <g>}; separator="\n">

 <accessLevelNotOpen(parser)>
 init(_ ctx: <currentRule.name; format="cap">Context) {
  super.init()
  copyFrom(ctx)
 }
 <dispatchMethods; separator="\n">
}
>>

ListenerDispatchMethod(method) ::= <<
override <accessLevelOpenOK(parser)>
func <if(method.isEnter)>enter<else>exit<endif>Rule(_ listener: ParseTreeListener) {
 if let listener = listener as? <parser.grammarName>Listener {
  listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(self)
 }
}
>>

VisitorDispatchMethod(method) ::= <<
override <accessLevelOpenOK(parser)>
func accept\<T>(_ visitor: ParseTreeVisitor\<T>) -> T? {
 if let visitor = visitor as? <parser.grammarName>Visitor {
    return visitor.visit<struct.derivedFromName; format="cap">(self)
 }
 else if let visitor = visitor as? <parser.grammarName>BaseVisitor {
    return visitor.visit<struct.derivedFromName; format="cap">(self)
 }
 else {
     return visitor.visitChildren(self)
 }
}
>>

AttributeDecl(d) ::= "<d.name>: <SwiftTypeMap.(d.type)><if(d.initValue)> = <d.initValue><else>!<endif>"

/** If we don't know location of label def x, use this template (_localctx as! <x.ctx.name> */
labelref(x) ::= "<if(!x.isLocal)>_localctx.castdown(<x.ctx.name>.self).<endif><x.name>"
```

```
/** For any action chunk, what is correctly-typed context struct ptr?    */
ctx(actionChunk) ::= "_localctx.castdown(<actionChunk.ctx.name>.self)"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "precpred(_ctx, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>"
recRuleSetStopToken()                 ::= "_ctx!.stop = try _input.LT(-1)"

recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
_localctx = <ctxName>Context(_parentctx, _parentState);
<if(label)>
<if(isListLabel)>
_localctx.<label>.append(_prevctx)
<else>
_localctx.<label> = _prevctx
<endif>
<endif>
<if(label)>_localctx.<label> = _prevctx;<endif>
try pushNewRecursionContext(_localctx, _startState, <parser.name>.RULE_<ruleName>)
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
_localctx = <currentAltLabel; format="cap">Context(  <ruleName; format="cap">Context(_parentctx,
_parentState))
<if(label)>
<if(isListLabel)>
(_localctx as! <currentAltLabel; format="cap">Context).<label>.append(_prevctx)
<else>
(_localctx as! <currentAltLabel; format="cap">Context).<label> = _prevctx
<endif>
<endif>
try pushNewRecursionContext(_localctx, _startState, <parser.name>.RULE_<ruleName>)
>>

recRuleReplaceContext(ctxName) ::= <<
_localctx = <ctxName>Context(_localctx)
_ctx = _localctx
_prevctx = _localctx
>>

recRuleSetPrevCtx() ::= <<
if _parseListeners != nil {
  try triggerExitRuleEvent()
}
_prevctx = _localctx
>>
```

```
LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
<if(lexerFile.genPackage)>
<!package <lexerFile.genPackage>;!>
<endif>
<namedActions.header>
import Antlr4

<lexer>
>>
Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
<accessLevelOpenOK(lexer)> class <lexer.name>: <superClass; null="Lexer"> {

 internal static var _decisionToDFA: [DFA] = {
        var decisionToDFA = [DFA]()
        let length = <lexer.name>._ATN.getNumberOfDecisions()
        for i in 0..\<length {
          <! decisionToDFA[i] = DFA(<lexer.name>._ATN.getDecisionState(i)!, i);!>
            decisionToDFA.append(DFA(<lexer.name>._ATN.getDecisionState(i)!, i))
        }
         return decisionToDFA
    }()

 internal static let _sharedContextCache = PredictionContextCache()

 <accessLevelNotOpen(lexer)>
 static let <lexer.tokens:{k | <k>=<lexer.tokens.(k)>}; separator=", ", wrap, anchor>

 <if(lexer.channels)>
 <accessLevelNotOpen(lexer)>
 static let <lexer.channels:{k | <k>=<lexer.channels.(k)>}; separator=", ", wrap, anchor>
 <endif>
 <if(rest(lexer.modes))>
 <accessLevelNotOpen(lexer)>
 static let <rest(lexer.modes):{m| <m>=<i>}; separator=", ", wrap, anchor>
 <endif>
 <accessLevelNotOpen(lexer)>
 static let channelNames: [String] = [
  "DEFAULT_TOKEN_CHANNEL", "HIDDEN"<if (lexer.channels)>, <lexer.channels:{c| "<c>"}; separator=", ",
wrap, anchor><endif>
 ]

 <accessLevelNotOpen(lexer)>
 static let modeNames: [String] = [
  <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>
 ]

 <accessLevelNotOpen(lexer)>
```

```
static let ruleNames: [String] = [
 <lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
]

<vocabulary(lexer.literalNames, lexer.symbolicNames,
                accessLevelNotOpen(lexer))>

<namedActions.members>

override <accessLevelOpenOK(lexer)>
func getVocabulary() -> Vocabulary {
 return <lexer.name>.VOCABULARY
}

<accessLevelNotOpen(lexer)>
required init(_ input: CharStream) {
    RuntimeMetaData.checkVersion("<lexerFile.ANTLRVersion>", RuntimeMetaData.VERSION)
 super.init(input)
 _interp = LexerATNSimulator(self, <lexer.name>._ATN, <lexer.name>._decisionToDFA,
<lexer.name>._sharedContextCache)
}

override <accessLevelOpenOK(lexer)>
func getGrammarFileName() -> String { return "<lexer.grammarFileName>" }

override <accessLevelOpenOK(lexer)>
func getRuleNames() -> [String] { return <lexer.name>.ruleNames }

override <accessLevelOpenOK(lexer)>
func getSerializedATN() -> String { return <lexer.name>._serializedATN }

override <accessLevelOpenOK(lexer)>
func getChannelNames() -> [String] { return <lexer.name>.channelNames }

override <accessLevelOpenOK(lexer)>
func getModeNames() -> [String] { return <lexer.name>.modeNames }

override <accessLevelOpenOK(lexer)>
func getATN() -> ATN { return <lexer.name>._ATN }

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>
<atn>

<accessLevelNotOpen(lexer)>
static let _serializedATN: String = <lexer.name>ATN().jsonString

<accessLevelNotOpen(lexer)>
static let _ATN: ATN = ATNDeserializer().deserializeFromJson(_serializedATN)
```

```
}
>>

/** Don't need to define anything. The tool generates a XParserATN.swift file (and same for lexer)
*  which is referenced from static field _serializedATN.  This json string is passed to
*  deserializeFromJson(). Note this is not the "serialization as array of ints" that other targets
*  do. It is more or less the output of ATNPrinter which gets read back in.
*/
SerializedATN(model) ::= <<
>>

/** Using a type to init value map, try to init a type; if not in table
* must be an object, default value is "null".
*/
initValue(typeName) ::= <<
<SwiftTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".swift"
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/codegen/Swift/Swift.stg
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*/
/*
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The text itself is coming out of the languages/*stg files, according to the chosen locale.
This file contains the format that mimicks GCC output.
*/

location(file, line, column) ::= "<file>:<line>:<column>:"

message(id, text) ::= "<text> [error <id>]"

report(location, message, type) ::= "<location> <type>: <message>"

wantsSingleLineMessage() ::= "true"

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
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*/

/** How to generate rules derived from left-recursive rules.
*  These rely on recRuleAltPredicate(),
*  recRuleArg(), recRuleSetResultAction(), recRuleSetReturnAction()
*  templates in main language.stg
*/
group LeftRecursiveRules;

recRule(ruleName, argName, primaryAlts, opAlts, setResultAction,
      userRetvals, leftRecursiveRuleRefLabels) ::=
```

```
<<
<ruleName><if(userRetvals)> returns [<userRetvals>]<endif>
  :  ( {} <primaryAlts:{alt | <alt.altText> }; separator="\n       | ">
     )
     (
       <opAlts; separator="\n       | ">
     )*
  ;
>>

recRuleAlt(alt, precOption, opPrec, pred) ::= <<
{<pred>}?\<<precOption>=<opPrec>\> <alt.altText>
>>
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/LeftRecursiveRules.stg
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*/
/*
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The text itself is coming out of the languages/*stg files, according to the chosen locale.
This file contains the default format ANTLR uses.
*/

location(file, line, column) ::= "<file>(<line>,<column>)"

message(id, text) ::= "error <id> : <text>"

report(location, message, type) ::= "<location> : <type> <message.id> : <message.text>"

wantsSingleLineMessage() ::= "true"

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*/

/** Find left-recursive rules */

```
tree grammar LeftRecursiveRuleWalker;

options {
 tokenVocab=ANTLRParser;
   ASTLabelType=GrammarAST;
}

@header {
package org.antlr.v4.parse;

import org.antlr.v4.misc.*;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
}

@members {
private String ruleName;
private int currentOuterAltNumber; // which outer alt of rule?
public int numAlts;  // how many alts for this rule total?

public void setAltAssoc(AltAST altTree, int alt) {}
public void binaryAlt(AltAST altTree, int alt) {}
public void prefixAlt(AltAST altTree, int alt) {}
public void suffixAlt(AltAST altTree, int alt) {}
public void otherAlt(AltAST altTree, int alt) {}
public void setReturnValues(GrammarAST t) {}
}

@rulecatch { }

// TODO: can get parser errors for not matching pattern; make them go away
public
rec_rule returns [boolean isLeftRec]
@init
{
 currentOuterAltNumber = 1;
}
 : ^( r=RULE id=RULE_REF {ruleName=$id.getText();}
   ruleModifier?
//   (ARG_ACTION)? shouldn't allow args, right?
   (^(RETURNS a=ARG_ACTION {setReturnValues($a);}))?
//       ( ^(THROWS .+) )? don't allow
      ( ^(LOCALS ARG_ACTION) )? // TODO: copy these to gen'd code
      ( ^(OPTIONS .*)
     |  ^(AT ID ACTION) // TODO: copy
     )*
   ruleBlock {$isLeftRec = $ruleBlock.isLeftRec;}
   exceptionGroup
```

```
 )
;

exceptionGroup
  : exceptionHandler* finallyClause?
  ;

exceptionHandler
 : ^(CATCH ARG_ACTION ACTION)
 ;

finallyClause
 : ^(FINALLY ACTION)
 ;

ruleModifier
  : PUBLIC
  | PRIVATE
  | PROTECTED
  ;

ruleBlock returns [boolean isLeftRec]
@init{boolean lr=false; this.numAlts = $start.getChildCount();}
 : ^( BLOCK
  (
   o=outerAlternative
   {if ($o.isLeftRec) $isLeftRec = true;}
   {currentOuterAltNumber++;}
  )+
 )
 ;

/** An alt is either prefix, suffix, binary, or ternary operation or "other" */
outerAlternative returns [boolean isLeftRec]
  :  (binary)=>          binary
                    {binaryAlt((AltAST)$start, currentOuterAltNumber); $isLeftRec=true;}
  |  (prefix)=>          prefix
                    {prefixAlt((AltAST)$start, currentOuterAltNumber);}
  |  (suffix)=>          suffix
                    {suffixAlt((AltAST)$start, currentOuterAltNumber); $isLeftRec=true;}
  |  nonLeftRecur        {otherAlt((AltAST)$start,  currentOuterAltNumber);}
  ;

binary
 : ^( ALT elementOptions? recurse element* recurse epsilonElement* )
     {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
 ;
```

```
prefix
 : ^( ALT elementOptions?
   element+
   recurse epsilonElement*
   )
       {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
 ;

suffix
   :   ^( ALT elementOptions? recurse element+ )
       {setAltAssoc((AltAST)$ALT,currentOuterAltNumber);}
   ;

nonLeftRecur
   :   ^(ALT elementOptions? element+)
   ;

recurse
 : ^(ASSIGN ID recurseNoLabel)
 | ^(PLUS_ASSIGN ID recurseNoLabel)
 | recurseNoLabel
 ;

recurseNoLabel : {((CommonTree)input.LT(1)).getText().equals(ruleName)}? RULE_REF;

token returns [GrammarAST t=null]
 : ^(ASSIGN ID s=token {$t = $s.t;})
 | ^(PLUS_ASSIGN ID s=token {$t = $s.t;})
 | b=STRING_LITERAL         {$t = $b;}
   | ^(b=STRING_LITERAL elementOptions)  {$t = $b;}
   | ^(c=TOKEN_REF elementOptions)   {$t = $c;}
 | c=TOKEN_REF              {$t = $c;}
 ;

elementOptions
   : ^(ELEMENT_OPTIONS elementOption*)
   ;

elementOption
   : ID
   |   ^(ASSIGN ID ID)
   |   ^(ASSIGN ID STRING_LITERAL)
   |   ^(ASSIGN ID ACTION)
   |   ^(ASSIGN ID INT)
   ;

element
 : atom
```

```
 | ^(NOT element)
 | ^(RANGE atom atom)
 | ^(ASSIGN ID element)
 | ^(PLUS_ASSIGN ID element)
   | ^(SET setElement+)
   |   RULE_REF
 | ebnf
 | epsilonElement
 ;

epsilonElement
 : ACTION
 | SEMPRED
 | EPSILON
 | ^(ACTION elementOptions)
 | ^(SEMPRED elementOptions)
 ;

setElement
 : ^(STRING_LITERAL elementOptions)
 | ^(TOKEN_REF elementOptions)
 | STRING_LITERAL
 | TOKEN_REF
 ;

ebnf:   block
   |   ^( OPTIONAL block )
   |   ^( CLOSURE block )
   |   ^( POSITIVE_CLOSURE block )
   ;

block
   : ^(BLOCK ACTION? alternative+)
   ;

alternative
 : ^(ALT elementOptions? element+)
   ;

atom
 : ^(RULE_REF ARG_ACTION? elementOptions?)
   |  ^(STRING_LITERAL elementOptions)
 | STRING_LITERAL
   | ^(TOKEN_REF elementOptions)
 | TOKEN_REF
   | ^(WILDCARD elementOptions)
 | WILDCARD
 | ^(DOT ID element)
```

;

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/LeftRecursiveRuleWalker.g
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/*
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*/

/** ANTLR tool checks output templates are compatible with tool code generation.
* For now, a simple string match used on x.y of x.y.z scheme.
* Must match Tool.VERSION during load to templates.
*
* REQUIRED.
*/

javascriptTypeInitMap ::= [
 "bool":"false",
 "int":"0",

```
 "float":"0.0",
 "str":"",
 default:"{}" // anything other than a primitive type is an object
]

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');
<if(file.genListener)>
var <file.grammarName>Listener = require('./<file.grammarName>Listener').<file.grammarName>Listener;
<endif>
<if(file.genVisitor)>
var <file.grammarName>Visitor = require('./<file.grammarName>Visitor').<file.grammarName>Visitor;
<endif>

<namedActions.header>
<parser>
>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');

// This class defines a complete listener for a parse tree produced by <file.parserName>.
function <file.grammarName>Listener() {
 antlr4.tree.ParseTreeListener.call(this);
 return this;
}

<file.grammarName>Listener.prototype = Object.create(antlr4.tree.ParseTreeListener.prototype);
<file.grammarName>Listener.prototype.constructor = <file.grammarName>Listener;

<file.listenerNames:{lname |
// Enter a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Listener.prototype.enter<lname; format="cap"> = function(ctx) {
\};

// Exit a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Listener.prototype.exit<lname; format="cap"> = function(ctx) {
\};

}; separator="\n">

exports.<file.grammarName>Listener = <file.grammarName>Listener;
>>
```

```
VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
var antlr4 = require('antlr4/index');

// This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

function <file.grammarName>Visitor() {
 antlr4.tree.ParseTreeVisitor.call(this);
 return this;
}

<file.grammarName>Visitor.prototype = Object.create(antlr4.tree.ParseTreeVisitor.prototype);
<file.grammarName>Visitor.prototype.constructor = <file.grammarName>Visitor;

<file.visitorNames:{lname |
// Visit a parse tree produced by <file.parserName>#<lname>.
<file.grammarName>Visitor.prototype.visit<lname; format="cap"> = function(ctx) {
 return this.visitChildren(ctx);
\};

}; separator="\n">

exports.<file.grammarName>Visitor = <file.grammarName>Visitor;
>>


fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
// jshint ignore: start
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<if(superClass)>
var <superClass> = require('./<superClass>').<superClass>;
<endif>

var grammarFileName = "<parser.grammarFileName; format="java-escape">";

<atn>

var atn = new antlr4.atn.ATNDeserializer().deserialize(serializedATN);

var decisionsToDFA = atn.decisionToState.map( function(ds, index) { return new antlr4.dfa.DFA(ds, index); });

var sharedContextCache = new antlr4.PredictionContextCache();

var literalNames = [ <parser.literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor> ];
```

```
var symbolicNames = [ <parser.symbolicNames:{t | <t>}; null="null", separator=", ", wrap, anchor> ];

var ruleNames =  [ <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor> ];

function <parser.name> (input) {
 <superClass; null="antlr4.Parser">.call(this, input);
   this._interp = new antlr4.atn.ParserATNSimulator(this, atn, decisionsToDFA, sharedContextCache);
   this.ruleNames = ruleNames;
   this.literalNames = literalNames;
   this.symbolicNames = symbolicNames;
 <namedActions.members>
   return this;
}

<parser.name>.prototype = Object.create(<superClass; null="antlr4.Parser">.prototype);
<parser.name>.prototype.constructor = <parser.name>;

Object.defineProperty(<parser.name>.prototype, "atn", {
 get : function() {
  return atn;
 }
});

<parser.name>.EOF = antlr4.Token.EOF;
<if(parser.tokens)>
<parser.tokens:{k | <parser.name>.<k> = <parser.tokens.(k)>;}; separator="\n", wrap, anchor>
<endif>

<parser.rules:{r | <parser.name>.RULE_<r.name> = <r.index>;}; separator="\n", wrap, anchor>

<funcs; separator="\n">

<if(sempredFuncs)>
<parser.name>.prototype.sempred = function(localctx, ruleIndex, predIndex) {
 switch(ruleIndex) {
 <parser.sempredFuncs.values:{f | case <f.ruleIndex>:
  return this.<f.name>_sempred(localctx, predIndex);}; separator="\n">
   default:
       throw "No predicate with index:" + ruleIndex;
  }
};

<sempredFuncs.values; separator="\n">
<endif>

exports.<parser.name> = <parser.name>;
```

```
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
<lexer.name>.prototype.action = function(localctx, ruleIndex, actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f|
case <f.ruleIndex>:
 this.<f.name>_action(localctx, actionIndex);
 break;}; separator="\n">
 default:
  throw "No registered action for:" + ruleIndex;
 }
};

<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
<lexer.name>.prototype.sempred = function(localctx, ruleIndex, predIndex) {
 switch (ruleIndex) {
  <recog.sempredFuncs.values:{f| case <f.ruleIndex>:
 return this.<f.name>_sempred(localctx, predIndex);}; separator="\n">
    default:
     throw "No registered predicate for:" + ruleIndex;
   }
};

<sempredFuncs.values; separator="\n">
<endif>
>>


/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<

<lexer.name>.prototype.<r.name>_action = function(localctx , actionIndex) {
 switch (actionIndex) {
 <actions:{index|
case <index>:
 <actions.(index)>
 break;}; separator="\n">
 default:
  throw "No registered action for:" + actionIndex;
 }
};
>>
```

```
/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
<if (r.factory.g.lexer)><lexer.name><else><parser.name><endif>.prototype.<r.name>_sempred = function(localctx,
predIndex) {
 switch(predIndex) {
  <actions:{index| case <index>:
 return <actions.(index)>;}; separator="\n">
  default:
   throw "No predicate with index:" + predIndex;
 }
};

>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<ruleCtx>

<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<! Define fields of this parser to export the context classes !>
<parser.name>.<currentRule.ctxType> = <currentRule.ctxType>;

<parser.name>.prototype.<currentRule.name> = function(<currentRule.args:{a | <a.name>}; separator=", ">) {

  var localctx = new <currentRule.ctxType>(this, this._ctx, this.state<currentRule.args:{a | , <a.name>}>);
  this.enterRule(localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>);
  <namedActions.init>
  <locals; separator="\n">
  try {
      <code>
      <postamble; separator="\n">
      <namedActions.after>
  <if(exceptions)>
  <exceptions; separator="\n">
  <else>
  } catch (re) {
   if(re instanceof antlr4.error.RecognitionException) {
        localctx.exception = re;
        this._errHandler.reportError(this, re);
        this._errHandler.recover(this, re);
    } else {
     throw re;
    }
```

```
  }<endif> finally {
     <finallyAction>
     this.exitRule();
  }
  return localctx;
};

>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<parser.name>.prototype.<currentRule.name> = function(_p<if(currentRule.args)>, <args:{a | , <a>}><endif>) {
 if(_p===undefined) {
    _p = 0;
 }
  var _parentctx = this._ctx;
  var _parentState = this.state;
  var localctx = new <currentRule.ctxType>(this, this._ctx, _parentState<args:{a | , <a.name>}>);
  var _prevctx = localctx;
  var _startState = <currentRule.startState>;
  this.enterRecursionRule(localctx, <currentRule.startState>, <parser.name>.RULE_<currentRule.name>, _p);
  <namedActions.init>
  <locals; separator="\n">
  try {
     <code>
     <postamble; separator="\n">
     <namedActions.after>
  } catch( error) {
     if(error instanceof antlr4.error.RecognitionException) {
       localctx.exception = error;
       this._errHandler.reportError(this, error);
       this._errHandler.recover(this, error);
    } else {
     throw error;
    }
  } finally {
     <finallyAction>
     this.unrollRecursionContexts(_parentctx)
  }
  return localctx;
};

>>
```

```
CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = new <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(this, localctx);<endif>
this.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = this._input.LT(1);<endif>
<preamble; separator="\n">
switch(this._input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
  <alt>
  break;}; separator="\n">
default:
  <error>
}
>>

LL1OptionalBlock(choice, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
switch (this._input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 break;
}
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<preamble; separator="\n">
if(<expr>) {
  <alts; separator="\n">
}
<!else if ( !(<followExpr>) ) <error>!>
```

```
>>

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<preamble; separator="\n">
while(<loopExpr>) {
  <alts; separator="\n">
  this.state = <choice.loopBackStateNumber>;
  this._errHandler.sync(this);
  <iteration>
}
>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
this.state = <choice.blockStartStateNumber>; <! alt block decision !>
this._errHandler.sync(this);
<preamble; separator="\n">
do {
  <alts; separator="\n">
  this.state = <choice.stateNumber>; <! loopback/exit decision !>
  this._errHandler.sync(this);
  <iteration>
} while(<loopExpr>);
>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
var la_ = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
switch(la_) {
<alts:{alt |
case <i>:
  <alt>
  break;
}; separator="\n">
}
>>

OptionalBlock(choice, alts, error) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
var la_ = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
<alts:{alt |
```

```
if(la_===<i><if(!choice.ast.greedy)>+1<endif>) {
  <alt>
}; separator="\n} else ">
}
>>

StarBlock(choice, alts, sync, iteration) ::= <<
this.state = <choice.stateNumber>;
this._errHandler.sync(this);
var _alt = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx)
while(_alt!=<choice.exitAlt> && _alt!=antlr4.atn.ATN.INVALID_ALT_NUMBER) {
  if(_alt===1<if(!choice.ast.greedy)>+1<endif>) {
    <iteration>
    <alts> <! should only be one !>
  }
  this.state = <choice.loopBackStateNumber>;
  this._errHandler.sync(this);
  _alt = this._interp.adaptivePredict(this._input,<choice.decision>,this._ctx);
}

>>

PlusBlock(choice, alts, error) ::= <<
this.state = <choice.blockStartStateNumber>; <! alt block decision !>
this._errHandler.sync(this);
var _alt = 1<if(!choice.ast.greedy)>+1<endif>;
do {
 switch (_alt) {
 <alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 default:
  <error>
 }
 this.state = <choice.loopBackStateNumber>; <! loopback/exit decision !>
 this._errHandler.sync(this);
 _alt = this._interp.adaptivePredict(this._input,<choice.decision>, this._ctx);
} while ( _alt!=<choice.exitAlt> && _alt!=antlr4.atn.ATN.INVALID_ALT_NUMBER );
>>

Sync(s) ::= "sync(<s.expecting.name>)"

ThrowNoViableAlt(t) ::= "throw new antlr4.error.NoViableAltException(this);"

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
```

```
>>

// Javascript language spec - shift operators are 32 bits long max
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x1f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> && ((1 \<\< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 \<\< <offsetShiftType(ttype, bits.shift)>)}; separator=" | ">)) !== 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<parser.name>.<shiftAmount> - <offset>)<else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>===<parser.name>.<ttype>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <parser.name>.<t>:}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
this.state = <r.stateNumber>;
<if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif>this.<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>);
>>

MatchToken(m) ::= <<
this.state = <m.stateNumber>;
<if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>this.match(<parser.name>.<m.name>);
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"
```

```
MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
this.state = <m.stateNumber>;
<if(m.labels)><m.labels:{l | <labelref(l)> = }>this._input.LT(1);<endif>
<capture>
<if(invert)>if(<m.varName>\<=0 || <expr>)<else>if(!(<expr>))<endif> {
  <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>this._errHandler.recoverInline(this);
}
else {
 this._errHandler.reportMatch(this);
  this.consume();
}
>>

Wildcard(w) ::= <<
this.state = <w.stateNumber>;
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>this.matchWildcard();
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
this.state = <p.stateNumber>;
if (!( <chunks>)) {
  throw new antlr4.error.FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
}
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "this.skip()"
LexerMoreCommand()  ::= "this.more()"
LexerPopModeCommand() ::= "this.popMode()"
LexerTypeCommand(arg, grammar)      ::= "this._type = <arg>"
LexerChannelCommand(arg, grammar)   ::= "this._channel = <arg>"
```

```
LexerModeCommand(arg, grammar)      ::= "this._mode = <arg>"
LexerPushModeCommand(arg, grammar)  ::= "this.pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValueRef(a) ::= "localctx.<a.name>"
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(<ctx(t)>.<t.label>===null ? null : <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.type)"
TokenPropertyRef_line(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(<ctx(t)>.<t.label> === null ? 0 : parseInt(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(<ctx(r)>.<r.label>===null ? null : <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r)  ::= "(<ctx(r)>.<r.label>===null ? null : <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r)  ::= "(<ctx(r)>.<r.label>===null ? null : this._input.getText(new
antlr4.Interval(<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "this"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r)  ::= "localctx.stop"
ThisRulePropertyRef_text(r)  ::= "this._input.getText(new antlr4.Interval(localctx.start, this._input.LT(-1)))"
ThisRulePropertyRef_ctx(r)  ::= "localctx"
ThisRulePropertyRef_parser(r)  ::= "this"

NonLocalAttrRef(s)     ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks)  ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.push(<labelref(a.label)>);"

TokenDecl(t) ::= "this.<t.name> = null; // <TokenLabelType()>"
TokenTypeDecl(t) ::= "var <t.name> = 0; // <TokenLabelType()> type"
TokenListDecl(t) ::= "this.<t.name> = []; // of <TokenLabelType()>s"
RuleContextDecl(r) ::= "this.<r.name> = null; // <r.ctxName>"
```

```
RuleContextListDecl(rdecl) ::= "this.<rdecl.name> = []; // of <rdecl.ctxName>s"

ContextTokenGetterDecl(t)      ::= <<
<t.name> = function() {
  return this.getToken(<parser.name>.<t.name>, 0);
};
>>

// should never be called
ContextTokenListGetterDecl(t)  ::= <<
def <t.name>_list(self):
  return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t)  ::= <<
<t.name> = function(i) {
 if(i===undefined) {
  i = null;
 }
  if(i===null) {
     return this.getTokens(<parser.name>.<t.name>);
  } else {
     return this.getToken(<parser.name>.<t.name>, i);
  }
};

>>

ContextRuleGetterDecl(r)       ::= <<
<r.name> = function() {
  return this.getTypedRuleContext(<r.ctxName>,0);
};
>>

// should never be called
ContextRuleListGetterDecl(r)   ::= <<
def <r.name>_list(self):
  return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)

>>

ContextRuleListIndexedGetterDecl(r)   ::= <<
<r.name> = function(i) {
  if(i===undefined) {
     i = null;
  }
  if(i===null) {
     return this.getTypedRuleContexts(<r.ctxName>);
```

```
  } else {
     return this.getTypedRuleContext(<r.ctxName>,i);
  }
};
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
* r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName)   ::= "_<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = this._input.LA(1);"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers) ::= <<
function <struct.name>(parser, parent, invokingState<struct.ctorAttrs:{a | , <a.name>}>) {
 if(parent===undefined) {
    parent = null;
 }
 if(invokingState===undefined || invokingState===null) {
  invokingState = -1;
 }
 <if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.call(this, parent,
invokingState);
  this.parser = parser;
  this.ruleIndex = <parser.name>.RULE_<struct.derivedFromName>;
  <attrs:{a | <a>}; separator="\n">
  <struct.ctorAttrs:{a | this.<a.name> = <a.name> || null;}; separator="\n">
  return this;
}

<struct.name>.prototype =
Object.create(<if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.prototype);
<struct.name>.prototype.constructor = <struct.name>;

<getters:{g | <struct.name>.prototype.<g>}; separator="\n\n">

<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
<struct.name>.prototype.copyFrom = function(ctx) {
<if(contextSuperClass)><contextSuperClass><else>antlr4.ParserRuleContext<endif>.prototype.copyFrom.call(this,
ctx);
```

```
  <struct.attrs:{a | this.<a.name> = ctx.<a.name>;}; separator="\n">
};
<endif>
<dispatchMethods; separator="\n">
<extensionMembers; separator="\n">

>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
function <struct.name>(parser, ctx) {
 <currentRule.name; format="cap">Context.call(this, parser);
  <attrs:{a | <a>;}; separator="\n">
  <currentRule.name; format="cap">Context.prototype.copyFrom.call(this, ctx);
  return this;
}

<struct.name>.prototype = Object.create(<currentRule.name; format="cap">Context.prototype);
<struct.name>.prototype.constructor = <struct.name>;

<! Define fields of this parser to export this struct/context class !>
<parser.name>.<struct.name> = <struct.name>;

<getters:{g | <struct.name>.prototype.<g>}; separator="\n\n">
<dispatchMethods; separator="\n">

>>

ListenerDispatchMethod(method) ::= <<
<struct.name>.prototype.<if(method.isEnter)>enter<else>exit<endif>Rule = function(listener) {
  if(listener instanceof <parser.grammarName>Listener ) {
     listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(this);
 }
};

>>

VisitorDispatchMethod(method) ::= <<
<struct.name>.prototype.accept = function(visitor) {
  if ( visitor instanceof <parser.grammarName>Visitor ) {
     return visitor.visit<struct.derivedFromName; format="cap">(this);
  } else {
     return visitor.visitChildren(this);
  }
};

>>

AttributeDecl(d) ::= "this.<d.name> = <if(d.initValue)><d.initValue><else>null<endif>"
```

```
/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "this.precpred(this._ctx, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>"
recRuleSetStopToken()                 ::= "this._ctx.stop = this._input.LT(-1);"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = new <ctxName>Context(this, _parentctx, _parentState);
<if(label)>localctx.<label> = _prevctx;<endif>
this.pushNewRecursionContext(localctx, _startState, <parser.name>.RULE_<ruleName>);
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = new <currentAltLabel; format="cap">Context(this, new <ruleName; format="cap">Context(this,
_parentctx, _parentState));
<if(label)>
<if(isListLabel)>
localctx.<label>.push(_prevctx);
<else>
localctx.<label> = _prevctx;
<endif>
<endif>
this.pushNewRecursionContext(localctx, _startState, <parser.name>.RULE_<ruleName>);
>>

recRuleReplaceContext(ctxName) ::= <<
localctx = new <ctxName>Context(this, localctx);
this._ctx = localctx;
_prevctx = localctx;
>>

recRuleSetPrevCtx() ::= <<
if(this._parseListeners!==null) {
   this.triggerExitRuleEvent();
}
_prevctx = localctx;
>>



LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
var antlr4 = require('antlr4/index');
```

```
<namedActions.header>

<lexer>

>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
<if(superClass)>
var <superClass> = require('./<superClass>').<superClass>;
<endif>

<atn>

var atn = new antlr4.atn.ATNDeserializer().deserialize(serializedATN);

var decisionsToDFA = atn.decisionToState.map( function(ds, index) { return new antlr4.dfa.DFA(ds, index); });

function <lexer.name>(input) {
 <if(superClass)><superClass><else>antlr4.Lexer<endif>.call(this, input);
  this._interp = new antlr4.atn.LexerATNSimulator(this, atn, decisionsToDFA, new
antlr4.PredictionContextCache());
  return this;
}

<lexer.name>.prototype = Object.create(<if(superClass)><superClass><else>antlr4.Lexer<endif>.prototype);
<lexer.name>.prototype.constructor = <lexer.name>;

Object.defineProperty(<lexer.name>.prototype, "atn", {
      get : function() {
            return atn;
      }
});

<lexer.name>.EOF = antlr4.Token.EOF;
<lexer.tokens:{k | <lexer.name>.<k> = <lexer.tokens.(k)>;}; separator="\n", wrap, anchor>

<if(lexer.channels)>
<lexer.channels:{c| <lexer.name>.<c> = <lexer.channels.(c)>;}; separator="\n">

<endif>
<if(rest(lexer.modes))>
<rest(lexer.modes):{m| <lexer.name>.<m> = <i>;}; separator="\n">

<endif>
<lexer.name>.prototype.channelNames = [ "DEFAULT_TOKEN_CHANNEL", "HIDDEN"<if (lexer.channels)>,
<lexer.channels:{c| "<c>"}; separator=", ", wrap, anchor><endif> ];
```

<lexer.name>.prototype.modeNames = [<lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>];

<lexer.name>.prototype.literalNames = [<lexer.literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor>];

<lexer.name>.prototype.symbolicNames = [<lexer.symbolicNames:{t | <t>}; null="null", separator=", ", wrap, anchor>];

<lexer.name>.prototype.ruleNames = [<lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>];

<lexer.name>.prototype.grammarFileName = "<lexer.grammarFileName>";

<namedActions.members>

<dumpActions(lexer, "", actionFuncs, sempredFuncs)>

exports.<lexer.name> = <lexer.name>;

>>

SerializedATN(model) ::= <<
<! only one segment, can be inlined !>

var serializedATN = ["<model.serialized; wrap={",<\n>   "}>"].join("");

>>

/** Using a type to init value map, try to init a type; if not in table
* must be an object, default value is "null".
*/
initValue(typeName) ::= <<
<javacriptTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".js"

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/codegen/JavaScript/JavaScript.stg
No license file was found, but licenses were detected in source scan.

/*
* [The "BSD license"]
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* Copyright (c) 2012-2016 Sam Harwell
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* All rights reserved.
*
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```
*  modification, are permitted provided that the following conditions
*  are met:
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*  NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
*  DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
*  THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
*  (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
*  THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

/** ANTLR tool checks output templates are compatible with tool code generation.
*  For now, a simple string match used on x.y of x.y.z scheme.
*  Must match Tool.VERSION during load to templates.
*
*  REQUIRED.
*/

pythonTypeInitMap ::= [
 "bool":"False",
 "int":"0",
 "float":"0.0",
 "str":"",
 default:"None" // anything other than a primitive type is an object
]

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
# encoding: utf-8
from __future__ import print_function
from antlr4 import *
from io import StringIO
import sys
```

```
<namedActions.header>
<parser>

>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
<header>

# This class defines a complete listener for a parse tree produced by <file.parserName>.
class <file.grammarName>Listener(ParseTreeListener):

  <file.listenerNames:{lname |
# Enter a parse tree produced by <file.parserName>#<lname>.
def enter<lname; format="cap">(self, ctx):
  pass

# Exit a parse tree produced by <file.parserName>#<lname>.
def exit<lname; format="cap">(self, ctx):
  pass

}; separator="\n">

>>


VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
<header>

# This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

class <file.grammarName>Visitor(ParseTreeVisitor):

  <file.visitorNames:{lname |
# Visit a parse tree produced by <file.parserName>#<lname>.
def visit<lname; format="cap">(self, ctx):
  return self.visitChildren(ctx)

}; separator="\n">

>>


fileHeader(grammarFileName, ANTLRVersion) ::= <<
# Generated from <grammarFileName> by ANTLR <ANTLRVersion>
```

```
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<if(superClass)>
from .<superClass> import <superClass>

<endif>
<atn>

class <parser.name> ( <if(superClass)><superClass><else>Parser<endif> ):

  grammarFileName = "<parser.grammarFileName>"

  atn = ATNDeserializer().deserialize(serializedATN())

  decisionsToDFA = [ DFA(ds, i) for i, ds in enumerate(atn.decisionToState) ]

  sharedContextCache = PredictionContextCache()

  literalNames = [ <parser.literalNames:{t | u<t>}; null="u\"\<INVALID>\"", separator=", ", wrap, anchor> ]

  symbolicNames = [ <parser.symbolicNames:{t | u<t>}; null="u\"\<INVALID>\"", separator=", ", wrap, anchor> ]

  <parser.rules:{r | RULE_<r.name> = <r.index>}; separator="\n", wrap, anchor>

  ruleNames =  [ <parser.ruleNames:{r | u"<r>"}; separator=", ", wrap, anchor> ]

  EOF = <TokenLabelType()>.EOF
  <if(parser.tokens)>
  <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator="\n", wrap, anchor>
  <endif>

  <parser:(ctor)()>

  <namedActions.members>

  <funcs; separator="\n">


<if(sempredFuncs)>
  def sempred(self, localctx, ruleIndex, predIndex):
      if self._predicates == None:
          self._predicates = dict()
<parser.sempredFuncs.values:{f |
```

```
      self._predicates[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n        ">
      pred = self._predicates.get(ruleIndex, None)
      if pred is None:
         raise Exception("No predicate with index:" + str(ruleIndex))
      else:
         return pred(localctx, predIndex)

  <sempredFuncs.values; separator="\n">
<endif>



>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
def action(self, localctx, ruleIndex, actionIndex):
  if self._actions is None:
      actions = dict()
<recog.actionFuncs.values:{f|
      actions[<f.ruleIndex>] = self.<f.name>_action }; separator="\n">
      self._actions = actions
  action = self._actions.get(ruleIndex, None)
  if action is not None:
      action(localctx, actionIndex)
  else:
      raise Exception("No registered action for:" + str(ruleIndex))

<actionFuncs.values; separator="\n">

<endif>
<if(sempredFuncs)>
def sempred(self, localctx, ruleIndex, predIndex):
  if self._predicates is None:
      preds = dict()
<recog.sempredFuncs.values:{f|
      preds[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n">
      self._predicates = preds
  pred = self._predicates.get(ruleIndex, None)
  if pred is not None:
      return pred(localctx, predIndex)
  else:
      raise Exception("No registered predicate for:" + str(ruleIndex))

<sempredFuncs.values; separator="\n">
<endif>
>>
```

```
parser_ctor(p) ::= <<
def __init__(self, input, output=sys.stdout):
  super(<parser.name>, self).__init__(input, output=output)
  self.checkVersion("<file.ANTLRVersion>")
  self._interp = ParserATNSimulator(self, self.atn, self.decisionsToDFA, self.sharedContextCache)
  self._predicates = None

>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<

def <r.name>_action(self, localctx , actionIndex):
<actions:{index|
<if(first(actions))>
  if actionIndex == <index>:
      <actions.(index)>
<elseif(rest(actions))>
  elif actionIndex == <index>:
      <actions.(index)>
<endif> }; separator="\n">
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
def <r.name>_sempred(self, localctx, predIndex):
  <actions:{index|
<if(first(actions))>
  if predIndex == <index>:
      return <actions.(index)>
<elseif(rest(actions))>
  elif predIndex == <index>:
      return <actions.(index)>
<endif> }; separator="\n">

>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<ruleCtx>

<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
def <currentRule.name>(self<currentRule.args:{a | , <a.name>}>):

  localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, self.state<currentRule.args:{a | , <a.name>}>)
  self.enterRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>)
  <namedActions.init>
  <locals; separator="\n">
  try:
     <code>
     <postamble; separator="\n">
     <namedActions.after>
  <if(exceptions)>
  <exceptions; separator="\n">
  <else>
  except RecognitionException as re:
     localctx.exception = re
     self._errHandler.reportError(self, re)
     self._errHandler.recover(self, re)
  <endif>
  finally:
     <finallyAction>
     self.exitRule()
  return localctx

>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

def <currentRule.name>(self, _p=0<if(currentRule.args)>, <args:{a | , <a>}><endif>):
  _parentctx = self._ctx
  _parentState = self.state
  localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, _parentState<args:{a | , <a.name>}>)
  _prevctx = localctx
  _startState = <currentRule.startState>
  self.enterRecursionRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>, _p)
  <namedActions.init>
  <locals; separator="\n">
  try:
     <code>
     <postamble; separator="\n">
     <namedActions.after>
  except RecognitionException as re:
     localctx.exception = re
     self._errHandler.reportError(self, re)
```

```
    self._errHandler.recover(self, re)
  finally:
    <finallyAction>
    self.unrollRecursionContexts(_parentctx)
  return localctx

>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = <parser.name>.<currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(self, localctx)<endif>
self.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
  <alt>
  pass}; separator="\nel">
else:
  <error>

>>

LL1OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
  <alt>
  pass}; separator="\nel">
else:
  pass
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
self.state = <choice.stateNumber>
```

```
self._errHandler.sync(self)
<preamble; separator="\n">
if <expr>:
  <alts; separator="\n">

<!else if ( !(<followExpr>) ) <error>!>
>>


LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
while <loopExpr>:
  <alts; separator="\n">
  self.state = <choice.loopBackStateNumber>
  self._errHandler.sync(self)
  <iteration>

>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
<preamble; separator="\n">
while True:
  <alts; separator="\n">
  self.state = <choice.stateNumber> <! loopback/exit decision !>
  self._errHandler.sync(self)
  <iteration>
  if not (<loopExpr>):
     break

>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{alt |
if la_ == <i>:
  <alt>
  pass
}; separator="\nel">
```

```
>>

OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{alt |
if la_ == <i><if(!choice.ast.greedy)>+1<endif>:
  <alt>
}; separator="\nel">

>>

StarBlock(choice, alts, sync, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
_alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
  if _alt==1<if(!choice.ast.greedy)>+1<endif>:
    <iteration>
    <alts> <! should only be one !>
  self.state = <choice.loopBackStateNumber>
  self._errHandler.sync(self)
  _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

PlusBlock(choice, alts, error) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
  <alts:{alt|
if _alt == <i><if(!choice.ast.greedy)>+1<endif>:
  <alt>
}; separator="\nel">
  else:
    <error>
  self.state = <choice.loopBackStateNumber> <! loopback/exit decision !>
  self._errHandler.sync(self)
  _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

Sync(s) ::= "sync(<s.expecting.name>)"

ThrowNoViableAlt(t) ::= "raise NoViableAltException(self)"
```

```
TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" or ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> and ((1 \<\< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 \<\< <offsetShiftType(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<parser.name>.<shiftAmount> - <offset>)<else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<parser.name>.<ttype>}; separator=" or ">
%>

cases(ttypes) ::= <<
if token in [<ttypes:{t | <parser.name>.<t>}; separator=", ">]:
>>

InvokeRule(r, argExprsChunks) ::= <<
self.state = <r.stateNumber>
<if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif>self.<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>)
>>

MatchToken(m) ::= <<
self.state = <m.stateNumber>
```

```
<if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>self.match(<parser.name>.<m.name>)
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{l | <labelref(l)> = }>self._input.LT(1)<endif>
<capture>
<if(invert)>if <m.varName> \<= 0 or <expr><else>if not(<expr>)<endif>:
<if(m.labels)><m.labels:{l |     <labelref(l)> = }><else>    <endif>self._errHandler.recoverInline(self)
else:
  self._errHandler.reportMatch(self)
  self.consume()
>>

Wildcard(w) ::= <<
self.state = <w.stateNumber>
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>self.matchWildcard()
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
self.state = <p.stateNumber>
if not <chunks>:
  from antlr4.error.Errors import FailedPredicateException
  raise FailedPredicateException(self, <p.predicate><if(failChunks)>, <failChunks><elseif(p.msg)>,
<p.msg><endif>)
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
  <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "skip()"
LexerMoreCommand()  ::= "more()"
LexerPopModeCommand() ::= "popMode()"
```

```
LexerTypeCommand(arg, grammar)      ::= "_type = <arg>"
LexerChannelCommand(arg, grammar)   ::= "_channel = <arg>"
LexerModeCommand(arg, grammar)      ::= "_mode = <arg>"
LexerPushModeCommand(arg, grammar)  ::= "pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValueRef(a) ::= "localctx.<a.name>"
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(None if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.type()"
TokenPropertyRef_line(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(0 if (<ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(0 if <ctx(t)>.<t.label> is None else int(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r)  ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r)  ::= "(None if <ctx(r)>.<r.label> is None else
self._input.getText((<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "self"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r)  ::= "localctx.stop"
ThisRulePropertyRef_text(r)  ::= "self._input.getText((localctx.start, self._input.LT(-1)))"
ThisRulePropertyRef_ctx(r)  ::= "localctx"
ThisRulePropertyRef_parser(r)  ::= "self"

NonLocalAttrRef(s)     ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks)  ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

TokenDecl(t) ::= "self.<t.name> = None # <TokenLabelType()>"
```

```
TokenTypeDecl(t) ::= "self.<t.name> = 0 # <TokenLabelType()> type"
TokenListDecl(t) ::= "self.<t.name> = list() # of <TokenLabelType()>s"
RuleContextDecl(r) ::= "self.<r.name> = None # <r.ctxName>"
RuleContextListDecl(rdecl) ::= "self.<rdecl.name> = list() # of <rdecl.ctxName>s"

ContextTokenGetterDecl(t)      ::= <<
def <t.name>(self):
  return self.getToken(<parser.name>.<t.name>, 0)
>>

// should never be called
ContextTokenListGetterDecl(t)  ::= <<
def <t.name>_list(self):
  return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t)  ::= <<
def <t.name>(self, i=None):
  if i is None:
     return self.getTokens(<parser.name>.<t.name>)
  else:
     return self.getToken(<parser.name>.<t.name>, i)
>>

ContextRuleGetterDecl(r)       ::= <<
def <r.name>(self):
  return self.getTypedRuleContext(<parser.name>.<r.ctxName>,0)

>>

// should never be called
ContextRuleListGetterDecl(r)   ::= <<
def <r.name>_list(self):
  return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)

>>

ContextRuleListIndexedGetterDecl(r)   ::= <<
def <r.name>(self, i=None):
  if i is None:
     return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
  else:
     return self.getTypedRuleContext(<parser.name>.<r.ctxName>,i)

>>

LexerRuleContext() ::= "RuleContext"
```

```
/** The rule context name is the rule followed by a suffix; e.g.,
*  r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName)   ::= "_<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
CaptureNextTokenType(d) ::= "<d.varName> = self._input.LA(1)"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers) ::= <<
class <struct.name>(<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif>):

  def __init__(self, parser, parent=None, invokingState=-1<struct.ctorAttrs:{a | , <a.name>=None}>):
     super(<parser.name>.<struct.name>, self).__init__(parent, invokingState)
     self.parser = parser
     <attrs:{a | <a>}; separator="\n">
     <struct.ctorAttrs:{a | self.<a.name> = <a.name>}; separator="\n">

  <getters:{g | <g>}; separator="\n\n">

  def getRuleIndex(self):
     return <parser.name>.RULE_<struct.derivedFromName>

<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
  def copyFrom(self, ctx):
     super(<parser.name>.<struct.name>, self).copyFrom(ctx)
     <struct.attrs:{a | self.<a.name> = ctx.<a.name>}; separator="\n">

<endif>
  <dispatchMethods; separator="\n">
  <extensionMembers; separator="\n">

>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
class <struct.name>(<currentRule.name; format="cap">Context):

  def __init__(self, parser, ctx): # actually a <parser.name>.<currentRule.name; format="cap">Context)
     super(<parser.name>.<struct.name>, self).__init__(parser)
     <attrs:{a | <a>}; separator="\n">
     self.copyFrom(ctx)

  <getters:{g | <g>}; separator="\n">
```

```
  <dispatchMethods; separator="\n">

>>

ListenerDispatchMethod(method) ::= <<
def <if(method.isEnter)>enter<else>exit<endif>Rule(self, listener):
  if hasattr(listener, "<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">"):
     listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(self)

>>

VisitorDispatchMethod(method) ::= <<
def accept(self, visitor):
  if hasattr(visitor, "visit<struct.derivedFromName; format="cap">"):
     return visitor.visit<struct.derivedFromName; format="cap">(self)
  else:
     return visitor.visitChildren(self)

>>

AttributeDecl(d) ::= "self.<d.name> = <if(d.initValue)><d.initValue><else>None<endif>"

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "self.precpred(self._ctx, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>"
recRuleSetStopToken()                 ::= "self._ctx.stop = self._input.LT(-1)"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = <parser.name>.<ctxName>Context(self, _parentctx, _parentState)
<if(label)>localctx.<label> = _prevctx<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = <parser.name>.<currentAltLabel; format="cap">Context(self, <parser.name>.<ruleName;
format="cap">Context(self, _parentctx, _parentState))
<if(label)>
<if(isListLabel)>
localctx.<label>.append(_prevctx)
<else>
localctx.<label> = _prevctx
<endif>
```

```
<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>


recRuleReplaceContext(ctxName) ::= <<
localctx = <parser.name>.<ctxName>Context(self, localctx)
self._ctx = localctx
_prevctx = localctx
>>

recRuleSetPrevCtx() ::= <<
if self._parseListeners is not None:
  self.triggerExitRuleEvent()
_prevctx = localctx
>>


LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
# encoding: utf-8
from __future__ import print_function
from antlr4 import *
from io import StringIO
import sys

<namedActions.header>

<lexer>
>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
<if(superClass)>
from .<superClass> import <superClass>

<endif>

<atn>

class <lexer.name>(<if(superClass)><superClass><else>Lexer<endif>):

  atn = ATNDeserializer().deserialize(serializedATN())

  decisionsToDFA = [ DFA(ds, i) for i, ds in enumerate(atn.decisionToState) ]

<if(lexer.channels)>
  <lexer.channels:{c| <c> = <lexer.channels.(c)>}; separator="\n">
```

```
<endif>
<if(rest(lexer.modes))>
  <rest(lexer.modes):{m| <m> = <i>}; separator="\n">

<endif>
  <lexer.tokens:{k | <k> = <lexer.tokens.(k)>}; separator="\n", wrap, anchor>

  channelNames = [ u"DEFAULT_TOKEN_CHANNEL", u"HIDDEN"<if (lexer.channels)>, <lexer.channels:{c|
u"<c>"}; separator=", ", wrap, anchor><endif> ]

  modeNames = [ <lexer.modes:{m| u"<m>"}; separator=", ", wrap, anchor> ]

  literalNames = [ u"\<INVALID>",
        <lexer.literalNames:{t | u<t>}; separator=", ", wrap, anchor> ]

  symbolicNames = [ u"\<INVALID>",
        <lexer.symbolicNames:{t | u<t>}; separator=", ", wrap, anchor> ]

  ruleNames = [ <lexer.ruleNames:{r | u"<r>"}; separator=", ", wrap, anchor> ]

  grammarFileName = u"<lexer.grammarFileName>"

  def __init__(self, input=None, output=sys.stdout):
     super(<lexer.name>, self).__init__(input, output=output)
     self.checkVersion("<lexerFile.ANTLRVersion>")
     self._interp = LexerATNSimulator(self, self.atn, self.decisionsToDFA, PredictionContextCache())
     self._actions = None
     self._predicates = None

  <namedActions.members>

  <dumpActions(lexer, "", actionFuncs, sempredFuncs)>

>>

SerializedATN(model) ::= <<
<! only one segment, can be inlined !>

def serializedATN():
  with StringIO() as buf:
     buf.write(u"<model.serialized; wrap={")<\n>       buf.write(u"}>")
     return buf.getvalue()

>>

/** Using a type to init value map, try to init a type; if not in table
*  must be an object, default value is "null".
*/
```

```
initValue(typeName) ::= <<
<pythonTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".py"
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/codegen/Python2/Python2.stg
No license file was found, but licenses were detected in source scan.

```
/*
* [The "BSD license"]
*  Copyright (c) 2012-2016 Terence Parr
*  Copyright (c) 2012-2016 Sam Harwell
*  All rights reserved.
*
*  Redistribution and use in source and binary forms, with or without
*  modification, are permitted provided that the following conditions
*  are met:
*
*  1. Redistributions of source code must retain the above copyright
*     notice, this list of conditions and the following disclaimer.
*  2. Redistributions in binary form must reproduce the above copyright
*     notice, this list of conditions and the following disclaimer in the
*     documentation and/or other materials provided with the distribution.
*  3. The name of the author may not be used to endorse or promote products
*     derived from this software without specific prior written permission.
*
*  THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
*  IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
*  OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
*  IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
*  INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
*  NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
*  DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
*  THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
*  (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
*  THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
*/

javaTypeInitMap ::= [
 "int":"0",
 "long":"0",
 "float":"0.0f",
 "double":"0.0",
 "boolean":"false",
 "byte":"0",
```

```
 "short":"0",
 "char":"0",
 default:"null" // anything other than a primitive type is an object
]

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<namedActions.header>
import org.antlr.v4.runtime.atn.*;
import org.antlr.v4.runtime.dfa.DFA;
import org.antlr.v4.runtime.*;
import org.antlr.v4.runtime.misc.*;
import org.antlr.v4.runtime.tree.*;
import java.util.List;
import java.util.Iterator;
import java.util.ArrayList;

<parser>
>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>
import org.antlr.v4.runtime.tree.ParseTreeListener;

/**
* This interface defines a complete listener for a parse tree produced by
* {@link <file.parserName>}.
*/
public interface <file.grammarName>Listener extends ParseTreeListener {
 <file.listenerNames:{lname |
/**
<if(file.listenerLabelRuleNames.(lname))>
* Enter a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
* Enter a parse tree produced by {@link <file.parserName>#<lname>\}.
<endif>
* @param ctx the parse tree
*/
```

```
void enter<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);
/**
<if(file.listenerLabelRuleNames.(lname))>
* Exit a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.listenerLabelRuleNames.(lname)>\}.
<else>
* Exit a parse tree produced by {@link <file.parserName>#<lname>\}.
<endif>
* @param ctx the parse tree
*/
void exit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);}; separator="\n">
}
>>

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>

import org.antlr.v4.runtime.ParserRuleContext;
import org.antlr.v4.runtime.tree.ErrorNode;
import org.antlr.v4.runtime.tree.TerminalNode;

/**
* This class provides an empty implementation of {@link <file.grammarName>Listener},
* which can be extended to create a listener which only needs to handle a subset
* of the available methods.
*/
public class <file.grammarName>BaseListener implements <file.grammarName>Listener {
 <file.listenerNames:{lname |
/**
* {@inheritDoc\}
*
* \<p>The default implementation does nothing.\</p>
*/
@Override public void enter<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { \}
/**
* {@inheritDoc\}
*
* \<p>The default implementation does nothing.\</p>
*/
@Override public void exit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { \}};
separator="\n">

 /**
  * {@inheritDoc\}
```

```
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void enterEveryRule(ParserRuleContext ctx) { }
/**
 * {@inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void exitEveryRule(ParserRuleContext ctx) { }
/**
 * {@inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void visitTerminal(TerminalNode node) { }
/**
 * {@inheritDoc\}
 *
 * \<p>The default implementation does nothing.\</p>
 */
@Override public void visitErrorNode(ErrorNode node) { }
}
>>

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>
import org.antlr.v4.runtime.tree.ParseTreeVisitor;

/**
* This interface defines a complete generic visitor for a parse tree produced
* by {@link <file.parserName>}.
*
* @param \<T> The return type of the visit operation. Use {@link Void} for
* operations with no return type.
*/
public interface <file.grammarName>Visitor\<T> extends ParseTreeVisitor\<T> {
 <file.visitorNames:{lname |
/**
<if(file.visitorLabelRuleNames.(lname))>
* Visit a parse tree produced by the {@code <lname>\}
* labeled alternative in {@link <file.parserName>#<file.visitorLabelRuleNames.(lname)>\}.
<else>
* Visit a parse tree produced by {@link <file.parserName>#<lname>\}.
```

```
<endif>
* @param ctx the parse tree
* @return the visitor result
*/
T visit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx);}; separator="\n">
}
>>

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
package <file.genPackage>;
<endif>
<header>
import org.antlr.v4.runtime.tree.AbstractParseTreeVisitor;

/**
* This class provides an empty implementation of {@link <file.grammarName>Visitor},
* which can be extended to create a visitor which only needs to handle a subset
* of the available methods.
*
* @param \<T> The return type of the visit operation. Use {@link Void} for
* operations with no return type.
*/
public class <file.grammarName>BaseVisitor\<T> extends AbstractParseTreeVisitor\<T> implements
<file.grammarName>Visitor\<T> {
 <file.visitorNames:{lname |
/**
* {@inheritDoc\}
*
* \<p>The default implementation returns the result of calling
* {@link #visitChildren\} on {@code ctx\}.\</p>
*/
@Override public T visit<lname; format="cap">(<file.parserName>.<lname; format="cap">Context ctx) { return
visitChildren(ctx); \}}; separator="\n">
}
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
// Generated from <grammarFileName; format="java-escape"> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})
```

```
public class <parser.name> extends <superClass; null="Parser"> {
 static { RuntimeMetaData.checkVersion("<file.ANTLRVersion>", RuntimeMetaData.VERSION); }

 protected static final DFA[] _decisionToDFA;
 protected static final PredictionContextCache _sharedContextCache =
  new PredictionContextCache();
 <if(parser.tokens)>
 public static final int
  <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator=", ", wrap, anchor>;
 <endif>
 public static final int
  <parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>;
 private static String[] makeRuleNames() {
  return new String[] {
   <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
  };
 }
 public static final String[] ruleNames = makeRuleNames();

 <vocabulary(parser.literalNames, parser.symbolicNames)>

 @Override
 public String getGrammarFileName() { return "<parser.grammarFileName; format="java-escape">"; }

 @Override
 public String[] getRuleNames() { return ruleNames; }

 @Override
 public String getSerializedATN() { return _serializedATN; }

 @Override
 public ATN getATN() { return _ATN; }

 <namedActions.members>
 <parser:(ctor)()>
 <funcs; separator="\n">

<if(sempredFuncs)>
 public boolean sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
  switch (ruleIndex) {
   <parser.sempredFuncs.values:{f|
case <f.ruleIndex>:
 return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
  }
  return true;
 }
 <sempredFuncs.values; separator="\n">
<endif>
```

```
 <atn>
}
>>

vocabulary(literalNames, symbolicNames) ::= <<
private static String[] makeLiteralNames() {
 return new String[] {
  <literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
 };
}
private static final String[] _LITERAL_NAMES = makeLiteralNames();
private static String[] makeSymbolicNames() {
 return new String[] {
  <symbolicNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
 };
}
private static final String[] _SYMBOLIC_NAMES = makeSymbolicNames();
public static final Vocabulary VOCABULARY = new VocabularyImpl(_LITERAL_NAMES,
_SYMBOLIC_NAMES);

/**
* @deprecated Use {@link #VOCABULARY} instead.
*/
@Deprecated
public static final String[] tokenNames;
static {
 tokenNames = new String[_SYMBOLIC_NAMES.length];
 for (int i = 0; i \< tokenNames.length; i++) {
  tokenNames[i] = VOCABULARY.getLiteralName(i);
  if (tokenNames[i] == null) {
   tokenNames[i] = VOCABULARY.getSymbolicName(i);
  }

  if (tokenNames[i] == null) {
   tokenNames[i] = "\<INVALID>";
  }
 }
}

@Override
@Deprecated
public String[] getTokenNames() {
 return tokenNames;
}

@Override
```

```
public Vocabulary getVocabulary() {
 return VOCABULARY;
}
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
@Override
public void action(RuleContext _localctx, int ruleIndex, int actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f|
case <f.ruleIndex>:
 <f.name>_action((<f.ctxType>)_localctx, actionIndex);
 break;}; separator="\n">
 }
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
@Override
public boolean sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f|
case <f.ruleIndex>:
 return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
 }
 return true;
}
<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(p) ::= <<
public <p.name>(TokenStream input) {
 super(input);
 _interp = new ParserATNSimulator(this,_ATN,_decisionToDFA,_sharedContextCache);
}
>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<
private void <r.name>_action(<r.ctxType> _localctx, int actionIndex) {
 switch (actionIndex) {
 <actions:{index|
case <index>:
 <actions.(index)>
```

```
 break;}; separator="\n">
 }
}
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
private boolean <r.name>_sempred(<r.ctxType> _localctx, int predIndex) {
 switch (predIndex) {
 <actions:{index|
case <index>:
 return <actions.(index)>;}; separator="\n">
 }
 return true;
}
>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public final <endif><currentRule.ctxType>
<currentRule.name>(<args; separator=",">) throws RecognitionException {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(_ctx, getState()<currentRule.args:{a | ,
<a.name>}>);
 enterRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 <if(exceptions)>
 <exceptions; separator="\n">
 <else>
 catch (RecognitionException re) {
  _localctx.exception = re;
  _errHandler.reportError(this, re);
  _errHandler.recover(this, re);
 }
```

```
 <endif>
 finally {
  <finallyAction>
  exitRule();
 }
 return _localctx;
}
>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public final <endif><currentRule.ctxType>
<currentRule.name>(<args; separator=", ">) throws RecognitionException {
 return <currentRule.name>(0<currentRule.args:{a | , <a.name>}>);
}

private <currentRule.ctxType> <currentRule.name>(int _p<args:{a | , <a>}>) throws RecognitionException {
 ParserRuleContext _parentctx = _ctx;
 int _parentState = getState();
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(_ctx, _parentState<currentRule.args:{a | ,
<a.name>}>);
 <currentRule.ctxType> _prevctx = _localctx;
 int _startState = <currentRule.startState>;
 enterRecursionRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>, _p);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 catch (RecognitionException re) {
  _localctx.exception = re;
  _errHandler.reportError(this, re);
  _errHandler.recover(this, re);
 }
 finally {
  <finallyAction>
  unrollRecursionContexts(_parentctx);
 }
```

```
 return _localctx;
}
>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>_localctx = new <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(_localctx);<endif>
enterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
{
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
}
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1);<endif>
<preamble; separator="\n">
switch (_input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 <error>
}
>>

LL1OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
switch (_input.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 break;
}
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
```

```
<preamble; separator="\n">
if (<expr>) {
 <alts; separator="\n">
}
<!else if ( !(<followExpr>) ) <error>!>
>>

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<preamble; separator="\n">
while (<loopExpr>) {
 <alts; separator="\n">
 setState(<choice.loopBackStateNumber>);
 _errHandler.sync(this);
 <iteration>
}
>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
setState(<choice.blockStartStateNumber>); <! alt block decision !>
_errHandler.sync(this);
<preamble; separator="\n">
do {
 <alts; separator="\n">
 setState(<choice.stateNumber>); <! loopback/exit decision !>
 _errHandler.sync(this);
 <iteration>
} while ( <loopExpr> );
>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
<if(choice.label)><labelref(choice.label)> = _input.LT(1);<endif>
<preamble; separator="\n">
switch ( getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx) ) {
<alts:{alt |
case <i>:
 <alt>
 break;}; separator="\n">
}
>>

OptionalBlock(choice, alts, error) ::= <<
setState(<choice.stateNumber>);
```

```
_errHandler.sync(this);
switch ( getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx) ) {
<alts:{alt |
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
}
>>

StarBlock(choice, alts, sync, iteration) ::= <<
setState(<choice.stateNumber>);
_errHandler.sync(this);
_alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);
while ( _alt!=<choice.exitAlt> && _alt!=org.antlr.v4.runtime.atn.ATN.INVALID_ALT_NUMBER ) {
 if ( _alt==1<if(!choice.ast.greedy)>+1<endif> ) {
  <iteration>
  <alts> <! should only be one !>
 }
 setState(<choice.loopBackStateNumber>);
 _errHandler.sync(this);
 _alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);
}
>>

PlusBlock(choice, alts, error) ::= <<
setState(<choice.blockStartStateNumber>); <! alt block decision !>
_errHandler.sync(this);
_alt = 1<if(!choice.ast.greedy)>+1<endif>;
do {
 switch (_alt) {
 <alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 default:
  <error>
 }
 setState(<choice.loopBackStateNumber>); <! loopback/exit decision !>
 _errHandler.sync(this);
 _alt = getInterpreter().adaptivePredict(_input,<choice.decision>,_ctx);
} while ( _alt!=<choice.exitAlt> && _alt!=org.antlr.v4.runtime.atn.ATN.INVALID_ALT_NUMBER );
>>

Sync(s) ::= "sync(<s.expecting.name>);"

ThrowNoViableAlt(t) ::= "throw new NoViableAltException(this);"

TestSetInline(s) ::= <<
```

```
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShift(s.varName, bits.shift)>})> && ((1L \<\< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ttype | (1L \<\< <offsetShift(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<ttype>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <t>:}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
setState(<r.stateNumber>);
<if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif><r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChunks>
);
>>

MatchToken(m) ::= <<
setState(<m.stateNumber>);
<if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>match(<m.name>);
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"
```

```
CommonSetStuff(m, expr, capture, invert) ::= <<
setState(<m.stateNumber>);
<if(m.labels)><m.labels:{l | <labelref(l)> = }>_input.LT(1);<endif>
<capture>
if ( <if(invert)><m.varName> \<= 0 || <else>!<endif>(<expr>) ) {
 <if(m.labels)><m.labels:{l | <labelref(l)> = (Token)}><endif>_errHandler.recoverInline(this);
}
else {
 if ( _input.LA(1)==Token.EOF ) matchedEOF = true;
 _errHandler.reportMatch(this);
 consume();
}
>>

Wildcard(w) ::= <<
setState(<w.stateNumber>);
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>matchWildcard();
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
setState(<p.stateNumber>);
if (!(<chunks>)) throw new FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "skip();"
LexerMoreCommand()  ::= "more();"
LexerPopModeCommand() ::= "popMode();"

LexerTypeCommand(arg, grammar)      ::= "_type = <arg>;"
LexerChannelCommand(arg, grammar)   ::= "_channel = <arg>;"
LexerModeCommand(arg, grammar)      ::= "_mode = <arg>;"
LexerPushModeCommand(arg, grammar)  ::= "pushMode(<arg>);"
```

```
ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<a.name>"
LocalRef(a) ::= "_localctx.<a.name>"
RetValueRef(a) ::= "_localctx.<a.name>"
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>;"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getText():null)"
TokenPropertyRef_type(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getType():0)"
TokenPropertyRef_line(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getLine():0)"
TokenPropertyRef_pos(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getCharPositionInLine():0)"
TokenPropertyRef_channel(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getChannel():0)"
TokenPropertyRef_index(t) ::= "(<ctx(t)>.<t.label>!=null?<ctx(t)>.<t.label>.getTokenIndex():0)"
TokenPropertyRef_int(t) ::= "(<ctx(t)>.<t.label>!=null?Integer.valueOf(<ctx(t)>.<t.label>.getText()):0)"

RulePropertyRef_start(r) ::= "(<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.start):null)"
RulePropertyRef_stop(r)  ::= "(<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.stop):null)"
RulePropertyRef_text(r)  ::=
"(<ctx(r)>.<r.label>!=null?_input.getText(<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop):null)"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "this"

ThisRulePropertyRef_start(r) ::= "_localctx.start"
ThisRulePropertyRef_stop(r)  ::= "_localctx.stop"
ThisRulePropertyRef_text(r)  ::= "_input.getText(_localctx.start, _input.LT(-1))"
ThisRulePropertyRef_ctx(r)  ::= "_localctx"
ThisRulePropertyRef_parser(r)  ::= "this"

NonLocalAttrRef(s)   ::= "((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name>"
SetNonLocalAttr(s, rhsChunks)   ::=
 "((<s.ruleName; format=\"cap\">Context)getInvokingContext(<s.ruleIndex>)).<s.name> = <rhsChunks>;"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.add(<labelref(a.label)>);"

TokenDecl(t) ::= "<TokenLabelType()> <t.name>"
TokenTypeDecl(t) ::= "int <t.name>;"
TokenListDecl(t) ::= "List\<Token> <t.name> = new ArrayList\<Token>()"
RuleContextDecl(r) ::= "<r.ctxName> <r.name>"
RuleContextListDecl(rdecl) ::= "List\<<rdecl.ctxName>> <rdecl.name> = new ArrayList\<<rdecl.ctxName>>()"
```

```
ContextTokenGetterDecl(t)      ::=
   "public TerminalNode <t.name>() { return getToken(<parser.name>.<t.name>, 0); }"
ContextTokenListGetterDecl(t)  ::=
   "public List\<TerminalNode> <t.name>() { return getTokens(<parser.name>.<t.name>); }"
ContextTokenListIndexedGetterDecl(t)  ::= <<
public TerminalNode <t.name>(int i) {
 return getToken(<parser.name>.<t.name>, i);
}
>>
ContextRuleGetterDecl(r)       ::= <<
public <r.ctxName> <r.name>() {
 return getRuleContext(<r.ctxName>.class,0);
}
>>
ContextRuleListGetterDecl(r)   ::= <<
public List\<<r.ctxName>\> <r.name>() {
 return getRuleContexts(<r.ctxName>.class);
}
>>
ContextRuleListIndexedGetterDecl(r)   ::= <<
public <r.ctxName> <r.name>(int i) {
 return getRuleContext(<r.ctxName>.class,i);
}
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
* r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "<tokenName>"
ImplicitRuleLabel(ruleName)   ::= "<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = _input.LT(1);"
CaptureNextTokenType(d) ::= "<d.varName> = _input.LA(1);"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers)
 ::= <<
public static class <struct.name> extends
<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)> implements
<interfaces; separator=", "><endif> {
 <attrs:{a | public <a>;}; separator="\n">
 <getters:{g | <g>}; separator="\n">
```

```
 <if(ctorAttrs)>public <struct.name>(ParserRuleContext parent, int invokingState) { super(parent, invokingState);
}<endif>
 public <struct.name>(ParserRuleContext parent, int invokingState<ctorAttrs:{a | , <a>}>) {
  super(parent, invokingState);
  <struct.ctorAttrs:{a | this.<a.name> = <a.name>;}; separator="\n">
 }
 @Override public int getRuleIndex() { return RULE_<struct.derivedFromName>; }
<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 public <struct.name>() { }
 public void copyFrom(<struct.name> ctx) {
  super.copyFrom(ctx);
  <struct.attrs:{a | this.<a.name> = ctx.<a.name>;}; separator="\n">
 }
<endif>
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">
}
>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
public static class <struct.name> extends <currentRule.name; format="cap">Context {
 <attrs:{a | public <a>;}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 public <struct.name>(<currentRule.name; format="cap">Context ctx) { copyFrom(ctx); }
 <dispatchMethods; separator="\n">
}
>>

ListenerDispatchMethod(method) ::= <<
@Override
public void <if(method.isEnter)>enter<else>exit<endif>Rule(ParseTreeListener listener) {
 if ( listener instanceof <parser.grammarName>Listener )
((<parser.grammarName>Listener)listener).<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName;
format="cap">(this);
}
>>

VisitorDispatchMethod(method) ::= <<
@Override
public \<T> T accept(ParseTreeVisitor\<? extends T> visitor) {
 if ( visitor instanceof <parser.grammarName>Visitor ) return ((<parser.grammarName>Visitor\<? extends
T>)visitor).visit<struct.derivedFromName; format="cap">(this);
 else return visitor.visitChildren(this);
}
>>

AttributeDecl(d) ::= "<d.type> <d.name><if(d.initValue)> = <d.initValue><endif>"
```

```
/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>((<x.ctx.name>)_localctx).<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "((<actionChunk.ctx.name>)_localctx)"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "precpred(_ctx, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>;"
recRuleSetStopToken()                 ::= "_ctx.stop = _input.LT(-1);"

recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
_localctx = new <ctxName>Context(_parentctx, _parentState);
<if(label)>
<if(isListLabel)>
_localctx.<label>.add(_prevctx);
<else>
_localctx.<label> = _prevctx;
<endif>
<endif>
<if(label)>_localctx.<label> = _prevctx;<endif>
pushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
_localctx = new <currentAltLabel; format="cap">Context(new <ruleName; format="cap">Context(_parentctx,
_parentState));
<if(label)>
<if(isListLabel)>
((<currentAltLabel; format="cap">Context)_localctx).<label>.add(_prevctx);
<else>
((<currentAltLabel; format="cap">Context)_localctx).<label> = _prevctx;
<endif>
<endif>
pushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

recRuleReplaceContext(ctxName) ::= <<
_localctx = new <ctxName>Context(_localctx);
_ctx = _localctx;
_prevctx = _localctx;
>>

recRuleSetPrevCtx() ::= <<
if ( _parseListeners!=null ) triggerExitRuleEvent();
_prevctx = _localctx;
>>
```

```
LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
<if(lexerFile.genPackage)>
package <lexerFile.genPackage>;
<endif>
<namedActions.header>
import org.antlr.v4.runtime.Lexer;
import org.antlr.v4.runtime.CharStream;
import org.antlr.v4.runtime.Token;
import org.antlr.v4.runtime.TokenStream;
import org.antlr.v4.runtime.*;
import org.antlr.v4.runtime.atn.*;
import org.antlr.v4.runtime.dfa.DFA;
import org.antlr.v4.runtime.misc.*;

<lexer>
>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
@SuppressWarnings({"all", "warnings", "unchecked", "unused", "cast"})
public class <lexer.name> extends <superClass; null="Lexer"> {
 static { RuntimeMetaData.checkVersion("<lexerFile.ANTLRVersion>", RuntimeMetaData.VERSION); }

 protected static final DFA[] _decisionToDFA;
 protected static final PredictionContextCache _sharedContextCache =
  new PredictionContextCache();
 <if(lexer.tokens)>
 public static final int
  <lexer.tokens:{k | <k>=<lexer.tokens.(k)>}; separator=", ", wrap, anchor>;
 <endif>
 <if(lexer.channels)>
 public static final int
  <lexer.channels:{c | <c>=<lexer.channels.(c)>}; separator=", ", wrap, anchor>;
 <endif>
 <if(rest(lexer.modes))>
 public static final int
  <rest(lexer.modes):{m | <m>=<i>}; separator=", ", wrap, anchor>;
 <endif>
 public static String[] channelNames = {
  "DEFAULT_TOKEN_CHANNEL", "HIDDEN"<if (lexer.channels)>, <lexer.channels:{c| "<c>"}; separator=", ",
wrap, anchor><endif>
 };

 public static String[] modeNames = {
  <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>
 };
```

```
 private static String[] makeRuleNames() {
  return new String[] {
   <lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
  };
 }
 public static final String[] ruleNames = makeRuleNames();

 <vocabulary(lexer.literalNames, lexer.symbolicNames)>

 <namedActions.members>

 public <lexer.name>(CharStream input) {
  super(input);
  _interp = new LexerATNSimulator(this,_ATN,_decisionToDFA,_sharedContextCache);
 }

 @Override
 public String getGrammarFileName() { return "<lexer.grammarFileName>"; }

 @Override
 public String[] getRuleNames() { return ruleNames; }

 @Override
 public String getSerializedATN() { return _serializedATN; }

 @Override
 public String[] getChannelNames() { return channelNames; }

 @Override
 public String[] getModeNames() { return modeNames; }

 @Override
 public ATN getATN() { return _ATN; }

 <dumpActions(lexer, "", actionFuncs, sempredFuncs)>
 <atn>
 }
 >>

 SerializedATN(model) ::= <<
 <if(rest(model.segments))>
 <! requires segmented representation !>
 private static final int _serializedATNSegments = <length(model.segments)>;
 <model.segments:{segment|private static final String _serializedATNSegment<i0> =
  "<segment; wrap={"+<\n><\t>"}>";}; separator="\n">
 public static final String _serializedATN = Utils.join(
  new String[] {
   <model.segments:{segment | _serializedATNSegment<i0>}; separator=",\n">
```

```
 },
 ""
);
<else>
<! only one segment, can be inlined !>
public static final String _serializedATN =
 "<model.serialized; wrap={"+<\n><\t>"}>";
<endif>
public static final ATN _ATN =
 new ATNDeserializer().deserialize(_serializedATN.toCharArray());
static {
 _decisionToDFA = new DFA[_ATN.getNumberOfDecisions()];
 for (int i = 0; i \< _ATN.getNumberOfDecisions(); i++) {
  _decisionToDFA[i] = new DFA(_ATN.getDecisionState(i), i);
 }
<! org.antlr.v4.tool.DOTGenerator dot = new org.antlr.v4.tool.DOTGenerator(null);!>
<! System.out.println(dot.getDOT(_ATN.decisionToState.get(0), ruleNames, false));!>
<! System.out.println(dot.getDOT(_ATN.ruleToStartState[2], ruleNames, false));!>
}
>>

/** Using a type to init value map, try to init a type; if not in table
* must be an object, default value is "null".
*/
initValue(typeName) ::= <<
<javaTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".java"
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/codegen/Java/Java.stg
No license file was found, but licenses were detected in source scan.

```
/*
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Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/RuleRefAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/LL1AltBlock.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/TokenPropertyRef.java
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* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/NotAST.java
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* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/GrammarAST.java
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* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/ListLabelRef.java
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* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/CodeGeneratorExtension.java

* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/AltAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/automata/ATNFactory.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/chunk/SetAttr.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/tool/ast/GrammarASTErrorNode.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/chunk/TokenRef.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/ParserFile.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/PredAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/Target.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/DefaultOutputModelFactory.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/semantics/AttributeChecks.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/tool/ast/GrammarASTVisitor.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/parse/ToolANTLRLexer.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/decl/ContextTokenListIndexedGetterDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/target/CSharpTarget.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/analysis/LeftRecursiveRuleAnalyzer.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/chunk/ThisRulePropertyRef_ctx.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/LL1PlusBlockSingleAlt.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/automata/ATNPrinter.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/chunk/TokenPropertyRef_text.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/Loop.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/tool/ast/GrammarRootAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/model/decl/CodeBlock.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/misc/CharSupport.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/automata/ATNVisitor.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/tool/ast/PlusBlockAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/codegen/OutputModelFactory.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-

jar/org/antlr/v4/tool/GrammarTransformPipeline.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/ListenerFile.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/Attribute.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/Tool.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/ContextRuleGetterDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/RuleFunction.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/CodeGenerator.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/semantics/ActionSniffer.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/RuleContextDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/RulePropertyRef.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/BaseListenerFile.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/target/GoTarget.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/RuleAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/ThisRulePropertyRef_parser.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/GrammarSyntaxMessage.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/MatchToken.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/ActionTranslator.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/misc/OrderedHashMap.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/StarBlock.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/Sync.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/analysis/AnalysisPipeline.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/ListenerDispatchMethod.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/SetNonLocalAttr.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/RulePropertyRef_ctx.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/ScopeParser.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/LabelRef.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/ModelElement.java

* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/StarBlockAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/v4ParserException.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/LL1Choice.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/ElementListDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/LocalRef.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/AddToLabelList.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/OutputFile.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/TokenDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/target/CppTarget.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/unicode/UnicodeDataTemplateController.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/GrammarASTWithOptions.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/TokenTypeDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/BuildDependencyGenerator.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/OutputModelController.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ANTLRToolListener.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/CodeGenPipeline.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/LabelType.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/RuleContextListDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/ast/SetAST.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/LabelElementPair.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/decl/AttributeDecl.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/InvokeRule.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/v3TreeGrammarException.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/target/JavaTarget.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/Rule.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-

jar/org/antlr/v4/codegen/model/Choice.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/TokenPropertyRef_type.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/PlusBlock.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/gui/SystemFontMetrics.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/ArgAction.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/GrammarSemanticsMessage.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/RuleSempredFunction.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/RuleActionFunction.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/CaptureNextToken.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/ResyncToEndOfRuleBlock.java
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/model/chunk/ThisRulePropertyRef_stop.java
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*/

// File   : A3Lexer.g
// Author   : Jim Idle (jimi@temporal-wave.com)
// Copyright : Free BSD - See @header clause below
// Version   : First implemented as part of ANTLR 3.2 this is the self
//   hosting ANTLR 3 Lexer.
//
// Description
// -----------
// This is the definitive lexer grammar for parsing ANTLR V3.x.x grammars. All other
// gramnmars are derived from this grammar via source code control integration (perforce)
// or by the gdiff tool.
//
// This grammar and its associated grmmmars A3Parser.g and A3Walker.g exhibit the following
// traits, which are recommended for all production quality grammars:
//
// 1) They are separate grammars, not composite grammars;
// 2) They implement all supporting methods in a superclass (at least this is recommended
//   for language targets that support inheritence;
// 3) All errors are pushed as far down the parsing chain as possible, which means
//   that the lexer tries to defer error reporting to the parser, and the parser
//   tries to defer error reporting to a semantic phase consisting of a single
//   walk of the AST. The reason for this is that the error messages produced
//   from later phases of the parse will generally have better context and so
//   be more useful to the end user. Consider the message: "Syntax error at 'options'"
//   vs: "You cannot specify two options{} sections in a single grammar file".
// 4) The lexer is 'programmed' to catch common mistakes such as unterminated literals
//   and report them specifically and not just issue confusing lexer mismatch errors.
//

/** Read in an ANTLR grammar and build an AST. Try not to do
* any actions, just build the tree.
*
* The phases are:
*
* A3Lexer.g (this file)
*   A3Parser.g
*   A3Verify.g (derived from A3Walker.g)
* assign.types.g
* define.g
* buildnfa.g
* antlr.print.g (optional)
* codegen.g
*

```
*  Terence Parr
*  University of San Francisco
*  2005
*  Jim Idle (this v3 grammar)
*  Temporal Wave LLC
*  2009
*/
lexer grammar ANTLRLexer;

// ============================================================================
// Note that while this grammar does not care about order of constructs
// that don't really matter, such as options before @header etc, it must first
// be parsed by the original v2 parser, before it replaces it. That parser does
// care about order of structures. Hence we are constrained by the v2 parser
// for at least the first bootstrap release that causes this parser to replace
// the v2 version.
// ============================================================================

// -------
// Options
//
// V3 option directives to tell the tool what we are asking of it for this
// grammar.
//
options {

 // Target language is Java, which is the default but being specific
 // here as this grammar is also meant as a good example grammar for
 // for users.
 //
 language      = Java;

 // The super class that this lexer should expect to inherit from, and
 // which contains any and all support routines for the lexer. This is
 // commented out in this baseline (definitive or normative grammar)
 // - see the ANTLR tool implementation for hints on how to use the super
 //   class
 //
 //superclass    = AbstractA3Lexer;
}

tokens { SEMPRED; TOKEN_REF; RULE_REF; LEXER_CHAR_SET; ARG_ACTION; }

// Include the copyright in this source and also the generated source
//
@lexer::header {
/*
[The "BSD licence"]
```

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*/
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
import org.antlr.v4.runtime.misc.Interval;
}

@members {
 public static final int COMMENTS_CHANNEL = 2;

  public CommonTokenStream tokens; // track stream we push to; need for context info
  public boolean isLexerRule = false;

 public void grammarError(ErrorType etype, org.antlr.runtime.Token token, Object... args) { }

 /** scan backwards from current point in this.tokens list
  * looking for the start of the rule or subrule.
  * Return token or null if for some reason we can't find the start.
  */
 public Token getRuleOrSubruleStartToken() {
    if (tokens==null) return null;
  int i = tokens.index();
      int n = tokens.size();
      if (i>=n) i = n-1; // seems index == n as we lex

```
  while ( i>=0 && i<n) {
   int ttype = tokens.get(i).getType();
   if ( ttype == LPAREN || ttype == TOKEN_REF || ttype == RULE_REF ) {
    return tokens.get(i);
   }
   i--;
  }
  return null;
 }
}

// --------
// Comments
//
// ANTLR comments can be multi or single line and we don't care
// which particularly. However we also accept Javadoc style comments
// of the form: /** ... */ and we do take care to distinguish those
// from ordinary multi-line comments
// Note how we guide the lexical PATH because we want to issue a decriptive
// error message in case of a standalone '/' character, which makes no
// sense in ANTLR source code. We alo trap unterminated multi-line comments
//
fragment DOC_COMMENT : ;
COMMENT
@init {

 // Record the start line and offsets as if we need to report an
 // unterminated comment, then we want to show the start of the comment
 // we think is broken, not the end, where people will have to try and work
 // it out themselves.
 //
 int startLine = $line;
 int offset    = getCharPositionInLine();
}
  : // Eat the first character only, then see if we have a comment
    // or something silly.
    //
    '/'  // Comment introducer

    (
        // Single line comment, possibly with embedded src/line directives
        // in a similar style to the C pre-processor, allowing generated
        // code to refer the programmer back to the original source code
        // in case of error.
        //
        '/'
          (
             (' $ANTLR')=> ' $ANTLR' SRC
```

```
        | ~(NLCHARS)*
       )

      | // Multi-line comment, which may be a documentation comment
        // if it starts /** (note that we protect against accidentaly
        // recognizing a comment /**/ as a documentation comment
        //
        '*' (
            { input.LA(2) != '/'}?=> '*' { $type = DOC_COMMENT; }
          | { true }?=>  // Required to cover all alts with predicates
          )

          // Should we support embedded multiline comments here?
          //
          (
             // Pick out end of multiline comment and exit the loop
             // if we find it.
             //
             {    !(input.LA(1) == '*' && input.LA(2) == '/') }?

              // Anything else other than the non-greedy match of
              // the comment close sequence
              //
              .
          )*
       (
             // Look for the comment terminator, but if it is accidentally
             // unterminated, then we will hit EOF, which will trigger the
             // epsilon alt and hence we can issue an error message relative
             // to the start of the unterminated multi-line comment
             //
             '*/'

           | // Unterminated comment!
             //
             {
               // ErrorManager.msg(Msg.UNTERMINATED_DOC_COMMENT, startLine, offset, $pos, startLine,
offset, $pos, (Object)null);
             }
       )

      | // There was nothing that made sense following the opening '/' and so
        // we issue an error regarding the malformed comment
        //
        {
          // TODO: Insert error message relative to comment start
          //
        }
```

```
    )
    {
     // We do not wish to pass the comments in to the parser. If you are
     // writing a formatter then you will want to preserve the comments off
     // channel, but could just skip and save token space if not.
     //
     $channel=COMMENTS_CHANNEL;
    }
  ;

ARG_OR_CHARSET
options {k=1;}
  :   {isLexerRule}?=> LEXER_CHAR_SET {$type=LEXER_CHAR_SET;}
  |   {!isLexerRule}?=> ARG_ACTION
      {
      $type=ARG_ACTION;
      // Set the token text to our gathered string minus outer [ ]
      String t = $text;
      t = t.substring(1,t.length()-1);
      setText(t);
      }
  ;

fragment
LEXER_CHAR_SET
 : '['
  ( '\\' ~('\r'|'\n')
  | ~('\r'|'\n'|'\\'|']')
  )*
  ']'
 ;

// ----------
// Argument specs
//
// Certain argument lists, such as those specifying call parameters
// to a rule invocation, or input parameters to a rule specification
// are contained within square brackets. In the lexer we consume them
// all at once and sort them out later in the grammar analysis.
//
fragment
ARG_ACTION
 : '['
       (
          ARG_ACTION

        | ('"')=>ACTION_STRING_LITERAL
```

```
        | ('\'')=>ACTION_CHAR_LITERAL

        | ~('['|']')
      )*

      ']'
  ;

// -------
// Actions
//
// Other than making sure to distinguish between { and } embedded
// within what we have assumed to be literals in the action code, the
// job of the lexer is merely to gather the code within the action
// (delimited by {}) and pass it to the parser as a single token.
// We know that this token will be asked for its text somewhere
// in the upcoming parse, so setting the text here to exclude
// the delimiting {} is no additional overhead.
//
ACTION
  : NESTED_ACTION
   ( '?' {$type = SEMPRED;}
    ( (WSNLCHARS* '=>') => WSNLCHARS* '=>' // v3 gated sempred
     {
     Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
     t.setLine(state.tokenStartLine);
     t.setText(state.text);
     t.setCharPositionInLine(state.tokenStartCharPositionInLine);
     grammarError(ErrorType.V3_GATED_SEMPRED, t);
     }
    )?
   )?
  ;

// ----------------
// Action structure
//
// Many language targets use {} as block delimiters and so we
// must recursively match {} delimited blocks to balance the
// braces. Additionally, we must make some assumptions about
// literal string representation in the target language. We assume
// that they are delimited by ' or " and so consume these
// in their own alts so as not to inadvertantly match {}.
// This rule calls itself on matching a {
//
fragment
NESTED_ACTION
@init {
```

```
 // Record the start line and offsets as if we need to report an
 // unterminated block, then we want to show the start of the comment
 // we think is broken, not the end, where people will have to try and work
 // it out themselves.
 //
 int startLine = getLine();
 int offset    = getCharPositionInLine();
}

  : // Action and other blocks start with opening {
    //
  '{'
    (
    // And now we can match one of a number of embedded
    // elements within the action until we find a
    // } that balances the opening {. If we do not find
    // the balanced } then we will hit EOF and can issue
    // an error message about the brace that we belive to
    // be mismatched. This won't be foolproof but we will
    // be able to at least report an error against the
    // opening brace that we feel is in error and this will
    // guide the user to the correction as best we can.
    //


      // An embedded {} block
     //
     NESTED_ACTION

     | // What appears to be a literal
       //
       ACTION_CHAR_LITERAL

     | // We have assumed that the target language has C/Java
       // type comments.
       //
       COMMENT

     | // What appears to be a literal
       //
       ACTION_STRING_LITERAL

    | // What appears to be an escape sequence
      //
      ACTION_ESC

    | // Some other single character that is not
```

```
      // handled above
      //
      ~('\\'|'"'|'\''|'/'|'{'|'}')

    )*

(
    // Correctly balanced closing brace
    //
    '}'

  | // Looks like have an imblanced {} block, report
    // with respect to the opening brace.
    //
    {
       // TODO: Report imbalanced {}
       System.out.println("Block starting  at line " + startLine + " offset " + (offset+1) + " contains imbalanced {} or
is missing a }");
    }
)
 ;


// Keywords
// --------
// keywords used to specify ANTLR v3 grammars. Keywords may not be used as
// labels for rules or in any other context where they would be ambiguous
// with the keyword vs some other identifier
// OPTIONS, TOKENS, and CHANNELS must also consume the opening brace that captures
// their option block, as this is the easiest way to parse it separate
// to an ACTION block, despite it using the same {} delimiters.
//
OPTIONS      : 'options'  WSNLCHARS* '{'  ;
TOKENS_SPEC  : 'tokens'   WSNLCHARS* '{'  ;
CHANNELS     : 'channels' WSNLCHARS* '{'  ;

IMPORT       : 'import'              ;
FRAGMENT     : 'fragment'            ;
LEXER        : 'lexer'               ;
PARSER       : 'parser'              ;
GRAMMAR      : 'grammar'             ;
TREE_GRAMMAR : 'tree' WSNLCHARS* 'grammar' ;
PROTECTED    : 'protected'           ;
PUBLIC       : 'public'              ;
PRIVATE      : 'private'             ;
RETURNS      : 'returns'             ;
LOCALS       : 'locals'              ;
THROWS       : 'throws'              ;
```

```
CATCH       : 'catch'              ;
FINALLY     : 'finally'            ;
MODE        : 'mode'               ;

// -----------
// Punctuation
//
// Character sequences used as separators, delimters, operators, etc
//
COLON       : ':'
            {
            // scan backwards, looking for a RULE_REF or TOKEN_REF.
            // which would indicate the start of a rule definition.
            // If we see a LPAREN, then it's the start of the subrule.
            // this.tokens is the token string we are pushing into, so
            // just loop backwards looking for a rule definition. Then
            // we set isLexerRule.
            Token t = getRuleOrSubruleStartToken();
            if ( t!=null ) {
                if ( t.getType()==RULE_REF ) isLexerRule = false;
                else if ( t.getType()==TOKEN_REF ) isLexerRule = true;
                // else must be subrule; don't alter context
            }
            }
          ;
COLONCOLON  : '::'                 ;
COMMA       : ','                  ;
SEMI        : ';'                  ;
LPAREN      : '('                  ;
RPAREN      : ')'                  ;
RARROW      : '->'                 ;
LT          : '<'                  ;
GT          : '>'                  ;
ASSIGN      : '='                  ;
QUESTION    : '?'                  ;
SYNPRED     : '=>'
    {
     Token t = new CommonToken(input, state.type, state.channel,
                        state.tokenStartCharIndex, getCharIndex()-1);
   t.setLine(state.tokenStartLine);
   t.setText(state.text);
   t.setCharPositionInLine(state.tokenStartCharPositionInLine);
   grammarError(ErrorType.V3_SYNPRED, t);
           $channel=HIDDEN;
   }
         ;
STAR        : '*'                  ;
PLUS        : '+'                  ;
```

```
PLUS_ASSIGN  : '+='                ;
OR           : '|'                 ;
DOLLAR       : '$'                 ;
DOT          : '.'                 ; // can be WILDCARD or DOT in qid or imported rule ref
RANGE        : '..'                ;
AT           : '@'                 ;
POUND        : '#'                 ;
NOT          : '~'                 ;
RBRACE       : '}'                 ;

/** Allow unicode rule/token names */
ID   : a=NameStartChar NameChar*
   {
   if ( Grammar.isTokenName($a.text) ) $type = TOKEN_REF;
   else $type = RULE_REF;
   }
  ;

fragment
NameChar    :   NameStartChar
        |   '0'..'9'
        |   '_'
        |   '\u00B7'
        |   '\u0300'..'\u036F'
        |   '\u203F'..'\u2040'
        ;

fragment
NameStartChar
        :   'A'..'Z' | 'a'..'z'
        |   '\u00C0'..'\u00D6'
        |   '\u00D8'..'\u00F6'
        |   '\u00F8'..'\u02FF'
        |   '\u0370'..'\u037D'
        |   '\u037F'..'\u1FFF'
        |   '\u200C'..'\u200D'
        |   '\u2070'..'\u218F'
        |   '\u2C00'..'\u2FEF'
        |   '\u3001'..'\uD7FF'
        |   '\uF900'..'\uFDCF'
        |   '\uFDF0'..'\uFEFE'
        |   '\uFF00'..'\uFFFD'
        ; // ignores | ['\u10000-'\uEFFFF] ;

// ----------------------------
// Literals embedded in actions
//
// Note that we have made the assumption that the language used within
```

```
// actions uses the fairly standard " and ' delimiters for literals and
// that within these literals, characters are escaped using the \ character.
// There are some languages which do not conform to this in all cases, such
// as by using /string/ and so on. We will have to deal with such cases if
// if they come up in targets.
//

// Within actions, or other structures that are not part of the ANTLR
// syntax, we may encounter literal characters. Within these, we do
// not want to inadvertantly match things like '}' and so we eat them
// specifically. While this rule is called CHAR it allows for the fact that
// some languages may use/allow ' as the string delimiter.
//
fragment
ACTION_CHAR_LITERAL
 : '\'' (('\\')=>ACTION_ESC | ~'\'' )* '\''
 ;

// Within actions, or other structures that are not part of the ANTLR
// syntax, we may encounter literal strings. Within these, we do
// not want to inadvertantly match things like '}' and so we eat them
// specifically.
//
fragment
ACTION_STRING_LITERAL
 : '"' (('\\')=>ACTION_ESC | ~'"')* '"'
 ;

// Within literal strings and characters that are not part of the ANTLR
// syntax, we must allow for escaped character sequences so that we do not
// inadvertantly recognize the end of a string or character when the terminating
// delimiter has been esacped.
//
fragment
ACTION_ESC
 : '\\' .
 ;

// -------
// Integer
//
// Obviously (I hope) match an aribtrary long sequence of digits.
//
INT : ('0'..'9')+
   ;

// -----------
// Source spec
```

```
//
// A fragment rule for picking up information about an origrinating
// file from which the grammar we are parsing has been generated. This allows
// ANTLR to report errors against the originating file and not the generated
// file.
//
fragment
SRC : 'src' WSCHARS+ file=ACTION_STRING_LITERAL WSCHARS+ line=INT
    {
      // TODO: Add target specific code to change the source file name and current line number
      //
    }
  ;

// --------------
// Literal string
//
// ANTLR makes no disticintion between a single character literal and a
// multi-character string. All literals are single quote delimited and
// may contain unicode escape sequences of the form \uxxxx or \u{xxxxxx},
// where x is a valid hexadecimal number.
STRING_LITERAL
  :  '\'' ( ( ESC_SEQ | ~('\\'|'\''|'\r'|'\n') ) )*
    (    '\''
    |    // Unterminated string literal
         {
         Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
         t.setLine(state.tokenStartLine);
         t.setText(state.text);
         t.setCharPositionInLine(state.tokenStartCharPositionInLine);
         grammarError(ErrorType.UNTERMINATED_STRING_LITERAL, t);
         }
    )
  ;

// A valid hex digit specification
//
fragment
HEX_DIGIT : ('0'..'9'|'a'..'f'|'A'..'F') ;

// Any kind of escaped character that we can embed within ANTLR
// literal strings.
//
fragment
ESC_SEQ
  : '\\'
     (
          // The standard escaped character set such as tab, newline, etc...
```

```
      'b'|'t'|'n'|'f'|'r'|'\"'|'\\'

      | // A Java style Unicode escape sequence
        UNICODE_ESC

        | // A Swift/Hack style Unicode escape sequence
          UNICODE_EXTENDED_ESC

      | // An illegal escape seqeunce
        ~('b'|'t'|'n'|'f'|'r'|'\"'|'\\'|'u') // \x for any invalid x (make sure to match char here)
        {
            Token t = new CommonToken(input, state.type, state.channel, getCharIndex()-2, getCharIndex()-1);
            t.setText(t.getText());
            t.setLine(input.getLine());
            t.setCharPositionInLine(input.getCharPositionInLine()-2);
            grammarError(ErrorType.INVALID_ESCAPE_SEQUENCE, t, input.substring(getCharIndex()-
2,getCharIndex()-1));
        }
      )
  ;

fragment
UNICODE_ESC
@init {

 // Flag to tell us whether we have a valid number of
 // hex digits in the escape sequence
 //
 int hCount = 0;
}
  :   'u' // Leadin for unicode escape sequence

      // We now require 4 hex digits. Note though
      // that we accept any number of characters
      // and issue an error if we do not get 4. We cannot
      // use an inifinite count such as + because this
      // might consume too many, so we lay out the lexical
      // options and issue an error at the invalid paths.
      //
   (
     (
       HEX_DIGIT  { hCount++; }
        (
           HEX_DIGIT  { hCount++; }
          (
             HEX_DIGIT  { hCount++; }
             (
                // Four valid hex digits, we are good
```

```
                //
                HEX_DIGIT { hCount++; }

              | // Three valid digits
            )

          | // Two valid digits
        )

      | // One valid digit
    )
     )
    | // No valid hex digits at all
  )

  // Now check the digit count and issue an error if we need to
  //
  {
   if (hCount < 4) {
  Interval badRange = Interval.of(getCharIndex()-2-hCount, getCharIndex());
  String lastChar = input.substring(badRange.b, badRange.b);
  if ( lastChar.codePointAt(0)=='\" ) {
   badRange.b--;
  }
  String bad = input.substring(badRange.a, badRange.b);
  Token t = new CommonToken(input, state.type, state.channel, badRange.a, badRange.b);
  t.setLine(input.getLine());
  t.setCharPositionInLine(input.getCharPositionInLine()-hCount-2);
  grammarError(ErrorType.INVALID_ESCAPE_SEQUENCE, t, bad);
   }
  }
 ;

fragment
UNICODE_EXTENDED_ESC
  :  'u{' // Leadin for unicode extended escape sequence

     HEX_DIGIT+ // One or more hexadecimal digits

     '}' // Leadout for unicode extended escape sequence

     // Now check the digit count and issue an error if we need to
     {
        int numDigits = getCharIndex()-state.tokenStartCharIndex-6;
        if (numDigits > 6) {
           Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-
1);
           t.setText(t.getText());
```

```
            t.setLine(input.getLine());
            t.setCharPositionInLine(input.getCharPositionInLine()-numDigits);
            grammarError(ErrorType.INVALID_ESCAPE_SEQUENCE, t,
input.substring(state.tokenStartCharIndex,getCharIndex()-1));
  }
     }
  ;

// ----------
// Whitespace
//
// Characters and character constructs that are of no import
// to the parser and are used to make the grammar easier to read
// for humans.
//
WS
  : (
    ' '
     | '\t'
     | '\r'
     | '\n'
     | '\f'
   )+
   {$channel=HIDDEN;}
  ;

// A fragment rule for use in recognizing end of line in
// rules like COMMENT.
//
fragment
NLCHARS
  : '\n' | '\r'
  ;

// A fragment rule for recognizing traditional whitespace
// characters within lexer rules.
//
fragment
WSCHARS
  : ' ' | '\t' | '\f'
  ;

// A fragment rule for recognizing both traditional whitespace and
// end of line markers, when we don't care to distinguish but don't
// want any action code going on.
//
fragment
WSNLCHARS
```

```
  : ' ' | '\t' | '\f' | '\n' | '\r'
  ;

// This rule allows ANTLR 4 to parse grammars using the UTF-8 encoding with a
// byte order mark. Since this Unicode character doesn't appear as a token
// anywhere else in the grammar, we can simply skip all instances of it without
// problem. This rule will not break usage of \uFEFF inside a LEXER_CHAR_SET or
// STRING_LITERAL.
UnicodeBOM
  :  '\uFEFF' {skip();}
  ;

// ------------------
// Illegal Character
//
// This is an illegal character trap which is always the last rule in the
// lexer specification. It matches a single character of any value and being
// the last rule in the file will match when no other rule knows what to do
// about the character. It is reported as an error but is not passed on to the
// parser. This means that the parser to deal with the gramamr file anyway
// but we will not try to analyse or code generate from a file with lexical
// errors.
//
ERRCHAR
  : .
    {
      Token t = new CommonToken(input, state.type, state.channel, state.tokenStartCharIndex, getCharIndex()-1);
      t.setLine(state.tokenStartLine);
      t.setText(state.text);
      t.setCharPositionInLine(state.tokenStartCharPositionInLine);
      String msg = getTokenErrorDisplay(t) + " came as a complete surprise to me";
      grammarError(ErrorType.SYNTAX_ERROR, t, msg);
      state.syntaxErrors++;
      skip();
    }
  ;

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/ANTLRLexer.g
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*/

/** templates used to generate make-compatible dependencies */

/** Generate "f : x, y, z" dependencies for input
*  dependencies and generated files. in and out
*  are File objects.  For example, you can say
*  <f.canonicalPath>
*/
dependencies(grammarFileName,in,out) ::= <<
<if(in)><grammarFileName>: <in; separator=", "><endif>
<out:{f | <f> : <grammarFileName>}; separator="\n">
>>
```

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*/

tree grammar ATNBuilder;
options {
 language     = Java;
 tokenVocab   = ANTLRParser;
 ASTLabelType = GrammarAST;
// filter       = true;
}

// Include the copyright in this source and also the generated source
@header {
/*
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*/
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import org.antlr.v4.automata.ATNFactory;
}

@members {
  ATNFactory factory;
  public ATNBuilder(TreeNodeStream input, ATNFactory factory) {
   this(input);
```

```
    this.factory = factory;
  }
}

dummy : block[null] ; // avoid error about no start rule

ruleBlock[GrammarAST ebnfRoot] returns [ATNFactory.Handle p]
@init {
  List<ATNFactory.Handle> alts = new ArrayList<ATNFactory.Handle>();
  int alt = 1;
  factory.setCurrentOuterAlt(alt);
}
  : ^(BLOCK
        (^(OPTIONS .*))?
        (   a=alternative
            {alts.add($a.p); factory.setCurrentOuterAlt(++alt);}
        )+
    )
   {$p = factory.block((BlockAST)$BLOCK, ebnfRoot, alts);}
  ;

block[GrammarAST ebnfRoot] returns [ATNFactory.Handle p]
@init {List<ATNFactory.Handle> alts = new ArrayList<ATNFactory.Handle>();}
  : ^(BLOCK (^(OPTIONS .*))? (a=alternative {alts.add($a.p);})+)
   {$p = factory.block((BlockAST)$BLOCK, ebnfRoot, alts);}
  ;

alternative returns [ATNFactory.Handle p]
@init {List<ATNFactory.Handle> els = new ArrayList<ATNFactory.Handle>();}
  : ^(LEXER_ALT_ACTION a=alternative lexerCommands)
     {$p = factory.lexerAltCommands($a.p,$lexerCommands.p);}
  | ^(ALT elementOptions? EPSILON)       {$p = factory.epsilon($EPSILON);}
  |   ^(ALT elementOptions? (e=element {els.add($e.p);})+) {$p = factory.alt(els);}
  ;

lexerCommands returns [ATNFactory.Handle p]
@init {List<ATNFactory.Handle> cmds = new ArrayList<ATNFactory.Handle>();}
  :   (c=lexerCommand {if ($c.cmd != null) cmds.add($c.cmd);})+
     {
     $p = factory.alt(cmds);
     }
  ;

lexerCommand returns [ATNFactory.Handle cmd]
 : ^(LEXER_ACTION_CALL ID lexerCommandExpr)
     {$cmd = factory.lexerCallCommand($ID, $lexerCommandExpr.start);}
 | ID
     {$cmd = factory.lexerCommand($ID);}
```

```
;

lexerCommandExpr
 : ID
 | INT
 ;

element returns [ATNFactory.Handle p]
 : labeledElement    {$p = $labeledElement.p;}
 | atom      {$p = $atom.p;}
 | subrule      {$p = $subrule.p;}
 |   ACTION      {$p = factory.action((ActionAST)$ACTION);}
 |   SEMPRED      {$p = factory.sempred((PredAST)$SEMPRED);}
 |   ^(ACTION .)     {$p = factory.action((ActionAST)$ACTION);}
 |   ^(SEMPRED .)    {$p = factory.sempred((PredAST)$SEMPRED);}
  | ^(NOT b=blockSet[true])  {$p = $b.p;}
  | LEXER_CHAR_SET    {$p = factory.charSetLiteral($start);}
 ;

astOperand returns [ATNFactory.Handle p]
 : atom      {$p = $atom.p;}
 | ^(NOT blockSet[true])  {$p = $blockSet.p;}
 ;

labeledElement returns [ATNFactory.Handle p]
 : ^(ASSIGN ID element)     {$p = factory.label($element.p);}
 | ^(PLUS_ASSIGN ID element)   {$p = factory.listLabel($element.p);}
 ;

subrule returns [ATNFactory.Handle p]
 : ^(OPTIONAL block[$start])   {$p = $block.p;}
 | ^(CLOSURE block[$start])   {$p = $block.p;}
 | ^(POSITIVE_CLOSURE block[$start]) {$p = $block.p;}
 |  block[null]       {$p = $block.p;}
   ;

blockSet[boolean invert] returns [ATNFactory.Handle p]
@init {List<GrammarAST> alts = new ArrayList<GrammarAST>();}
 : ^(SET (setElement {alts.add($setElement.start);})+) {$p = factory.set($start, alts, $invert);}
 ;

/** Don't combine with atom otherwise it will build spurious ATN nodes */
setElement
 : ^(STRING_LITERAL .)
 | ^(TOKEN_REF .)
 | STRING_LITERAL
 | TOKEN_REF
 | ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
```

```
  |  LEXER_CHAR_SET
 ;

atom returns [ATNFactory.Handle p]
 : range     {$p = $range.p;}
 | ^(DOT ID terminal)  {$p = $terminal.p;}
 | ^(DOT ID ruleref)  {$p = $ruleref.p;}
  | ^(WILDCARD .)   {$p = factory.wildcard($start);}
  | WILDCARD    {$p = factory.wildcard($start);}
  | blockSet[false]   {$p = $blockSet.p;}
  |  terminal    {$p = $terminal.p;}
  |  ruleref     {$p = $ruleref.p;}
  ;

ruleref returns [ATNFactory.Handle p]
  : ^(RULE_REF ARG_ACTION? ^(ELEMENT_OPTIONS .*))  {$p = factory.ruleRef($RULE_REF);}
  | ^(RULE_REF ARG_ACTION?)        {$p = factory.ruleRef($RULE_REF);}
  | RULE_REF          {$p = factory.ruleRef($RULE_REF);}
  ;

range returns [ATNFactory.Handle p]
  : ^(RANGE a=STRING_LITERAL b=STRING_LITERAL) {$p = factory.range($a,$b);}
  ;

terminal returns [ATNFactory.Handle p]
  :  ^(STRING_LITERAL .)   {$p = factory.stringLiteral((TerminalAST)$start);}
  | STRING_LITERAL    {$p = factory.stringLiteral((TerminalAST)$start);}
  | ^(TOKEN_REF ARG_ACTION .) {$p = factory.tokenRef((TerminalAST)$start);}
  | ^(TOKEN_REF .)    {$p = factory.tokenRef((TerminalAST)$start);}
  | TOKEN_REF     {$p = factory.tokenRef((TerminalAST)$start);}
  ;

elementOptions
 : ^(ELEMENT_OPTIONS elementOption*)
 ;

elementOption
 : ID
 | ^(ASSIGN ID ID)
 | ^(ASSIGN ID STRING_LITERAL)
 | ^(ASSIGN ID ACTION)
 | ^(ASSIGN ID INT)
 ;
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/ATNBuilder.g
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```
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*/

tree grammar BlockSetTransformer;
options {
 language     = Java;
 tokenVocab   = ANTLRParser;
 ASTLabelType = GrammarAST;
 output   = AST;
 filter   = true;
}

@header {
package org.antlr.v4.parse;
import org.antlr.v4.misc.Utils;
import org.antlr.v4.misc.*;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import java.util.List;
import java.util.Set;
import java.util.HashSet;
```

```
import java.util.ArrayList;
import org.antlr.v4.runtime.misc.IntervalSet;
}

@members {
public String currentRuleName;
public GrammarAST currentAlt;
public Grammar g;
public BlockSetTransformer(TreeNodeStream input, Grammar g) {
  this(input, new RecognizerSharedState());
  this.g = g;
}
}

topdown
  : ^(RULE (id=TOKEN_REF|id=RULE_REF) {currentRuleName=$id.text;} .+)
  | setAlt
  | ebnfBlockSet
  | blockSet
 ;

setAlt
 : {inContext("RULE BLOCK")}?
  ALT {currentAlt = $start;}
 ;

// (BLOCK (ALT (+ (BLOCK (ALT INT) (ALT ID)))))
ebnfBlockSet
@after {
 GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
 : ^(ebnfSuffix blockSet) -> ^(ebnfSuffix ^(BLOCK<BlockAST> ^(ALT<AltAST> blockSet)))
 ;

ebnfSuffix
@after {$tree = (GrammarAST)adaptor.dupNode($start);}
 : OPTIONAL
  | CLOSURE
  | POSITIVE_CLOSURE
 ;

blockSet
@init {
boolean inLexer = Grammar.isTokenName(currentRuleName);
}
@after {
 GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
```

```
 : {inContext("RULE")}? // top-level: rule block and > 1 alt
  ^(BLOCK ^(alt=ALT elementOptions? {((AltAST)$alt).altLabel==null}? setElement[inLexer]) ( ^(ALT
elementOptions? setElement[inLexer]) )+)
  -> ^(BLOCK<BlockAST>[$BLOCK.token] ^(ALT<AltAST>[$BLOCK.token,"ALT"] ^(SET[$BLOCK.token,
"SET"] setElement+)))
 | {!inContext("RULE")}? // if not rule block and > 1 alt
  ^(BLOCK ^(ALT elementOptions? setElement[inLexer]) ( ^(ALT elementOptions? setElement[inLexer]) )+)
  -> ^(SET[$BLOCK.token, "SET"] setElement+)
 ;

setElement[boolean inLexer]
@after {
 GrammarTransformPipeline.setGrammarPtr(g, $tree);
}
 : ( ^(a=STRING_LITERAL elementOptions) {!inLexer ||
CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1}?
  |   a=STRING_LITERAL {!inLexer || CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1}?
  | {!inLexer}?=> ^(TOKEN_REF elementOptions)
  | {!inLexer}?=>   TOKEN_REF
  | {inLexer}?=>  ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
   {CharSupport.getCharValueFromGrammarCharLiteral($a.getText())!=-1 &&
    CharSupport.getCharValueFromGrammarCharLiteral($b.getText())!=-1}?
  )
 ;

elementOptions
 : ^(ELEMENT_OPTIONS elementOption*)
 ;

elementOption
 : ID
 | ^(ASSIGN id=ID v=ID)
 | ^(ASSIGN ID v=STRING_LITERAL)
 | ^(ASSIGN ID v=ACTION)
 | ^(ASSIGN ID v=INT)
 ;
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/BlockSetTransformer.g
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*/

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {

```
<endif>
<namedActions.header>
using System;
using System.IO;
using System.Text;
using System.Diagnostics;
using System.Collections.Generic;
using Antlr4.Runtime;
using Antlr4.Runtime.Atn;
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using DFA = Antlr4.Runtime.Dfa.DFA;

<parser>
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using IParseTreeListener = Antlr4.Runtime.Tree.IParseTreeListener;
using IToken = Antlr4.Runtime.IToken;

/// \<summary>
/// This interface defines a complete listener for a parse tree produced by
/// \<see cref="<csIdentifier.(file.parserName)>"/>.
/// \</summary>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public interface I<file.grammarName>Listener : IParseTreeListener {
 <file.listenerNames:{lname |
/// \<summary>
<if(file.listenerLabelRuleNames.(lname))>
/// Enter a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(lname)>"/>.
<else>
/// Enter a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
void Enter<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname; format="cap">Context
context);
```

```
/// \<summary>
<if(file.listenerLabelRuleNames.(lname))>
/// Exit a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(lname)>"/>.
<else>
/// Exit a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
void Exit<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname; format="cap">Context
context);}; separator="\n">
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

BaseListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>

using Antlr4.Runtime.Misc;
using IErrorNode = Antlr4.Runtime.Tree.IErrorNode;
using ITerminalNode = Antlr4.Runtime.Tree.ITerminalNode;
using IToken = Antlr4.Runtime.IToken;
using ParserRuleContext = Antlr4.Runtime.ParserRuleContext;

/// \<summary>
/// This class provides an empty implementation of \<see cref="I<file.grammarName>Listener"/>,
/// which can be extended to create a listener which only needs to handle a subset
/// of the available methods.
/// \</summary>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <file.grammarName>BaseListener : I<file.grammarName>Listener {
 <file.listenerNames:{lname |
/// \<summary>
<if(file.listenerLabelRuleNames.(lname))>
/// Enter a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(lname)>"/>.
<else>
/// Enter a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \<para>The default implementation does nothing.\</para>
/// \</summary>
```

```
/// \<param name="context">The parse tree.\</param>
public virtual void Enter<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname;
format="cap">Context context) { \}
/// \<summary>
<if(file.listenerLabelRuleNames.(lname))>
/// Exit a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.listenerLabelRuleNames.(lname)>"/>.
<else>
/// Exit a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \<para>The default implementation does nothing.\</para>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
public virtual void Exit<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname;
format="cap">Context context) { \}}; separator="\n">

 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void EnterEveryRule([NotNull] ParserRuleContext context) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void ExitEveryRule([NotNull] ParserRuleContext context) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void VisitTerminal([NotNull] ITerminalNode node) { }
 /// \<inheritdoc/>
 /// \<remarks>The default implementation does nothing.\</remarks>
 public virtual void VisitErrorNode([NotNull] IErrorNode node) { }
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using IToken = Antlr4.Runtime.IToken;

/// \<summary>
/// This interface defines a complete generic visitor for a parse tree produced
/// by \<see cref="<csIdentifier.(file.parserName)>"/>.
/// \</summary>
```

```
/// \<typeparam name="Result">The return type of the visit operation.\</typeparam>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public interface I<file.grammarName>Visitor\<Result> : IParseTreeVisitor\<Result> {
 <file.visitorNames:{lname |
/// \<summary>
<if(file.visitorLabelRuleNames.(lname))>
/// Visit a parse tree produced by the \<c><lname>\</c>
/// labeled alternative in \<see cref="<file.parserName>.<file.visitorLabelRuleNames.(lname)>"/>.
<else>
/// Visit a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
/// \<return>The visitor result.\</return>
Result Visit<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname; format="cap">Context
context);}; separator="\n">
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

BaseVisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<header>
using Antlr4.Runtime.Misc;
using Antlr4.Runtime.Tree;
using IToken = Antlr4.Runtime.IToken;
using ParserRuleContext = Antlr4.Runtime.ParserRuleContext;

/// \<summary>
/// This class provides an empty implementation of \<see cref="I<file.grammarName>Visitor{Result}"/>,
/// which can be extended to create a visitor which only needs to handle a subset
/// of the available methods.
/// \</summary>
/// \<typeparam name="Result">The return type of the visit operation.\</typeparam>
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <file.grammarName>BaseVisitor\<Result> : AbstractParseTreeVisitor\<Result>,
I<file.grammarName>Visitor\<Result> {
 <file.visitorNames:{lname |
/// \<summary>
<if(file.visitorLabelRuleNames.(lname))>
/// Visit a parse tree produced by the \<c><lname>\</c>
```

```
/// labeled alternative in \<see cref="<file.parserName>.<file.visitorLabelRuleNames.(lname)>"/>.
<else>
/// Visit a parse tree produced by \<see cref="<file.parserName>.<lname>"/>.
<endif>
/// \<para>
/// The default implementation returns the result of calling \<see
cref="AbstractParseTreeVisitor{Result\}.VisitChildren(IRuleNode)"/>
/// on \<paramref name="context"/>.
/// \</para>
/// \</summary>
/// \<param name="context">The parse tree.\</param>
/// \<return>The visitor result.\</return>
public virtual Result Visit<lname; format="cap">([NotNull] <csIdentifier.(file.parserName)>.<lname;
format="cap">Context context) { return VisitChildren(context); \}}; separator="\n">
}
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

fileHeader(grammarFileName, ANTLRVersion) ::= <<
//------------------------------------------------------------------------------
// \<auto-generated>
//     This code was generated by a tool.
//     ANTLR Version: <ANTLRVersion>
//
//     Changes to this file may cause incorrect behavior and will be lost if
//     the code is regenerated.
// \</auto-generated>
//------------------------------------------------------------------------------

// Generated from <grammarFileName> by ANTLR <ANTLRVersion>

// Unreachable code detected
#pragma warning disable 0162
// The variable '...' is assigned but its value is never used
#pragma warning disable 0219
// Missing XML comment for publicly visible type or member '...'
#pragma warning disable 1591
// Ambiguous reference in cref attribute
#pragma warning disable 419

>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>
```

```
Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <csIdentifier.(parser.name)> : <superClass; null="Parser"> {
 protected static DFA[] decisionToDFA;
 protected static PredictionContextCache sharedContextCache = new PredictionContextCache();
 <if(parser.tokens)>
 public const int
  <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator=", ", wrap, anchor>;
 <endif>
 public const int
  <parser.rules:{r | RULE_<r.name> = <r.index>}; separator=", ", wrap, anchor>;
 public static readonly string[] ruleNames = {
  <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
 };

 <vocabulary(parser.literalNames, parser.symbolicNames)>

 public override string GrammarFileName { get { return "<parser.grammarFileName>"; } }

 public override string[] RuleNames { get { return ruleNames; } }

 public override string SerializedAtn { get { return new string(_serializedATN); } }

 static <csIdentifier.(parser.name)>() {
  decisionToDFA = new DFA[_ATN.NumberOfDecisions];
  for (int i = 0; i \< _ATN.NumberOfDecisions; i++) {
   decisionToDFA[i] = new DFA(_ATN.GetDecisionState(i), i);
  }
 }

 <namedActions.members>
 <parser:(ctor)()>
 <funcs; separator="\n">

<if(sempredFuncs)>
 public override bool Sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
  switch (ruleIndex) {
  <parser.sempredFuncs.values:{f|
case <f.ruleIndex>: return <f.name>_sempred((<f.ctxType>)_localctx, predIndex);}; separator="\n">
  }
  return true;
 }
 <sempredFuncs.values; separator="\n">
<endif>

 <atn>
}
```

```
>>

vocabulary(literalNames, symbolicNames) ::= <<
private static readonly string[] _LiteralNames = {
 <literalNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
};
private static readonly string[] _SymbolicNames = {
 <symbolicNames:{t | <t>}; null="null", separator=", ", wrap, anchor>
};
public static readonly IVocabulary DefaultVocabulary = new Vocabulary(_LiteralNames, _SymbolicNames);

[NotNull]
public override IVocabulary Vocabulary
{
 get
 {
  return DefaultVocabulary;
 }
}
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
public override void Action(RuleContext _localctx, int ruleIndex, int actionIndex) {
 switch (ruleIndex) {
 <recog.actionFuncs.values:{f|
case <f.ruleIndex> : <f.name>_action(<if(!recog.modes)>(<f.ctxType>)<endif>_localctx, actionIndex); break;};
separator="\n">
 }
}
<actionFuncs.values; separator="\n">
<endif>
<if(sempredFuncs)>
public override bool Sempred(RuleContext _localctx, int ruleIndex, int predIndex) {
 switch (ruleIndex) {
 <recog.sempredFuncs.values:{f|
case <f.ruleIndex> : return <f.name>_sempred(<if(!recog.modes)>(<f.ctxType>)<endif>_localctx, predIndex);};
separator="\n">
 }
 return true;
}
<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(parser) ::= <<
 public <csIdentifier.(parser.name)>(ITokenStream input) : this(input, Console.Out, Console.Error) { }
```

```
 public <csIdentifier.(parser.name)>(ITokenStream input, TextWriter output, TextWriter errorOutput)
 : base(input, output, errorOutput)
{
 Interpreter = new ParserATNSimulator(this, _ATN, decisionToDFA, sharedContextCache);
}
>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleActionFunction(r, actions) ::= <<
private void <r.name>_action(<r.ctxType> _localctx, int actionIndex) {
 switch (actionIndex) {
 <actions:{index|
case <index>: <actions.(index)> break;}; separator="\n">
 }
}
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
private bool <r.name>_sempred(<r.ctxType> _localctx, int predIndex) {
 switch (predIndex) {
 <actions:{index|
case <index>: return <actions.(index)>;}; separator="\n">
 }
 return true;
}
>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<if(ruleCtx)>
<ruleCtx>
<endif>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

[RuleVersion(<namedActions.version; null="0">)]
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)>(<args; separator=", ">) {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
<csIdentifier.(a.name)>}>);
 EnterRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>);
 <namedActions.init>
 <locals; separator="\n">
```

```
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 <if(exceptions)>
 <exceptions; separator="\n">
 <else>
 catch (RecognitionException re) {
  _localctx.exception = re;
  ErrorHandler.ReportError(this, re);
  ErrorHandler.Recover(this, re);
 }
 <endif>
 finally {
  <finallyAction>
  ExitRule();
 }
 return _localctx;
}
>>

LeftFactoredRuleFunction(currentRule,args,code,locals,namedActions,finallyAction,postamble) ::=
<<

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>private <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)>(<args; separator=", ">) {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
<csIdentifier.(a.name)>}>);
 EnterLeftFactoredRule(_localctx, <currentRule.startState>, RULE_<currentRule.variantOf>);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 catch (RecognitionException re) {
  _localctx.exception = re;
  ErrorHandler.ReportError(this, re);
  ErrorHandler.Recover(this, re);
 }
```

```
 finally {
  <finallyAction>
  ExitRule();
 }
 return _localctx;
}
>>

// This behaves similar to RuleFunction (enterRule is called, and no adjustments
// are made to the parse tree), but since it's still a variant no context class
// needs to be generated.
LeftUnfactoredRuleFunction(currentRule,args,code,locals,namedActions,finallyAction,postamble) ::=
<<

<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>private <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)>(<args; separator=", ">) {
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, State<currentRule.args:{a | ,
<csIdentifier.(a.name)>}>);
 EnterRule(_localctx, <currentRule.startState>, RULE_<currentRule.variantOf>);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 catch (RecognitionException re) {
  _localctx.exception = re;
  ErrorHandler.ReportError(this, re);
  ErrorHandler.Recover(this, re);
 }
 finally {
  <finallyAction>
  ExitRule();
 }
 return _localctx;
}
>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">
```

```
[RuleVersion(<namedActions.version; null="0">)]
<if(currentRule.modifiers)><currentRule.modifiers:{f | <f> }><else>public <endif><currentRule.ctxType>
<csIdentifier.(currentRule.name)>(<args; separator=", ">) {
 return <csIdentifier.(currentRule.name)>(0<currentRule.args:{a | , <csIdentifier.(a.name)>}>);
}

private <currentRule.ctxType> <csIdentifier.(currentRule.name)>(int _p<args:{a | , <a>}>) {
 ParserRuleContext _parentctx = Context;
 int _parentState = State;
 <currentRule.ctxType> _localctx = new <currentRule.ctxType>(Context, _parentState<currentRule.args:{a | ,
<csIdentifier.(a.name)>}>);
 <currentRule.ctxType> _prevctx = _localctx;
 int _startState = <currentRule.startState>;
 EnterRecursionRule(_localctx, <currentRule.startState>, RULE_<currentRule.name>, _p);
 <namedActions.init>
 <locals; separator="\n">
 try {
<if(currentRule.hasLookaheadBlock)>
  int _alt;
<endif>
  <code>
  <postamble; separator="\n">
  <namedActions.after>
 }
 catch (RecognitionException re) {
  _localctx.exception = re;
  ErrorHandler.ReportError(this, re);
  ErrorHandler.Recover(this, re);
 }
 finally {
  <finallyAction>
  UnrollRecursionContexts(_parentctx);
 }
 return _localctx;
}
>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>_localctx = new <currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(_localctx);<endif>
EnterOuterAlt(_localctx, <currentOuterMostAltCodeBlock.alt.altNum>);
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
{
<locals; separator="\n">
```

```
<preamble; separator="\n">
<ops; separator="\n">
}
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<if(choice.label)><labelref(choice.label)> = TokenStream.LT(1);<endif>
<preamble; separator="\n">
switch (TokenStream.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 <error>
}
>>

LL1OptionalBlock(choice, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
switch (TokenStream.LA(1)) {
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
 <alt>
 break;}; separator="\n">
default:
 break;
}
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<preamble; separator="\n">
if (<expr>) {
 <alts; separator="\n">
}
<!else if ( !(<followExpr>) ) <error>!>
>>

LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<preamble; separator="\n">
while (<loopExpr>) {
 <alts; separator="\n">
 State = <choice.loopBackStateNumber>;
```

```
 ErrorHandler.Sync(this);
 <iteration>
}
>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
State = <choice.blockStartStateNumber>;<! alt block decision !>
ErrorHandler.Sync(this);
<preamble; separator="\n">
do {
 <alts; separator="\n">
 State = <choice.stateNumber>;<! loopback/exit decision !>
 ErrorHandler.Sync(this);
 <iteration>
} while ( <loopExpr> );
>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
<if(choice.label)><labelref(choice.label)> = TokenStream.LT(1);<endif>
<preamble; separator="\n">
switch ( Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context) ) {
<alts:{alt |
case <i>:
 <alt>
 break;}; separator="\n">
}
>>

OptionalBlock(choice, alts, error) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
switch ( Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context) ) {
<alts:{alt |
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
}
>>

StarBlock(choice, alts, sync, iteration) ::= <<
State = <choice.stateNumber>;
ErrorHandler.Sync(this);
_alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
while ( _alt!=<choice.exitAlt> && _alt!=global::Antlr4.Runtime.Atn.ATN.INVALID_ALT_NUMBER ) {
```

```
 if ( _alt==1<if(!choice.ast.greedy)>+1<endif> ) {
  <iteration>
  <alts> <! should only be one !>
 }
 State = <choice.loopBackStateNumber>;
 ErrorHandler.Sync(this);
 _alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
}
>>

PlusBlock(choice, alts, error) ::= <<
State = <choice.blockStartStateNumber>;<! alt block decision !>
ErrorHandler.Sync(this);
_alt = 1<if(!choice.ast.greedy)>+1<endif>;
do {
 switch (_alt) {
 <alts:{alt|
case <i><if(!choice.ast.greedy)>+1<endif>:
 <alt>
 break;}; separator="\n">
 default:
  <error>
 }
 State = <choice.loopBackStateNumber>;<! loopback/exit decision !>
 ErrorHandler.Sync(this);
 _alt = Interpreter.AdaptivePredict(TokenStream,<choice.decision>,Context);
} while ( _alt!=<choice.exitAlt> && _alt!=global::Antlr4.Runtime.Atn.ATN.INVALID_ALT_NUMBER );
>>

Sync(s) ::= "Sync(<s.expecting.name>);"

ThrowNoViableAlt(t) ::= "throw new NoViableAltException(this);"

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" || ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>

// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShift(s.varName, bits.shift)>})> && ((1L \<\< <offsetShift(s.varName, bits.shift)>) &
(<bits.ttypes:{ttype | (1L \<\< <offsetShift(tokenType.(ttype), bits.shift)>)}; separator=" | ">)) != 0)
%>
```

```
isZero ::= [
"0":true,
default:false
]

offsetShift(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<tokenType.(ttype)>}; separator=" || ">
%>

cases(ttypes) ::= <<
<ttypes:{t | case <tokenType.(t)>:}; separator="\n">
>>

InvokeRule(r, argExprsChunks) ::= <<
State = <r.stateNumber>; <if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif><csIdentifier.(r.name)>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><arg
ExprsChunks>);
>>

MatchToken(m) ::= <<
State = <m.stateNumber>; <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>Match(<tokenType.(m.name)>);
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
State = <m.stateNumber>;
<if(m.labels)><m.labels:{l | <labelref(l)> = }>TokenStream.LT(1);<endif>
<capture>
if ( <if(invert)><m.varName> \<= 0 || <else>!<endif>(<expr>) ) {
 <if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>ErrorHandler.RecoverInline(this);
}
else {
 ErrorHandler.ReportMatch(this);
   Consume();
}
>>

Wildcard(w) ::= <<
State = <w.stateNumber>;
```

```
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>MatchWildcard();
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
State = <p.stateNumber>;
if (!(<chunks>)) throw new FailedPredicateException(this, <p.predicate><if(failChunks)>,
<failChunks><elseif(p.msg)>, <p.msg><endif>);
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
 <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "Skip();"
LexerMoreCommand()  ::= "More();"
LexerPopModeCommand() ::= "PopMode();"

LexerTypeCommand(arg, grammar)      ::= "_type = <tokenType.(arg)>;"
LexerChannelCommand(arg, grammar)   ::= "_channel = <channelName.(arg)>;"
LexerModeCommand(arg, grammar)      ::= "_mode = <modeName.(arg)>;"
LexerPushModeCommand(arg, grammar)  ::= "PushMode(<modeName.(arg)>);"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
LocalRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
RetValueRef(a) ::= "_localctx.<csIdentifier.(a.name)>"
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<csIdentifier.(a.name)>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<csIdentifier.(tokenType.(t.name))>"
LabelRef(t) ::= "<ctx(t)>.<csIdentifier.(t.name)>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(csIdentifier.(t.name))>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<csIdentifier.(s.name)> = <rhsChunks>;"

TokenLabelType() ::= "<file.TokenLabelType; null={IToken}>"
InputSymbolType() ::= "<file.InputSymbolType; null={IToken}>"

TokenPropertyRef_text(t) ::= "(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Text:null)"
```

```
TokenPropertyRef_type(t) ::= "(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Type:0)"
TokenPropertyRef_line(t) ::= "(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Line:0)"
TokenPropertyRef_pos(t) ::=
"(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.CharPositionInLine:0)"
TokenPropertyRef_channel(t) ::=
"(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.Channel:0)"
TokenPropertyRef_index(t) ::=
"(<ctx(t)>.<tokenType.(t.label)>!=null?<ctx(t)>.<tokenType.(t.label)>.TokenIndex:0)"
TokenPropertyRef_int(t) ::=
"(<ctx(t)>.<tokenType.(t.label)>!=null?int.Parse(<ctx(t)>.<tokenType.(t.label)>.Text):0)"

RulePropertyRef_start(r) ::= "(<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.Start):null)"
RulePropertyRef_stop(r)  ::= "(<ctx(r)>.<r.label>!=null?(<ctx(r)>.<r.label>.Stop):null)"
RulePropertyRef_text(r)  ::=
"(<ctx(r)>.<r.label>!=null?TokenStream.GetText(<ctx(r)>.<r.label>.Start,<ctx(r)>.<r.label>.Stop):null)"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "this"

ThisRulePropertyRef_start(r) ::= "_localctx.Start"
ThisRulePropertyRef_stop(r)  ::= "_localctx.Stop"
ThisRulePropertyRef_text(r)  ::= "TokenStream.GetText(_localctx.Start, TokenStream.LT(-1))"
ThisRulePropertyRef_ctx(r)  ::= "_localctx"
ThisRulePropertyRef_parser(r)  ::= "this"

NonLocalAttrRef(s)   ::= <%((<s.ruleName;
format="cap">Context)GetInvokingContext(<s.ruleIndex>)).<csIdentifier.(s.name)>%>
SetNonLocalAttr(s, rhsChunks)   ::=
 <%((<s.ruleName; format="cap">Context)GetInvokingContext(<s.ruleIndex>)).<csIdentifier.(s.name)> =
<rhsChunks>;%>

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.Add(<labelref(a.label)>);"

TokenDecl(t) ::= "<TokenLabelType()> <csIdentifier.(tokenType.(t.name))>"
TokenTypeDecl(t) ::= "int <csIdentifier.(tokenType.(t.name))>;"
TokenListDecl(t) ::= "IList\<IToken> <csIdentifier.(tokenType.(t.name))> = new List\<IToken>()"
RuleContextDecl(r) ::= "<r.ctxName> <csIdentifier.(r.name)>"
RuleContextListDecl(rdecl) ::= "IList\<<rdecl.ctxName>> <csIdentifier.(rdecl.name)> = new
List\<<rdecl.ctxName>>()"

contextGetterCollection(elementType) ::= <%
<elementType>[]
%>

ContextTokenGetterDecl(t)      ::=
   "public ITerminalNode <csIdentifier.(tokenType.(t.name))>() { return
GetToken(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>, 0); }"
ContextTokenListGetterDecl(t)  ::= <<
public <contextGetterCollection("ITerminalNode")> <csIdentifier.(tokenType.(t.name))>() { return
```

```
GetTokens(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>); }
>>
ContextTokenListIndexedGetterDecl(t)  ::= <<
public ITerminalNode <csIdentifier.(tokenType.(t.name))>(int i) {
 return GetToken(<csIdentifier.(parser.name)>.<csIdentifier.(tokenType.(t.name))>, i);
}
>>
ContextRuleGetterDecl(r)       ::= <<
public <r.ctxName> <csIdentifier.(r.name)>() {
 return GetRuleContext\<<r.ctxName>\>(0);
}
>>
ContextRuleListGetterDecl(r)   ::= <<
public <contextGetterCollection({<r.ctxName>})> <csIdentifier.(r.name)>() {
 return GetRuleContexts\<<r.ctxName>\>();
}
>>
ContextRuleListIndexedGetterDecl(r)   ::= <<
public <r.ctxName> <csIdentifier.(r.name)>(int i) {
 return GetRuleContext\<<r.ctxName>\>(i);
}
>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
* r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenType.(tokenName)>"
ImplicitRuleLabel(ruleName)   ::= "_<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "_<label>"

CaptureNextToken(d) ::= "<d.varName> = TokenStream.LT(1);"
CaptureNextTokenType(d) ::= "<d.varName> = TokenStream.LA(1);"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers,
        superClass={ParserRuleContext}) ::= <<
public partial class <struct.name> :
<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif><if(interfaces)>, <interfaces;
separator=", "><endif> {
 <attrs:{a | public <a>;}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 <if(ctorAttrs)>public <struct.name>(ParserRuleContext parent, int invokingState) : base(parent, invokingState) {
}<endif>
 public <struct.name>(ParserRuleContext parent, int invokingState<ctorAttrs:{a | , <a>}>)
```

```
 : base(parent, invokingState)
 {
  <struct.ctorAttrs:{a | this.<csIdentifier.(a.name)> = <csIdentifier.(a.name)>;}; separator="\n">
 }
 public override int RuleIndex { get { return RULE_<struct.derivedFromName>; } }
<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
 public <struct.name>() { }
 public virtual void CopyFrom(<struct.name> context) {
  base.CopyFrom(context);
  <struct.attrs:{a | this.<csIdentifier.(a.name)> = context.<csIdentifier.(a.name)>;}; separator="\n">
 }
<endif>
 <dispatchMethods; separator="\n">
 <extensionMembers; separator="\n">
}
>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
public partial class <struct.name> : <currentRule.name; format="cap">Context {
 <attrs:{a | public <a>;}; separator="\n">
 <getters:{g | <g>}; separator="\n">
 public <struct.name>(<currentRule.name; format="cap">Context context) { CopyFrom(context); }
 <dispatchMethods; separator="\n">
}
>>

ListenerDispatchMethod(method) ::= <<
public override void <if(method.isEnter)>Enter<else>Exit<endif>Rule(IParseTreeListener listener) {
 I<parser.grammarName>Listener typedListener = listener as I<parser.grammarName>Listener;
 if (typedListener != null) typedListener.<if(method.isEnter)>Enter<else>Exit<endif><struct.derivedFromName;
format="cap">(this);
}
>>

VisitorDispatchMethod(method) ::= <<
public override TResult Accept\<TResult>(IParseTreeVisitor\<TResult> visitor) {
 I<parser.grammarName>Visitor\<TResult> typedVisitor = visitor as I<parser.grammarName>Visitor\<TResult>;
 if (typedVisitor != null) return typedVisitor.Visit<struct.derivedFromName; format="cap">(this);
 else return visitor.VisitChildren(this);
}
>>

AttributeDecl(d) ::= "<d.type> <csIdentifier.(d.name)><if(d.initValue)> = <d.initValue><endif>"

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)><typedContext(x.ctx)>.<endif><csIdentifier.(x.name)>"

/** For any action chunk, what is correctly-typed context struct ptr? */
```

```
ctx(actionChunk) ::= "<typedContext(actionChunk.ctx)>"

// only casts _localctx to the type when the cast isn't redundant (i.e. to a sub-context for a labeled alt)
typedContext(ctx) ::= "<if(ctx.provideCopyFrom)>((<ctx.name>)_localctx)<else>_localctx<endif>"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "Precpred(Context, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>;"
recRuleSetStopToken()                 ::= "Context.Stop = TokenStream.LT(-1);"

recRuleAltStartAction(ruleName, ctxName, label, isListLabel) ::= <<
_localctx = new <ctxName>Context(_parentctx, _parentState);
<if(label)>
<if(isListLabel)>
_localctx.<label>.Add(_prevctx);
<else>
_localctx.<label> = _prevctx;
<endif>
<endif>
PushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
_localctx = new <currentAltLabel; format="cap">Context(new <ruleName; format="cap">Context(_parentctx,
_parentState));
<if(label)>
<if(isListLabel)>
((<currentAltLabel; format="cap">Context)_localctx).<label>.Add(_prevctx);
<else>
((<currentAltLabel; format="cap">Context)_localctx).<label> = _prevctx;
<endif>
<endif>
PushNewRecursionContext(_localctx, _startState, RULE_<ruleName>);
>>

recRuleReplaceContext(ctxName) ::= <<
_localctx = new <ctxName>Context(_localctx);
Context = _localctx;
_prevctx = _localctx;
>>

recRuleSetPrevCtx() ::= <<
if ( ParseListeners!=null )
 TriggerExitRuleEvent();
_prevctx = _localctx;
>>
```

```
LexerFile(file, lexer, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
<if(file.genPackage)>
namespace <file.genPackage> {
<endif>
<namedActions.header>
using System;
using System.IO;
using System.Text;
using Antlr4.Runtime;
using Antlr4.Runtime.Atn;
using Antlr4.Runtime.Misc;
using DFA = Antlr4.Runtime.Dfa.DFA;

<lexer>
<if(file.genPackage)>
} // namespace <file.genPackage>
<endif>
>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
[System.CodeDom.Compiler.GeneratedCode("ANTLR", "<file.ANTLRVersion>")]
[System.CLSCompliant(false)]
public partial class <csIdentifier.(lexer.name)> : <superClass; null="Lexer"> {
 protected static DFA[] decisionToDFA;
 protected static PredictionContextCache sharedContextCache = new PredictionContextCache();
 public const int
  <lexer.tokens:{k | <tokenType.(k)>=<lexer.tokens.(k)>}; separator=", ", wrap, anchor>;
 <if(lexer.channels)>
 public const int
  <lexer.channels:{k | <csIdentifier.(k)>=<lexer.channels.(k)>}; separator=", ", wrap, anchor>;
 <endif>
 <if(rest(lexer.modes))>
 public const int
  <rest(lexer.modes):{m | <m>=<i>}; separator=", ", wrap, anchor>;
 <endif>
 public static string[] channelNames = {
  "DEFAULT_TOKEN_CHANNEL", "HIDDEN"<if (lexer.channels)>, <lexer.channels:{c| "<c>"}; separator=", ",
wrap, anchor><endif>
 };

 public static string[] modeNames = {
  <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor>
 };

 public static readonly string[] ruleNames = {
  <lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor>
 };
```

```
 <namedActions.members>

 public <csIdentifier.(lexer.name)>(ICharStream input)
 : this(input, Console.Out, Console.Error) { }

 public <csIdentifier.(lexer.name)>(ICharStream input, TextWriter output, TextWriter errorOutput)
 : base(input, output, errorOutput)
 {
  Interpreter = new LexerATNSimulator(this, _ATN, decisionToDFA, sharedContextCache);
 }

 <vocabulary(lexer.literalNames, lexer.symbolicNames)>

 public override string GrammarFileName { get { return "<lexer.grammarFileName>"; } }

 public override string[] RuleNames { get { return ruleNames; } }

 public override string[] ChannelNames { get { return channelNames; } }

 public override string[] ModeNames { get { return modeNames; } }

 public override string SerializedAtn { get { return new string(_serializedATN); } }

 static <csIdentifier.(lexer.name)>() {
  decisionToDFA = new DFA[_ATN.NumberOfDecisions];
  for (int i = 0; i \< _ATN.NumberOfDecisions; i++) {
   decisionToDFA[i] = new DFA(_ATN.GetDecisionState(i), i);
  }
 }
 <dumpActions(lexer, "", actionFuncs, sempredFuncs)>
 <atn>
}
>>


SerializedATN(model) ::= <<
private static char[] _serializedATN = {
 <model.serialized; separator=", ", wrap>,
};

public static readonly ATN _ATN =
 new ATNDeserializer().Deserialize(_serializedATN);


>>

initValue(typeName) ::= <<
```

```
default(<typeName>)
>>

codeFileExtension() ::= ".cs"

modeName ::= [
 "DEFAULT_MODE" : "DefaultMode",
 default : key
]

channelName ::= [
 "HIDDEN" : "Hidden",
 "DEFAULT_TOKEN_CHANNEL" : "DefaultTokenChannel",
 default : key
]

tokenType ::= [
 "EOF" : "Eof",
 default : key
]

csIdentifier ::= [
 "abstract" : "@abstract",
 "as" : "@as",
 "base" : "@base",
 "bool" : "@bool",
 "break" : "@break",
 "byte" : "@byte",
 "case" : "@case",
 "catch" : "@catch",
 "char" : "@char",
 "checked" : "@checked",
 "class" : "@class",
 "const" : "@const",
 "continue" : "@continue",
 "decimal" : "@decimal",
 "default" : "@default",
 "delegate" : "@delegate",
 "do" : "@do",
 "double" : "@double",
 "else" : "@else",
 "enum" : "@enum",
 "event" : "@event",
 "explicit" : "@explicit",
 "extern" : "@extern",
 "false" : "@false",
 "finally" : "@finally",
 "fixed" : "@fixed",
```

"float" : "@float",
"for" : "@for",
"foreach" : "@foreach",
"goto" : "@goto",
"if" : "@if",
"implicit" : "@implicit",
"in" : "@in",
"int" : "@int",
"interface" : "@interface",
"internal" : "@internal",
"is" : "@is",
"lock" : "@lock",
"long" : "@long",
"namespace" : "@namespace",
"new" : "@new",
"null" : "@null",
"object" : "@object",
"operator" : "@operator",
"out" : "@out",
"override" : "@override",
"params" : "@params",
"private" : "@private",
"protected" : "@protected",
"public" : "@public",
"readonly" : "@readonly",
"ref" : "@ref",
"return" : "@return",
"sbyte" : "@sbyte",
"sealed" : "@sealed",
"short" : "@short",
"sizeof" : "@sizeof",
"stackalloc" : "@stackalloc",
"static" : "@static",
"string" : "@string",
"struct" : "@struct",
"switch" : "@switch",
"this" : "@this",
"throw" : "@throw",
"true" : "@true",
"try" : "@try",
"typeof" : "@typeof",
"uint" : "@uint",
"ulong" : "@ulong",
"unchecked" : "@unchecked",
"unsafe" : "@unsafe",
"ushort" : "@ushort",
"using" : "@using",
"virtual" : "@virtual",

"values" : "@values",
"void" : "@void",
"volatile" : "@volatile",
"while" : "@while",
default : key
]

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/codegen/CSharp/CSharp.stg
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*/

lexer grammar ActionSplitter;

options { filter=true; }

@header {
package org.antlr.v4.parse;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
}

@members {
ActionSplitterListener delegate;

public ActionSplitter(CharStream input, ActionSplitterListener delegate) {
  this(input, new RecognizerSharedState());
  this.delegate = delegate;
}

/** force filtering (and return tokens). triggers all above actions. */
public List<Token> getActionTokens() {
  List<Token> chunks = new ArrayList<Token>();
  Token t = nextToken();
  while ( t.getType()!=Token.EOF ) {
     chunks.add(t);
     t = nextToken();
```

```
  }
  return chunks;
}

private boolean isIDStartChar(int c) {
 return c == '_' || Character.isLetter(c);
}
}

// ignore comments right away

COMMENT
  :   '/*' ( options {greedy=false;} : . )* '*/' {delegate.text($text);}
  ;

LINE_COMMENT
  : '//' ~('\n'|'\r')* '\r'? '\n' {delegate.text($text);}
  ;

SET_NONLOCAL_ATTR
 : '$' x=ID '::' y=ID WS? '=' expr=ATTR_VALUE_EXPR ';'
  {
  delegate.setNonLocalAttr($text, $x, $y, $expr);
  }
 ;

NONLOCAL_ATTR
 : '$' x=ID '::' y=ID {delegate.nonLocalAttr($text, $x, $y);}
 ;

QUALIFIED_ATTR
 : '$' x=ID '.' y=ID {input.LA(1)!='('}? {delegate.qualifiedAttr($text, $x, $y);}
 ;

SET_ATTR
 : '$' x=ID WS? '=' expr=ATTR_VALUE_EXPR ';'
  {
  delegate.setAttr($text, $x, $expr);
  }
 ;

ATTR
 : '$' x=ID {delegate.attr($text, $x);}
 ;

// Anything else is just random text
TEXT
@init {StringBuilder buf = new StringBuilder();}
```

```
@after {delegate.text(buf.toString());}
 : ( c=~('\\'| '$') {buf.append((char)$c);}
  | '\\$' {buf.append('$');}
  | '\\' c=~('$') {buf.append('\\').append((char)$c);}
  | {!isIDStartChar(input.LA(2))}? => '$' {buf.append('$');}
  )+
 ;

fragment
ID  : ('a'..'z'|'A'..'Z'|'_') ('a'..'z'|'A'..'Z'|'0'..'9'|'_')*
   ;

/** Don't allow an = as first char to prevent $x == 3; kind of stuff. */
fragment
ATTR_VALUE_EXPR
 : ~'=' (~';')*
 ;

fragment
WS : (' '|'\t'|'\n'|'\r')+
 ;
```

Found in path(s):
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atn(startState, states, edges, rankdir, decisionRanks, useBox) ::= <<
digraph ATN {
rankdir=LR;
<decisionRanks; separator="\n">
<states; separator="\n">
<edges; separator="\n">
}
>>

dfa(name, startState, states, edges, rankdir, decisionRanks, useBox) ::= <<
digraph <name>  {
<if(rankdir)>rankdir=<rankdir>;<endif>
<decisionRanks; separator="\n">
<states; separator="\n">
<edges; separator="\n">
}
>>

decision-rank(states) ::= <<
{rank=same; rankdir=TB; <states:{s | s<s>}; separator="; ">}
>>

edge(src,target,label,arrowhead,transitionIndex) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontsize=11, fontname="Courier", arrowsize=.7,
label = "<label>"<if(arrowhead)>, arrowhead = <arrowhead><endif>];
>>

action-edge(src,target,label,arrowhead,transitionIndex) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontsize=11, fontname="Courier", arrowsize=.7,
label = "<label>"<if(arrowhead)>, arrowhead = <arrowhead><endif>];
>>

epsilon-edge(src,label,target,arrowhead,transitionIndex,loopback=false) ::= <<
<src><if(transitionIndex)>:p<transitionIndex><endif> -> <target> [fontname="Times-Italic",
label="&epsilon;"<if(loopback)>, style="dashed"<endif>];
>>

state(state, label, name, transitions) ::= <%
<name>[fontsize=11,
  label="
```

```
    <! rest(transition) tests for decision states: these nodes have a non-empty set of transitions after the first one. !>
    <if(rest(transitions))>
      {
      <! Label on the left side of the record node. !>
      <label>
      |
      <! Named ports in order on right side of record node, no display text. !>
      {<transitions:{t|\<p<i0>>}; separator="|">}}
    <else>
      <label>
    <endif>
    "
  <if(rest(transitions))>
    , shape=record, fixedsize=false
  <else>
    , shape=circle, fixedsize=true, width=.55
  <endif>
  , peripheries=1];
%>

stopstate(name,label,actionIndex,useBox) ::= <<
<name>[fontsize=11, label="<label><if(actionIndex)>,\naction:<actionIndex><endif>",
<if(useBox)>shape=polygon,sides=4,peripheries=2,fixedsize=false<else>shape=doublecircle, fixedsize=true,
width=.6<endif>];
>>
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/dot/graphs.stg
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*/

```
/** ANTLR tool checks output templates are compatible with tool code generation.
*  For now, a simple string match used on x.y of x.y.z scheme.
*  Must match Tool.VERSION during load to templates.
*
*  REQUIRED.
*/

pythonTypeInitMap ::= [
 "bool":"False",
 "int":"0",
 "float":"0.0",
 "str":"",
 default:"None" // anything other than a primitive type is an object
]

// args must be <object-model-object>, <fields-resulting-in-STs>

ParserFile(file, parser, namedActions, contextSuperClass) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
# encoding: utf-8
from antlr4 import *
from io import StringIO
from typing.io import TextIO
import sys

<namedActions.header>
<parser>

>>

ListenerFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
if __name__ is not None and "." in __name__:
  from .<file.parserName> import <file.parserName>
else:
  from <file.parserName> import <file.parserName>
<header>

# This class defines a complete listener for a parse tree produced by <file.parserName>.
class <file.grammarName>Listener(ParseTreeListener):

  <file.listenerNames:{lname |
# Enter a parse tree produced by <file.parserName>#<lname>.
def enter<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
  pass

# Exit a parse tree produced by <file.parserName>#<lname>.
```

```
def exit<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
  pass

}; separator="\n">

>>


VisitorFile(file, header, namedActions) ::= <<
<fileHeader(file.grammarFileName, file.ANTLRVersion)>
from antlr4 import *
if __name__ is not None and "." in __name__:
  from .<file.parserName> import <file.parserName>
else:
  from <file.parserName> import <file.parserName>
<header>

# This class defines a complete generic visitor for a parse tree produced by <file.parserName>.

class <file.grammarName>Visitor(ParseTreeVisitor):

  <file.visitorNames:{lname |
# Visit a parse tree produced by <file.parserName>#<lname>.
def visit<lname; format="cap">(self, ctx:<file.parserName>.<lname; format="cap">Context):
  return self.visitChildren(ctx)

}; separator="\n">

del <file.parserName>
>>


fileHeader(grammarFileName, ANTLRVersion) ::= <<
# Generated from <grammarFileName> by ANTLR <ANTLRVersion>
>>

Parser(parser, funcs, atn, sempredFuncs, superClass) ::= <<
<Parser_(ctor="parser_ctor", ...)>
>>

Parser_(parser, funcs, atn, sempredFuncs, ctor, superClass) ::= <<
<if(superClass)>
if __name__ is not None and "." in __name__:
  from .<superClass> import <superClass>
else:
  from <superClass> import <superClass>

<endif>
```

```
<atn>

class <parser.name> ( <if(superClass)><superClass><else>Parser<endif> ):

  grammarFileName = "<parser.grammarFileName>"

  atn = ATNDeserializer().deserialize(serializedATN())

  decisionsToDFA = [ DFA(ds, i) for i, ds in enumerate(atn.decisionToState) ]

  sharedContextCache = PredictionContextCache()

  literalNames = [ <parser.literalNames:{t | <t>}; null="\"\<INVALID>\"", separator=", ", wrap, anchor> ]

  symbolicNames = [ <parser.symbolicNames:{t | <t>}; null="\"\<INVALID>\"", separator=", ", wrap, anchor> ]

  <parser.rules:{r | RULE_<r.name> = <r.index>}; separator="\n", wrap, anchor>

  ruleNames =  [ <parser.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor> ]

  EOF = <TokenLabelType()>.EOF
  <if(parser.tokens)>
  <parser.tokens:{k | <k>=<parser.tokens.(k)>}; separator="\n", wrap, anchor>
  <endif>

  <parser:(ctor)()>

  <namedActions.members>

  <funcs; separator="\n">


<if(sempredFuncs)>
  def sempred(self, localctx:RuleContext, ruleIndex:int, predIndex:int):
      if self._predicates == None:
          self._predicates = dict()
<parser.sempredFuncs.values:{f |
      self._predicates[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n        ">
      pred = self._predicates.get(ruleIndex, None)
      if pred is None:
          raise Exception("No predicate with index:" + str(ruleIndex))
      else:
          return pred(localctx, predIndex)

  <sempredFuncs.values; separator="\n">
<endif>
```

```
>>

dumpActions(recog, argFuncs, actionFuncs, sempredFuncs) ::= <<
<if(actionFuncs)>
def action(self, localctx:RuleContext, ruleIndex:int, actionIndex:int):
  if self._actions is None:
      actions = dict()
<recog.actionFuncs.values:{f|
      actions[<f.ruleIndex>] = self.<f.name>_action }; separator="\n">
      self._actions = actions
  action = self._actions.get(ruleIndex, None)
  if action is not None:
      action(localctx, actionIndex)
  else:
      raise Exception("No registered action for:" + str(ruleIndex))

<actionFuncs.values; separator="\n">

<endif>
<if(sempredFuncs)>
def sempred(self, localctx:RuleContext, ruleIndex:int, predIndex:int):
  if self._predicates is None:
      preds = dict()
<recog.sempredFuncs.values:{f|
      preds[<f.ruleIndex>] = self.<f.name>_sempred}; separator="\n">
      self._predicates = preds
  pred = self._predicates.get(ruleIndex, None)
  if pred is not None:
      return pred(localctx, predIndex)
  else:
      raise Exception("No registered predicate for:" + str(ruleIndex))

<sempredFuncs.values; separator="\n">
<endif>
>>

parser_ctor(p) ::= <<
def __init__(self, input:TokenStream, output:TextIO = sys.stdout):
  super().__init__(input, output)
  self.checkVersion("<file.ANTLRVersion>")
  self._interp = ParserATNSimulator(self, self.atn, self.decisionsToDFA, self.sharedContextCache)
  self._predicates = None

>>

/* This generates a private method since the actionIndex is generated, making an
* overriding implementation impossible to maintain.
```

```
*/
RuleActionFunction(r, actions) ::= <<

def <r.name>_action(self, localctx:<r.ctxType> , actionIndex:int):
<actions:{index|
<if(first(actions))>
  if actionIndex == <index>:
     <actions.(index)>
<elseif(rest(actions))>
  elif actionIndex == <index>:
     <actions.(index)>
<endif> }; separator="\n">
>>

/* This generates a private method since the predIndex is generated, making an
* overriding implementation impossible to maintain.
*/
RuleSempredFunction(r, actions) ::= <<
def <r.name>_sempred(self, localctx:<r.ctxType>, predIndex:int):
  <actions:{index|
<if(first(actions))>
  if predIndex == <index>:
     return <actions.(index)>
<elseif(rest(actions))>
  elif predIndex == <index>:
     return <actions.(index)>
<endif> }; separator="\n">

>>

RuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,namedActions,finallyAction,postamble,exceptions)
::= <<

<ruleCtx>

<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

def <currentRule.name>(self<currentRule.args:{a | , <a.name><if(a.type)>:<a.type><endif>}>):

  localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, self.state<currentRule.args:{a | , <a.name>}>)
  self.enterRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>)
  <namedActions.init>
  <locals; separator="\n">
  try:
     <code>
     <postamble; separator="\n">
     <namedActions.after>
  <if(exceptions)>
```

```
  <exceptions; separator="\n">
  <else>
  except RecognitionException as re:
      localctx.exception = re
      self._errHandler.reportError(self, re)
      self._errHandler.recover(self, re)
  <endif>
  finally:
      <finallyAction>
      self.exitRule()
  return localctx

>>

LeftRecursiveRuleFunction(currentRule,args,code,locals,ruleCtx,altLabelCtxs,
 namedActions,finallyAction,postamble) ::=
<<

<ruleCtx>
<altLabelCtxs:{l | <altLabelCtxs.(l)>}; separator="\n">

def <currentRule.name>(self, _p:int=0<if(currentRule.args)>, <args:{a | , <a>}><endif>):
  _parentctx = self._ctx
  _parentState = self.state
  localctx = <parser.name>.<currentRule.ctxType>(self, self._ctx, _parentState<args:{a | , <a.name>}>)
  _prevctx = localctx
  _startState = <currentRule.startState>
  self.enterRecursionRule(localctx, <currentRule.startState>, self.RULE_<currentRule.name>, _p)
  <namedActions.init>
  <locals; separator="\n">
  try:
      <code>
      <postamble; separator="\n">
      <namedActions.after>
  except RecognitionException as re:
      localctx.exception = re
      self._errHandler.reportError(self, re)
      self._errHandler.recover(self, re)
  finally:
      <finallyAction>
      self.unrollRecursionContexts(_parentctx)
  return localctx

>>

CodeBlockForOuterMostAlt(currentOuterMostAltCodeBlock, locals, preamble, ops) ::= <<
<if(currentOuterMostAltCodeBlock.altLabel)>localctx = <parser.name>.<currentOuterMostAltCodeBlock.altLabel;
format="cap">Context(self, localctx)<endif>
```

```
self.enterOuterAlt(localctx, <currentOuterMostAltCodeBlock.alt.altNum>)
<CodeBlockForAlt(currentAltCodeBlock=currentOuterMostAltCodeBlock, ...)>
>>

CodeBlockForAlt(currentAltCodeBlock, locals, preamble, ops) ::= <<
<locals; separator="\n">
<preamble; separator="\n">
<ops; separator="\n">
>>

LL1AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
  <alt>
  pass}; separator="\nel">
else:
  <error>

>>

LL1OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
token = self._input.LA(1)
<choice.altLook,alts:{look,alt| <cases(ttypes=look)>
  <alt>
  pass}; separator="\nel">
else:
  pass
>>

LL1OptionalBlockSingleAlt(choice, expr, alts, preamble, error, followExpr) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<preamble; separator="\n">
if <expr>:
  <alts; separator="\n">

<!else if ( !(<followExpr>) ) <error>!>
>>


LL1StarBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.stateNumber>
```

```
self._errHandler.sync(self)
<preamble; separator="\n">
while <loopExpr>:
  <alts; separator="\n">
  self.state = <choice.loopBackStateNumber>
  self._errHandler.sync(self)
  <iteration>

>>

LL1PlusBlockSingleAlt(choice, loopExpr, alts, preamble, iteration) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
<preamble; separator="\n">
while True:
  <alts; separator="\n">
  self.state = <choice.stateNumber> <! loopback/exit decision !>
  self._errHandler.sync(self)
  <iteration>
  if not (<loopExpr>):
     break

>>

// LL(*) stuff

AltBlock(choice, preamble, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
<if(choice.label)><labelref(choice.label)> = _input.LT(1)<endif>
<preamble; separator="\n">
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{alt |
if la_ == <i>:
  <alt>
  pass
}; separator="\nel">

>>

OptionalBlock(choice, alts, error) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
la_ = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
<alts:{alt |
if la_ == <i><if(!choice.ast.greedy)>+1<endif>:
  <alt>
}; separator="\nel">
```

```
>>

StarBlock(choice, alts, sync, iteration) ::= <<
self.state = <choice.stateNumber>
self._errHandler.sync(self)
_alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
  if _alt==1<if(!choice.ast.greedy)>+1<endif>:
    <iteration>
    <alts> <! should only be one !>
  self.state = <choice.loopBackStateNumber>
  self._errHandler.sync(self)
  _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

PlusBlock(choice, alts, error) ::= <<
self.state = <choice.blockStartStateNumber> <! alt block decision !>
self._errHandler.sync(self)
_alt = 1<if(!choice.ast.greedy)>+1<endif>
while _alt!=<choice.exitAlt> and _alt!=ATN.INVALID_ALT_NUMBER:
  <alts:{alt|
if _alt == <i><if(!choice.ast.greedy)>+1<endif>:
  <alt>
}; separator="\nel">
  else:
    <error>
  self.state = <choice.loopBackStateNumber> <! loopback/exit decision !>
  self._errHandler.sync(self)
  _alt = self._interp.adaptivePredict(self._input,<choice.decision>,self._ctx)

>>

Sync(s) ::= "sync(<s.expecting.name>)"

ThrowNoViableAlt(t) ::= "raise NoViableAltException(self)"

TestSetInline(s) ::= <<
<s.bitsets:{bits | <if(rest(rest(bits.ttypes)))><bitsetBitfieldComparison(s, bits)><else><bitsetInlineComparison(s,
bits)><endif>}; separator=" or ">
>>

// Java language spec 15.19 - shift operators mask operands rather than overflow to 0... need range test
testShiftInRange(shiftAmount) ::= <<
((<shiftAmount>) & ~0x3f) == 0
>>
```

```
// produces smaller bytecode only when bits.ttypes contains more than two items
bitsetBitfieldComparison(s, bits) ::= <%
(<testShiftInRange({<offsetShiftVar(s.varName, bits.shift)>})> and ((1 \<\< <offsetShiftVar(s.varName,
bits.shift)>) & (<bits.ttypes:{ttype | (1 \<\< <offsetShiftType(ttype, bits.shift)>)}; separator=" | ">)) != 0)
%>

isZero ::= [
"0":true,
default:false
]

offsetShiftVar(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<shiftAmount> - <offset>)<else><shiftAmount><endif>
%>

offsetShiftType(shiftAmount, offset) ::= <%
<if(!isZero.(offset))>(<parser.name>.<shiftAmount> - <offset>)<else><parser.name>.<shiftAmount><endif>
%>

// produces more efficient bytecode when bits.ttypes contains at most two items
bitsetInlineComparison(s, bits) ::= <%
<bits.ttypes:{ttype | <s.varName>==<parser.name>.<ttype>}; separator=" or ">
%>

cases(ttypes) ::= <<
if token in [<ttypes:{t | <parser.name>.<t>}; separator=", ">]:
>>

InvokeRule(r, argExprsChunks) ::= <<
self.state = <r.stateNumber>
<if(r.labels)><r.labels:{l | <labelref(l)> =
}><endif>self.<r.name>(<if(r.ast.options.p)><r.ast.options.p><if(argExprsChunks)>,<endif><endif><argExprsChu
nks>)
>>

MatchToken(m) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{l | <labelref(l)> = }><endif>self.match(<parser.name>.<m.name>)
>>

MatchSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, false)>"

MatchNotSet(m, expr, capture) ::= "<CommonSetStuff(m, expr, capture, true)>"

CommonSetStuff(m, expr, capture, invert) ::= <<
self.state = <m.stateNumber>
<if(m.labels)><m.labels:{l | <labelref(l)> = }>self._input.LT(1)<endif>
<capture>
```

```
<if(invert)>if <m.varName> \<= 0 or <expr><else>if not(<expr>)<endif>:
<if(m.labels)><m.labels:{l |     <labelref(l)> = }><else>    <endif>self._errHandler.recoverInline(self)
else:
  self._errHandler.reportMatch(self)
  self.consume()
>>

Wildcard(w) ::= <<
self.state = <w.stateNumber>
<if(w.labels)><w.labels:{l | <labelref(l)> = }><endif>self.matchWildcard()
>>

// ACTION STUFF

Action(a, foo, chunks) ::= "<chunks>"

ArgAction(a, chunks) ::= "<chunks>"

SemPred(p, chunks, failChunks) ::= <<
self.state = <p.stateNumber>
if not <chunks>:
  from antlr4.error.Errors import FailedPredicateException
  raise FailedPredicateException(self, <p.predicate><if(failChunks)>, <failChunks><elseif(p.msg)>,
<p.msg><endif>)
>>

ExceptionClause(e, catchArg, catchAction) ::= <<
catch (<catchArg>) {
  <catchAction>
}
>>

// lexer actions are not associated with model objects

LexerSkipCommand()  ::= "skip()"
LexerMoreCommand()  ::= "more()"
LexerPopModeCommand() ::= "popMode()"

LexerTypeCommand(arg, grammar)      ::= "_type = <arg>"
LexerChannelCommand(arg, grammar)   ::= "_channel = <arg>"
LexerModeCommand(arg, grammar)      ::= "_mode = <arg>"
LexerPushModeCommand(arg, grammar)  ::= "pushMode(<arg>)"

ActionText(t) ::= "<t.text>"
ActionTemplate(t) ::= "<t.st>"
ArgRef(a) ::= "localctx.<a.name>"
LocalRef(a) ::= "localctx.<a.name>"
RetValueRef(a) ::= "localctx.<a.name>"
```

```
QRetValueRef(a) ::= "<ctx(a)>.<a.dict>.<a.name>"
/** How to translate $tokenLabel */
TokenRef(t) ::= "<ctx(t)>.<t.name>"
LabelRef(t) ::= "<ctx(t)>.<t.name>"
ListLabelRef(t) ::= "<ctx(t)>.<ListLabelName(t.name)>"
SetAttr(s,rhsChunks) ::= "<ctx(s)>.<s.name> = <rhsChunks>"

TokenLabelType() ::= "<file.TokenLabelType; null={Token}>"
InputSymbolType() ::= "<file.InputSymbolType; null={Token}>"

TokenPropertyRef_text(t) ::= "(None if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.text)"
TokenPropertyRef_type(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.type()"
TokenPropertyRef_line(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.line)"
TokenPropertyRef_pos(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.column)"
TokenPropertyRef_channel(t) ::= "(0 if (<ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.channel)"
TokenPropertyRef_index(t) ::= "(0 if <ctx(t)>.<t.label> is None else <ctx(t)>.<t.label>.tokenIndex)"
TokenPropertyRef_int(t) ::= "(0 if <ctx(t)>.<t.label> is None else int(<ctx(t)>.<t.label>.text))"

RulePropertyRef_start(r) ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.start)"
RulePropertyRef_stop(r)  ::= "(None if <ctx(r)>.<r.label> is None else <ctx(r)>.<r.label>.stop)"
RulePropertyRef_text(r)  ::= "(None if <ctx(r)>.<r.label> is None else
self._input.getText((<ctx(r)>.<r.label>.start,<ctx(r)>.<r.label>.stop)))"
RulePropertyRef_ctx(r)  ::= "<ctx(r)>.<r.label>"
RulePropertyRef_parser(r)  ::= "self"

ThisRulePropertyRef_start(r) ::= "localctx.start"
ThisRulePropertyRef_stop(r)  ::= "localctx.stop"
ThisRulePropertyRef_text(r)  ::= "self._input.getText((localctx.start, self._input.LT(-1)))"
ThisRulePropertyRef_ctx(r)  ::= "localctx"
ThisRulePropertyRef_parser(r)  ::= "self"

NonLocalAttrRef(s)     ::= "getInvokingContext(<s.ruleIndex>).<s.name>"
SetNonLocalAttr(s, rhsChunks)  ::= "getInvokingContext(<s.ruleIndex>).<s.name> = <rhsChunks>"

AddToLabelList(a) ::= "<ctx(a.label)>.<a.listName>.append(<labelref(a.label)>)"

TokenDecl(t) ::= "self.<t.name> = None # <TokenLabelType()>"
TokenTypeDecl(t) ::= "self.<t.name> = 0 # <TokenLabelType()> type"
TokenListDecl(t) ::= "self.<t.name> = list() # of <TokenLabelType()>s"
RuleContextDecl(r) ::= "self.<r.name> = None # <r.ctxName>"
RuleContextListDecl(rdecl) ::= "self.<rdecl.name> = list() # of <rdecl.ctxName>s"

ContextTokenGetterDecl(t)      ::= <<
def <t.name>(self):
  return self.getToken(<parser.name>.<t.name>, 0)
>>

// should never be called
```

```
ContextTokenListGetterDecl(t)  ::= <<
def <t.name>_list(self):
  return self.getTokens(<parser.name>.<t.name>)
>>

ContextTokenListIndexedGetterDecl(t)  ::= <<
def <t.name>(self, i:int=None):
  if i is None:
     return self.getTokens(<parser.name>.<t.name>)
  else:
     return self.getToken(<parser.name>.<t.name>, i)
>>

ContextRuleGetterDecl(r)       ::= <<
def <r.name>(self):
  return self.getTypedRuleContext(<parser.name>.<r.ctxName>,0)

>>

// should never be called
ContextRuleListGetterDecl(r)   ::= <<
def <r.name>_list(self):
  return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)

>>

ContextRuleListIndexedGetterDecl(r)   ::= <<
def <r.name>(self, i:int=None):
  if i is None:
     return self.getTypedRuleContexts(<parser.name>.<r.ctxName>)
  else:
     return self.getTypedRuleContext(<parser.name>.<r.ctxName>,i)

>>

LexerRuleContext() ::= "RuleContext"

/** The rule context name is the rule followed by a suffix; e.g.,
*  r becomes rContext.
*/
RuleContextNameSuffix() ::= "Context"

ImplicitTokenLabel(tokenName) ::= "_<tokenName>"
ImplicitRuleLabel(ruleName)   ::= "_<ruleName>"
ImplicitSetLabel(id)    ::= "_tset<id>"
ListLabelName(label)    ::= "<label>"

CaptureNextToken(d) ::= "<d.varName> = self._input.LT(1)"
```

```
CaptureNextTokenType(d) ::= "<d.varName> = self._input.LA(1)"

StructDecl(struct,ctorAttrs,attrs,getters,dispatchMethods,interfaces,extensionMembers) ::= <<
class <struct.name>(<if(contextSuperClass)><contextSuperClass><else>ParserRuleContext<endif>):

  def __init__(self, parser, parent:ParserRuleContext=None, invokingState:int=-1<struct.ctorAttrs:{a | ,
<a.name><if(a.type)>:<a.type><endif>=None}>):
    super().__init__(parent, invokingState)
    self.parser = parser
    <attrs:{a | <a>}; separator="\n">
    <struct.ctorAttrs:{a | self.<a.name> = <a.name>}; separator="\n">

  <getters:{g | <g>}; separator="\n\n">

  def getRuleIndex(self):
    return <parser.name>.RULE_<struct.derivedFromName>

<if(struct.provideCopyFrom)> <! don't need copy unless we have subclasses !>
  def copyFrom(self, ctx:ParserRuleContext):
    super().copyFrom(ctx)
    <struct.attrs:{a | self.<a.name> = ctx.<a.name>}; separator="\n">

<endif>
  <dispatchMethods; separator="\n">
  <extensionMembers; separator="\n">

>>

AltLabelStructDecl(struct,attrs,getters,dispatchMethods) ::= <<
class <struct.name>(<currentRule.name; format="cap">Context):

  def __init__(self, parser, ctx:ParserRuleContext): # actually a <parser.name>.<currentRule.name;
format="cap">Context
    super().__init__(parser)
    <attrs:{a | <a>}; separator="\n">
    self.copyFrom(ctx)

  <getters:{g | <g>}; separator="\n">

  <dispatchMethods; separator="\n">

>>

ListenerDispatchMethod(method) ::= <<
def <if(method.isEnter)>enter<else>exit<endif>Rule(self, listener:ParseTreeListener):
  if hasattr( listener, "<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">" ):
    listener.<if(method.isEnter)>enter<else>exit<endif><struct.derivedFromName; format="cap">(self)
```

```
>>

VisitorDispatchMethod(method) ::= <<
def accept(self, visitor:ParseTreeVisitor):
  if hasattr( visitor, "visit<struct.derivedFromName; format="cap">" ):
     return visitor.visit<struct.derivedFromName; format="cap">(self)
  else:
     return visitor.visitChildren(self)

>>

AttributeDecl(d) ::= "self.<d.name> = <if(d.initValue)><d.initValue><else>None<endif>"

/** If we don't know location of label def x, use this template */
labelref(x) ::= "<if(!x.isLocal)>localctx.<endif><x.name>"

/** For any action chunk, what is correctly-typed context struct ptr? */
ctx(actionChunk) ::= "localctx"

// used for left-recursive rules
recRuleAltPredicate(ruleName,opPrec)  ::= "self.precpred(self._ctx, <opPrec>)"
recRuleSetReturnAction(src,name)   ::= "$<name>=$<src>.<name>"
recRuleSetStopToken()                 ::= "self._ctx.stop = self._input.LT(-1)"

recRuleAltStartAction(ruleName, ctxName, label) ::= <<
localctx = <parser.name>.<ctxName>Context(self, _parentctx, _parentState)
<if(label)>localctx.<label> = _prevctx<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

recRuleLabeledAltStartAction(ruleName, currentAltLabel, label, isListLabel) ::= <<
localctx = <parser.name>.<currentAltLabel; format="cap">Context(self, <parser.name>.<ruleName;
format="cap">Context(self, _parentctx, _parentState))
<if(label)>
<if(isListLabel)>
localctx.<label>.append(_prevctx)
<else>
localctx.<label> = _prevctx
<endif>
<endif>
self.pushNewRecursionContext(localctx, _startState, self.RULE_<ruleName>)
>>

recRuleReplaceContext(ctxName) ::= <<
localctx = <parser.name>.<ctxName>Context(self, localctx)
self._ctx = localctx
_prevctx = localctx
>>
```

```
recRuleSetPrevCtx() ::= <<
if self._parseListeners is not None:
  self.triggerExitRuleEvent()
_prevctx = localctx
>>


LexerFile(lexerFile, lexer, namedActions) ::= <<
<fileHeader(lexerFile.grammarFileName, lexerFile.ANTLRVersion)>
from antlr4 import *
from io import StringIO
from typing.io import TextIO
import sys

<namedActions.header>

<lexer>
>>

Lexer(lexer, atn, actionFuncs, sempredFuncs, superClass) ::= <<
<if(superClass)>
if __name__ is not None and "." in __name__:
  from .<superClass> import <superClass>
else:
  from <superClass> import <superClass>

<endif>
<atn>

class <lexer.name>(<if(superClass)><superClass><else>Lexer<endif>):

  atn = ATNDeserializer().deserialize(serializedATN())

  decisionsToDFA = [ DFA(ds, i) for i, ds in enumerate(atn.decisionToState) ]

<if(lexer.channels)>
  <lexer.channels:{c| <c> = <lexer.channels.(c)>}; separator="\n">

<endif>
<if(rest(lexer.modes))>
  <rest(lexer.modes):{m| <m> = <i>}; separator="\n">

<endif>
  <lexer.tokens:{k | <k> = <lexer.tokens.(k)>}; separator="\n", wrap, anchor>

  channelNames = [ u"DEFAULT_TOKEN_CHANNEL", u"HIDDEN"<if (lexer.channels)>, <lexer.channels:{c|
u"<c>"}; separator=", ", wrap, anchor><endif> ]
```

```
  modeNames = [ <lexer.modes:{m| "<m>"}; separator=", ", wrap, anchor> ]

  literalNames = [ "\<INVALID>",
        <lexer.literalNames:{t | <t>}; separator=", ", wrap, anchor> ]

  symbolicNames = [ "\<INVALID>",
        <lexer.symbolicNames:{t | <t>}; separator=", ", wrap, anchor> ]

  ruleNames = [ <lexer.ruleNames:{r | "<r>"}; separator=", ", wrap, anchor> ]

  grammarFileName = "<lexer.grammarFileName>"

  def __init__(self, input=None, output:TextIO = sys.stdout):
     super().__init__(input, output)
     self.checkVersion("<lexerFile.ANTLRVersion>")
     self._interp = LexerATNSimulator(self, self.atn, self.decisionsToDFA, PredictionContextCache())
     self._actions = None
     self._predicates = None

  <namedActions.members>

  <dumpActions(lexer, "", actionFuncs, sempredFuncs)>

>>

SerializedATN(model) ::= <<
<! only one segment, can be inlined !>

def serializedATN():
  with StringIO() as buf:
     buf.write("<model.serialized; wrap={")<\n>       buf.write("}>")
     return buf.getvalue()

>>

/** Using a type to init value map, try to init a type; if not in table
*  must be an object, default value is "null".
*/
initValue(typeName) ::= <<
<pythonTypeInitMap.(typeName)>
>>

codeFileExtension() ::= ".py"

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-
jar/org/antlr/v4/tool/templates/codegen/Python3/Python3.stg
```

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*/

tree grammar SourceGenTriggers;
options {
 language     = Java;
 tokenVocab   = ANTLRParser;
 ASTLabelType = GrammarAST;
}

@header {
package org.antlr.v4.codegen;
import org.antlr.v4.misc.Utils;
import org.antlr.v4.codegen.model.*;
import org.antlr.v4.codegen.model.decl.*;
import org.antlr.v4.tool.*;
import org.antlr.v4.tool.ast.*;
import java.util.Collections;
import java.util.Map;
import java.util.HashMap;
}

@members {
 public OutputModelController controller;
   public boolean hasLookaheadBlock;
   public SourceGenTriggers(TreeNodeStream input, OutputModelController controller) {
    this(input);
    this.controller = controller;
   }
```

```
}

dummy : block[null, null] ;

block[GrammarAST label, GrammarAST ebnfRoot] returns [List<? extends SrcOp> omos]
  : ^( blk=BLOCK (^(OPTIONS .+))?
  {List<CodeBlockForAlt> alts = new ArrayList<CodeBlockForAlt>();}
    ( alternative {alts.add($alternative.altCodeBlock);} )+
   )
   {
   if ( alts.size()==1 && ebnfRoot==null) return alts;
   if ( ebnfRoot==null ) {
      $omos = DefaultOutputModelFactory.list(controller.getChoiceBlock((BlockAST)$blk, alts, $label));
   }
   else {
        Choice choice = controller.getEBNFBlock($ebnfRoot, alts);
        hasLookaheadBlock |= choice instanceof PlusBlock || choice instanceof StarBlock;
      $omos = DefaultOutputModelFactory.list(choice);
   }
   }
  ;

alternative returns [CodeBlockForAlt altCodeBlock, List<SrcOp> ops]
@init {
  boolean outerMost = inContext("RULE BLOCK");
}
@after {
  controller.finishAlternative($altCodeBlock, $ops, outerMost);
}
  : a=alt[outerMost] {$altCodeBlock=$a.altCodeBlock; $ops=$a.ops;}
 ;

alt[boolean outerMost] returns [CodeBlockForAlt altCodeBlock, List<SrcOp> ops]
@init {
 // set alt if outer ALT only (the only ones with alt field set to Alternative object)
 AltAST altAST = (AltAST)retval.start;
 if ( outerMost ) controller.setCurrentOuterMostAlt(altAST.alt);
}
 : {
  List<SrcOp> elems = new ArrayList<SrcOp>();
  // TODO: shouldn't we pass $start to controller.alternative()?
  $altCodeBlock = controller.alternative(controller.getCurrentOuterMostAlt(), outerMost);
  $altCodeBlock.ops = $ops = elems;
  controller.setCurrentBlock($altCodeBlock);
  }
  ^( ALT elementOptions? ( element {if ($element.omos!=null) elems.addAll($element.omos);} )+ )

 | ^(ALT elementOptions? EPSILON)
```

```
      {$altCodeBlock = controller.epsilon(controller.getCurrentOuterMostAlt(), outerMost);}
  ;

element returns [List<? extends SrcOp> omos]
 : labeledElement     {$omos = $labeledElement.omos;}
 | atom[null,false]   {$omos = $atom.omos;}
 | subrule       {$omos = $subrule.omos;}
 |   ACTION       {$omos = controller.action((ActionAST)$ACTION);}
 |   SEMPRED       {$omos = controller.sempred((ActionAST)$SEMPRED);}
 | ^(ACTION elementOptions)  {$omos = controller.action((ActionAST)$ACTION);}
 |   ^(SEMPRED elementOptions)  {$omos = controller.sempred((ActionAST)$SEMPRED);}
 ;

labeledElement returns [List<? extends SrcOp> omos]
 : ^(ASSIGN ID atom[$ID,false] )   {$omos = $atom.omos;}
 | ^(PLUS_ASSIGN ID atom[$ID,false])  {$omos = $atom.omos;}
 | ^(ASSIGN ID block[$ID,null] )   {$omos = $block.omos;}
 | ^(PLUS_ASSIGN ID block[$ID,null])  {$omos = $block.omos;}
 ;

subrule returns [List<? extends SrcOp> omos]
 : ^(OPTIONAL b=block[null,$OPTIONAL])
  {
  $omos = $block.omos;
  }
 | ( ^(op=CLOSURE b=block[null,null])
  | ^(op=POSITIVE_CLOSURE b=block[null,null])
  )
  {
  List<CodeBlockForAlt> alts = new ArrayList<CodeBlockForAlt>();
  SrcOp blk = $b.omos.get(0);
  CodeBlockForAlt alt = new CodeBlockForAlt(controller.delegate);
  alt.addOp(blk);
  alts.add(alt);
  SrcOp loop = controller.getEBNFBlock($op, alts); // "star it"
      hasLookaheadBlock |= loop instanceof PlusBlock || loop instanceof StarBlock;
      $omos = DefaultOutputModelFactory.list(loop);
  }
 |  block[null, null]     {$omos = $block.omos;}
  ;

blockSet[GrammarAST label, boolean invert] returns [List<SrcOp> omos]
  : ^(SET atom[label,invert]+) {$omos = controller.set($SET, $label, invert);}
  ;

/*
setElement
 : STRING_LITERAL
```

```
 | TOKEN_REF
 | ^(RANGE STRING_LITERAL STRING_LITERAL)
 ;
*/

// TODO: combine ROOT/BANG into one then just make new op ref'ing return value of atom/terminal...
// TODO: same for NOT
atom[GrammarAST label, boolean invert] returns [List<SrcOp> omos]
 : ^(NOT a=atom[$label, true])  {$omos = $a.omos;}
 | range[label]       {$omos = $range.omos;}
 | ^(DOT ID terminal[$label])
 | ^(DOT ID ruleref[$label])
   | ^(WILDCARD .)       {$omos = controller.wildcard($WILDCARD, $label);}
   | WILDCARD        {$omos = controller.wildcard($WILDCARD, $label);}
   |   terminal[label]     {$omos = $terminal.omos;}
   |   ruleref[label]     {$omos = $ruleref.omos;}
 | blockSet[$label, invert]  {$omos = $blockSet.omos;}
 ;

ruleref[GrammarAST label] returns [List<SrcOp> omos]
   : ^(RULE_REF ARG_ACTION? elementOptions?)  {$omos = controller.ruleRef($RULE_REF, $label,
$ARG_ACTION);}
   ;

range[GrammarAST label] returns [List<SrcOp> omos]
   : ^(RANGE a=STRING_LITERAL b=STRING_LITERAL)
   ;

terminal[GrammarAST label] returns [List<SrcOp> omos]
   :  ^(STRING_LITERAL .)   {$omos = controller.stringRef($STRING_LITERAL, $label);}
   | STRING_LITERAL    {$omos = controller.stringRef($STRING_LITERAL, $label);}
   | ^(TOKEN_REF ARG_ACTION .) {$omos = controller.tokenRef($TOKEN_REF, $label, $ARG_ACTION);}
   | ^(TOKEN_REF .)    {$omos = controller.tokenRef($TOKEN_REF, $label, null);}
   | TOKEN_REF     {$omos = controller.tokenRef($TOKEN_REF, $label, null);}
   ;

elementOptions
   : ^(ELEMENT_OPTIONS elementOption+)
   ;

elementOption
   : ID
   |   ^(ASSIGN ID ID)
   |   ^(ASSIGN ID STRING_LITERAL)
   |   ^(ASSIGN ID ACTION)
   |   ^(ASSIGN ID INT)
   ;
```

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/codegen/SourceGenTriggers.g
No license file was found, but licenses were detected in source scan.

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*/

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/parse/ANTLRLexer.java
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*/
/*
This file contains the actual layout of the messages emitted by ANTLR.
This file contains the default format ANTLR uses.
*/

location(file, line, column) ::= "<file>:<line>:<column>:"

message(id, text) ::= "(<id>) <text>"

report(location, message, type) ::= "<type>(<message.id>): <location> <message.text>"

wantsSingleLineMessage() ::= "false"

Found in path(s):
* /opt/cola/permits/1192109359_1629132978.03/0/antlr4-4-7-2-sources-1-jar/org/antlr/v4/tool/templates/messages/formats/antlr.stg

1.36 snake-yaml 1.31

1.36.1 Available under license :

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// This module is multi-licensed and may be used under the terms
// EPL, Eclipse Public License, V1.0 or later, http://www.eclipse.org/legal
// LGPL, GNU Lesser General Public License, V2.1 or later, http://www.gnu.org/licenses/lgpl.html
// GPL, GNU General Public License, V2 or later, http://www.gnu.org/licenses/gpl.html
// AL, Apache License, V2.0 or later, http://www.apache.org/licenses
// BSD, BSD License, http://www.opensource.org/licenses/bsd-license.php
/**
* A Base64 encoder/decoder.
*

```
* <p>
* This class is used to encode and decode data in Base64 format as described in
* RFC 1521.
*
* <p>
* Project home page: <a
* href="http://www.source-code.biz/base64coder/java/">www.
* source-code.biz/base64coder/java</a><br>
* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland<br>
* Multi-licensed: EPL / LGPL / GPL / AL / BSD.
*/
```

Found in path(s):
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/external/biz/base64Coder/Base64Coder.java
No license file was found, but licenses were detected in source scan.

```
/**
* Copyright (c) 2008, SnakeYAML
*
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*     http://www.apache.org/licenses/LICENSE-2.0
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* limitations under the License.
*/
```

Found in path(s):
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/CommentEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/StreamStartEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/scanner/ScannerException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/NodeTuple.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/Node.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java

* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/CollectionEndEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/scanner/SimpleKey.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/DocumentEndEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/StreamEndToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/FlowSequenceStartToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/AnchorToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/emitter/Emitter.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/error/Mark.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/DumperOptions.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/parser/ParserException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/ConstructorException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/FlowSequenceEndToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/comments/CommentLine.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/KeyToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/Construct.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/DocumentEndToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/MethodProperty.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/MissingProperty.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/util/PlatformFeatureDetector.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/MappingEndEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/scanner/ScannerImpl.java

* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/BlockSequenceStartToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/StreamEndEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/comments/CommentType.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/NodeId.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/emitter/EmitterState.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/DuplicateKeyException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/resolver/Resolver.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/error/YAMLException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/ScalarEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/SequenceNode.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/reader/StreamReader.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactData.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/CollectionNode.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/BlockMappingStartToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/FlowEntryToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/AnchorNode.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/composer/Composer.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/Constructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/TypeDescription.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/DocumentStartToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/SafeConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/representer/Represent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/MappingNode.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/parser/ParserImpl.java

* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/DirectiveToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/ScalarToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/BeanAccess.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/DocumentStartEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/ImplicitTuple.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/Event.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/TagTuple.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/serializer/NumberAnchorGenerator.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/extensions/compactnotation/PackageCompactConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/ValueToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/FieldProperty.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/constructor/BaseConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/representer/BaseRepresenter.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/Property.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/reader/ReaderException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/extensions/compactnotation/CompactConstructor.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/Tag.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/parser/VersionTagsTuple.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/emitter/Emitable.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/scanner/Constant.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/SequenceStartEvent.java

* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/MappingStartEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/util/ArrayUtils.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/CollectionStartEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/composer/ComposerException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/representer/SafeRepresenter.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/util/EnumUtils.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/reader/UnicodeReader.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/parser/Production.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/TagToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/error/MarkedYAMLException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/SequenceEndEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/scanner/Scanner.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/resolver/ResolverTuple.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/serializer/AnchorGenerator.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/emitter/ScalarAnalysis.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/BlockEndToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/WhitespaceToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/Token.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/util/ArrayStack.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/AliasToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/serializer/SerializerException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/util/UriEncoder.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/introspector/GenericProperty.java

* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/BlockEntryToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/events/AliasEvent.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/parser/Parser.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/tokens/FlowMappingStartToken.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/nodes/ScalarNode.java
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* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/emitter/EmitterException.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/Yaml.java
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* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java
* /opt/cola/permits/1421456044_1663656140.5096798/0/snakeyaml-1-31-sources-1-jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java

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1.37 asm 7.1

1.38 opentelemetry---io.opentelemetry:opentelemetry-proto 0.11.0

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* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/collector/metrics/v1/metrics_service.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/metrics/v1/metrics.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/common/v1/common.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/collector/trace/v1/trace_service.proto
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* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/logs/v1/logs.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/resource/v1/resource.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-jar/opentelemetry/proto/metrics/experimental/configservice.proto
* /opt/cola/permits/1319213633_1651751292.93/0/opentelemetry-proto-0-11-0-

jar/opentelemetry/proto/trace/v1/trace.proto

1.39 asm-commons 9.0

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/**
  * Constructs a new {@link LocalVariablesSorter}. <i>Subclasses must not use this constructor</i>.
  * Instead, they must use the {@link #LocalVariablesSorter(int, int, String, MethodVisitor)}
  * version.
  *
  * @param access access flags of the adapted method.
  * @param descriptor the method's descriptor (see {@link Type}).
  * @param methodVisitor the method visitor to which this adapter delegates calls.
  * @throws IllegalStateException if a subclass calls this constructor.
  */
```

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/**
  * Constructs a new {@link GeneratorAdapter}. <i>Subclasses must not use this constructor</i>.
  * Instead, they must use the {@link #GeneratorAdapter(int, MethodVisitor, int, String, String)}
  * version.
  *
  * @param methodVisitor the method visitor to which this adapter delegates calls.
  * @param access the method's access flags (see {@link Opcodes}).
  * @param name the method's name.
  * @param descriptor the method's descriptor (see {@link Type}).
  * @throws IllegalStateException if a subclass calls this constructor.
  */
```

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/**
  * Constructs a new {@link SerialVersionUIDAdder}. <i>Subclasses must not use this
  * constructor</i>. Instead, they must use the {@link #SerialVersionUIDAdder(int, ClassVisitor)}
  * version.
  *
  * @param classVisitor a {@link ClassVisitor} to which this visitor will delegate calls.
  * @throws IllegalStateException If a subclass calls this constructor.
  */
```

Found in path(s):
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* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-

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* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/JSRInlinerAdapter.java
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* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/FieldRemapper.java
* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/ModuleRemapper.java
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* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/TableSwitchGenerator.java
* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/StaticInitMerger.java
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* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/TryCatchBlockSorter.java
* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/AnnotationRemapper.java
* /opt/cola/permits/1183889873_1627493666.84/0/asm-commons-9-0-sources-1-jar/org/objectweb/asm/commons/Remapper.java

1.40 org.apache.commons.fileupload 1.4

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1.41 jackson-dataformat-yaml 2.13.4

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1.45 error_prone_annotations 2.3.4

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* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/NoAllocation.java
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* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/DoNotMock.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/CompatibleWith.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/FormatMethod.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/FormatString.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/MustBeClosed.java
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* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/DoNotCall.java
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* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/ForOverride.java

* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/IncompatibleModifiers.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/concurrent/LazyInit.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/RequiredModifiers.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/Var.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/cola/permits/1206718612_1632455182.54/0/error-prone-annotations-2-3-4-sources-9-jar/com/google/errorprone/annotations/Immutable.java

1.46 j2objc-annotations 1.3

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* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/Property.java
* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/LoopTranslation.java
* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/ObjectiveCName.java
* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/ReflectionSupport.java
* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/RetainedLocalRef.java

* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/J2ObjCIncompatible.java
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* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/AutoreleasePool.java
* /opt/cola/permits/1131003150_1612875443.99/0/j2objc-annotations-1-3-sources-3-jar/com/google/j2objc/annotations/WeakOuter.java

1.47 io-grpc-grpc-protobuf 1.30.2

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* /opt/cola/permits/1131176768_1668683048.8539906/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/ProtoServiceDescriptorSupplier.java
* /opt/cola/permits/1131176768_1668683048.8539906/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/package-info.java
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1.48 okio 2.8.0

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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/internal/SegmentedByteString.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/BufferedSource.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/Sink.kt
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jar/commonMain/okio/RealBufferedSource.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/BufferedSink.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/RealBufferedSource.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/AsyncTimeout.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/-Platform.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/-DeprecatedUtf8.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/PeekSource.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/-DeprecatedOkio.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/Throttler.kt
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* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/Pipe.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/jvmMain/okio/HashingSource.kt
* /opt/cola/permits/1274700344_1645235023.94/0/okio-2-8-0-sources-jar/commonMain/okio/Options.kt

1.49 project-lombok 1.18.16

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1.50 apache-log4j-api 2.17.1

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1.51 asm-tree 9.0

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* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/LineNumberNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/AbstractInsnNode.java
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* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/RecordComponentNode.java
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* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/InvokeDynamicInsnNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/LabelNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/TypeAnnotationNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/IincInsnNode.java

* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/InnerClassNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/LookupSwitchInsnNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/LocalVariableAnnotationNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/AnnotationNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/ModuleNode.java
* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/ParameterNode.java
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* /opt/cola/permits/1183890427_1627494327.56/0/asm-tree-9-0-sources-1-jar/org/objectweb/asm/tree/package.html

1.52 guava-internalfuturefailureaccess-and-internalfutures 1.0.1

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1.53 io-grpc-grpc-okhttp 1.46.0

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1.61 jackson-annotations 2.13.4

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1.62 junit 4.11

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* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/ZipUtil.java

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* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/timestamps/TimestampStrategy.java
* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/ZipEntrySource.java
* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/ZipEntryUtil.java
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* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/extra/AsiExtraField.java
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* /opt/cola/permits/1166480000_1621428975.75/0/zt-zip-1-14-sources-3-jar/org/zeroturnaround/zip/extra/ZipConstants.java

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1.70 commons-codec 1.15

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1.72 antlr 2.7.7

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Manifest-Version: 1.0
Automatic-Module-Name: com.google.protobuf
Bnd-LastModified: 1664485905970
Build-Jdk: 1.8.0_181-google-v7
Built-By: mkruskal
Bundle-Description: Core Protocol Buffers library. Protocol Buffers are
a way of encoding structured data in an efficient yet extensible for
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Bundle-ManifestVersion: 2
Bundle-Name: Protocol Buffers [Core]
Bundle-SymbolicName: com.google.protobuf
Bundle-Version: 3.19.6
Created-By: Apache Maven Bundle Plugin
Export-Package: com.google.protobuf;version="3.19.6"
Import-Package: sun.misc;resolution:=optional,com.google.protobuf;versio
n="[3.19,4)"
Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.7))"
Tool: Bnd-3.0.0.201509101326

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* /opt/cola/permits/1474112839_1668527029.4033446/0/protobuf-java-3-19-6-2-jar/META-INF/MANIFEST.MF

1.74 guava v27.0.1

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1.77 apache-commons-beanutils 1.9.3

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* /opt/cola/permits/1130187466_1668665434.91718/0/proto-google-common-protos-1-17-0-sources-jar/google/type/timeofday.proto
* /opt/cola/permits/1130187466_1668665434.91718/0/proto-google-common-protos-1-17-0-sources-jar/google/api/field_behavior.proto
* /opt/cola/permits/1130187466_1668665434.91718/0/proto-google-common-protos-1-17-0-sources-jar/google/api/documentation.proto
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 * </pre>
 *
 * <code>EARLY_ACCESS = 1;</code>
 */
```

Found in path(s):
* /opt/cola/permits/1130187466_1668665434.91718/0/proto-google-common-protos-1-17-0-sources-jar/com/google/api/LaunchStage.java
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* /opt/cola/permits/1130187466_1668665434.91718/0/proto-google-common-protos-1-17-0-sources-jar/google/api/launch_stage.proto

1.81 io-grpc-grpc-stub 1.30.2

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* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/ProtoServiceDescriptorSupplier.java
* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/ProtoMethodDescriptorSupplier.java
* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/package-info.java
* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/StatusProto.java
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* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/ProtoUtils.java
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* /opt/cola/permits/1131176965_1668665267.225727/0/grpc-protobuf-1-30-2-sources-jar/io/grpc/protobuf/ProtoFileDescriptorSupplier.java

1.82 checkstyle 8.17

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1.83 saxon-xslt-and-xquery-processor 9.9.0-2

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1.84 javax.inject:javax.inject 1

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* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Provider.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Named.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Qualifier.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Inject.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/package-info.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Scope.java
* /opt/cola/permits/1299411403_1650627395.55/0/javax-inject-1-sources-jar/javax/inject/Singleton.java

1.85 io-grpc-grpc-api 1.46.0

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1.91 jetbrains-annotations 13.0

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1.92 protoc 3.5.0

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package com.github.os72.protocjar;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.util.ArrayList;
import java.util.Arrays;
import java.util.HashMap;
import java.util.List;
import java.util.Map;

public class Protoc
{
 public static void main(String[] args) {
  try {
   int exitCode = runProtoc(args);
   System.exit(exitCode);
  }
  catch (Exception e) {
   e.printStackTrace();
  }
 }
```

```
 public static int runProtoc(String[] args) throws IOException, InterruptedException {
  return runProtoc(args, System.out, System.err);
 }
 public static int runProtoc(String[] args, OutputStream out, OutputStream err) throws IOException,
InterruptedException {
  String protocVersion = ProtocVersion.PROTOC_VERSION;
  for (String arg : args) {
   String v = sVersionMap.get(arg);
   if (v != null) protocVersion = v;
  }

  log("protoc version: " + protocVersion + ", detected platform: " + getPlatform());
  File protocTemp = extractProtoc(protocVersion);
  if (protocTemp != null) {
   int exitCode = runProtoc(protocTemp.getAbsolutePath(), Arrays.asList(args), out, err);
   protocTemp.delete();
   return exitCode;
  }
  else {
   if (false) throw new IOException("Unsupported platform: " + getPlatform()); // TODO: if proxy not wanted
   return runProtoc(null, Arrays.asList(args), out, err);
  }
 }

 public static int runProtoc(String cmd, String[] args) throws IOException, InterruptedException {
  return runProtoc(cmd, Arrays.asList(args));
 }

 public static int runProtoc(String cmd, List<String> argList) throws IOException, InterruptedException {
  return runProtoc(cmd, argList, System.out, System.err);
 }
 public static int runProtoc(String cmd, List<String> argList, OutputStream out, OutputStream err) throws
IOException, InterruptedException {
  String protocVersion = ProtocVersion.PROTOC_VERSION;
  String javaShadedOutDir = null;

  List<String> protocCmd = new ArrayList<String>();
  if (cmd != null) protocCmd.add(cmd);
  for (String arg : argList) {
   if (arg.startsWith("--java_shaded_out=")) {
    javaShadedOutDir = arg.split("--java_shaded_out=")[1];
    protocCmd.add("--java_out=" + javaShadedOutDir);
   }
   else {
    String v = sVersionMap.get(arg);
    if (v != null) protocVersion = v;
    if (v == null || cmd == null) protocCmd.add(arg);
   }
```

```
 }

 int exitCode;
 if (cmd != null) {
  log("executing: " + protocCmd);
  ProcessBuilder pb = new ProcessBuilder(protocCmd);
  Process protoc = pb.start();
  new Thread(new StreamCopier(protoc.getInputStream(), out)).start();
  new Thread(new StreamCopier(protoc.getErrorStream(), err)).start();
  exitCode = protoc.waitFor();
 }
 else {
  exitCode = ProtocProxy.runRemote(protocCmd, out, err);
 }

 if (javaShadedOutDir != null) {
  log("shading (version " + protocVersion + "): " + javaShadedOutDir);
  doShading(new File(javaShadedOutDir), protocVersion);
 }

 return exitCode;
}

public static void doShading(File dir, String version) throws IOException {
 if (dir.listFiles() == null) return;
 for (File file : dir.listFiles()) {
  if (file.isDirectory()) {
   doShading(file, version);
  }
  else if (file.getName().endsWith(".java")) {
   //log(file.getPath());
   File tmpFile = null;
   PrintWriter pw = null;
   BufferedReader br = null;
   try {
    tmpFile = File.createTempFile(file.getName(), null);
    pw = new PrintWriter(tmpFile);
    br = new BufferedReader(new FileReader(file));
    String line;
    while ((line = br.readLine()) != null) {
     pw.println(line.replace("com.google.protobuf", "com.github.os72.protobuf" + version));
    }
    pw.close();
    br.close();
    file.delete();
    tmpFile.renameTo(file);
   }
   finally {
```

```
    if (br != null) { try {br.close();} catch (Exception e) {} }
    if (pw != null) { try {pw.close();} catch (Exception e) {} }
   }
  }
 }
}

static File extractProtoc(String protocVersion) throws IOException {
 if (true) return null;

 String protocFilePath = "bin_" + protocVersion;
 String resourcePath = null; // for jar
 String filePath = null; // for test

 String osName = System.getProperty("os.name").toLowerCase();
 String osArch = System.getProperty("os.arch").toLowerCase();
 if (osName.startsWith("win")) {
  filePath = protocFilePath + "/win32/protoc.exe";
 }
 else if (osName.startsWith("linux") && osArch.contains("64")) {
  filePath = protocFilePath + "/linux/protoc";
 }
 else if (osName.startsWith("mac") && osArch.contains("64")) {
  filePath = protocFilePath + "/mac/protoc";
 }
 else {
  //throw new IOException("Unsupported platform: " + getPlatform());
  return null;
 }
 resourcePath = "/" + filePath;

 FileOutputStream os = null;
 InputStream is = Protoc.class.getResourceAsStream(resourcePath);
 if (is == null) is = new FileInputStream(filePath);

 File temp = null;
 try {
  temp = File.createTempFile("protoc", ".exe");
  os = new FileOutputStream(temp);
  streamCopy(is, os);
 }
 finally {
  if (is != null) is.close();
  if (os != null) os.close();
 }
 temp.setExecutable(true);
 temp.deleteOnExit();
 return temp;
```

```
}

static void streamCopy(InputStream in, OutputStream out) throws IOException {
 int read = 0;
 byte[] buf = new byte[4096];
 while ((read = in.read(buf)) > 0) out.write(buf, 0, read);
}

static String getPlatform() {
 return System.getProperty("os.name").toLowerCase() + "/" + System.getProperty("os.arch").toLowerCase();
}

static void log(Object msg) {
 System.out.println("protoc-jar: " + msg);
}

static class StreamCopier implements Runnable
{
 public StreamCopier(InputStream in, OutputStream out) {
  mIn = in;
  mOut = out;
 }

 public void run() {
  try {
   streamCopy(mIn, mOut);
  }
  catch (IOException e) {
   e.printStackTrace();
  }
 }

 private InputStream mIn;
 private OutputStream mOut;
}

static Map<String,String> sVersionMap = new HashMap<String,String>();
static {
 sVersionMap.put("-v3.0.0", "300");
 sVersionMap.put("-v2.6.1", "261");
 sVersionMap.put("-v2.5.0", "250");
 sVersionMap.put("-v2.4.1", "241");
 sVersionMap.put("-v300", "300");
 sVersionMap.put("-v261", "261");
 sVersionMap.put("-v250", "250");
 sVersionMap.put("-v241", "241");
}
}
```

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*/

package com.github.os72.protocjar;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.util.ArrayList;
import java.util.Arrays;
import java.util.HashMap;
import java.util.List;
import java.util.Map;

public class Protoc
{
 public static void main(String[] args) {
  try {
   int exitCode = runProtoc(args);
   System.exit(exitCode);
  }
  catch (Exception e) {
```

```
 e.printStackTrace();
 }
}

public static int runProtoc(String[] args) throws IOException, InterruptedException {
 String protocVersion = ProtocVersion.PROTOC_VERSION;
 for (String arg : args) {
  String v = sVersionMap.get(arg);
  if (v != null) protocVersion = v;
 }

 log("protoc version: " + protocVersion + ", detected platform: " + getPlatform());
 File protocTemp = extractProtoc(protocVersion);
 int exitCode = runProtoc(protocTemp.getAbsolutePath(), Arrays.asList(args));
 protocTemp.delete();
 return exitCode;
}

public static int runProtoc(String cmd, String[] args) throws IOException, InterruptedException {
 return runProtoc(cmd, Arrays.asList(args));
}

public static int runProtoc(String cmd, List<String> argList) throws IOException, InterruptedException {
 String protocVersion = ProtocVersion.PROTOC_VERSION;
 String javaShadedOutDir = null;

 List<String> protocCmd = new ArrayList<String>();
 protocCmd.add(cmd);
 for (String arg : argList) {
  if (arg.startsWith("--java_shaded_out=")) {
   javaShadedOutDir = arg.split("--java_shaded_out=")[1];
   protocCmd.add("--java_out=" + javaShadedOutDir);
  }
  else {
   String v = sVersionMap.get(arg);
   if (v != null) protocVersion = v; else protocCmd.add(arg);
  }
 }

 extractStdProtos(protocVersion);

 ProcessBuilder pb = new ProcessBuilder(protocCmd);
 log("executing: " + protocCmd);

 Process protoc = pb.start();
 new Thread(new StreamCopier(protoc.getInputStream(), System.out)).start();
 new Thread(new StreamCopier(protoc.getErrorStream(), System.err)).start();
 int exitCode = protoc.waitFor();
```

```
 if (javaShadedOutDir != null) {
  log("shading (version " + protocVersion + "): " + javaShadedOutDir);
  doShading(new File(javaShadedOutDir), protocVersion);
 }

 return exitCode;
}

public static void doShading(File dir, String version) throws IOException {
 if (dir.listFiles() == null) return;
 for (File file : dir.listFiles()) {
  if (file.isDirectory()) {
   doShading(file, version);
  }
  else if (file.getName().endsWith(".java")) {
   //log(file.getPath());
   File tmpFile = null;
   PrintWriter pw = null;
   BufferedReader br = null;
   try {
    tmpFile = File.createTempFile(file.getName(), null);
    pw = new PrintWriter(tmpFile);
    br = new BufferedReader(new FileReader(file));
    String line;
    while ((line = br.readLine()) != null) {
     pw.println(line.replace("com.google.protobuf", "com.github.os72.protobuf" + version));
    }
    pw.close();
    br.close();
    file.delete();
    tmpFile.renameTo(file);
   }
   finally {
    if (br != null) { try {br.close();} catch (Exception e) {} }
    if (pw != null) { try {pw.close();} catch (Exception e) {} }
   }
  }
 }
}

static File extractProtoc(String protocVersion) throws IOException {
 String protocFilePath = "bin_" + protocVersion;
 String resourcePath = null; // for jar
 String filePath = null; // for test

 String osName = System.getProperty("os.name").toLowerCase();
 String osArch = System.getProperty("os.arch").toLowerCase();
```

```
 if (osName.startsWith("win")) {
  filePath = protocFilePath + "/win32/protoc.exe";
 }
 else if (osName.startsWith("linux") && osArch.contains("64")) {
  filePath = protocFilePath + "/linux/protoc";
 }
 else if (osName.startsWith("mac") && osArch.contains("64")) {
  filePath = protocFilePath + "/mac/protoc";
 }
 else {
  throw new IOException("Unsupported platform: " + getPlatform());
 }
 resourcePath = "/" + filePath;

 FileOutputStream os = null;
 InputStream is = Protoc.class.getResourceAsStream(resourcePath);
 if (is == null) is = new FileInputStream(filePath);

 File temp = null;
 try {
  temp = File.createTempFile("protoc", ".exe");
  os = new FileOutputStream(temp);
  streamCopy(is, os);
 }
 finally {
  if (is != null) is.close();
  if (os != null) os.close();
 }
 temp.setExecutable(true);
 temp.deleteOnExit();
 return temp;
}

static File extractStdProtos(String protocVersion) throws IOException {
 InputStream is = Protoc.class.getResourceAsStream("/include/google/protobuf/any.proto");
 log("is: " + is);
 if (is == null) is = new FileInputStream("include/google/protobuf/any.proto");
 BufferedReader br = new BufferedReader(new InputStreamReader(is));
 String line;
 while ((line = br.readLine()) != null) {
  log("file: " + line);
 }
 br.close();
 return null;
}

static void streamCopy(InputStream in, OutputStream out) throws IOException {
 int read = 0;
```

```
 byte[] buf = new byte[4096];
 while ((read = in.read(buf)) > 0) out.write(buf, 0, read);
 }

 static String getPlatform() {
  return System.getProperty("os.name").toLowerCase() + "/" + System.getProperty("os.arch").toLowerCase();
 }

 static void log(String msg) {
  System.out.println("protoc-jar: " + msg);
 }

 static class StreamCopier implements Runnable
 {
  public StreamCopier(InputStream in, OutputStream out) {
   mIn = in;
   mOut = out;
  }

  public void run() {
   try {
    streamCopy(mIn, mOut);
   }
   catch (IOException e) {
    e.printStackTrace();
   }
  }

  private InputStream mIn;
  private OutputStream mOut;
 }

 static Map<String,String> sVersionMap = new HashMap<String,String>();
 static {
  sVersionMap.put("-v3.0.0", "300");
  sVersionMap.put("-v2.6.1", "261");
  sVersionMap.put("-v2.5.0", "250");
  sVersionMap.put("-v2.4.1", "241");
  sVersionMap.put("-v300", "300");
  sVersionMap.put("-v261", "261");
  sVersionMap.put("-v250", "250");
  sVersionMap.put("-v241", "241");
 }
}
```

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* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/type.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/compiler/plugin.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/duration.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/timestamp.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto2/include/google/protobuf/descriptor.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/source_context.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/any.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/api.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/wrappers.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/descriptor.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/struct.proto
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/proto3/include/google/protobuf/empty.proto
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* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/com/github/os72/protocjar/ProtocVersion.java
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* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/com/github/os72/protocjar/PlatformDetector.java
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*/
package com.github.os72.protocjar;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.net.URL;
import java.util.ArrayList;
import java.util.Arrays;
import java.util.List;
import java.util.Properties;

public class Protoc
{
 public static void main(String[] args) {
  try {
   int exitCode = runProtoc(args);
   System.exit(exitCode);
  }
  catch (Exception e) {
   e.printStackTrace();
  }
 }

 public static int runProtoc(String[] args) throws IOException, InterruptedException {
  ProtocVersion protocVersion = ProtocVersion.PROTOC_VERSION;
  boolean includeStdTypes = false;
  for (String arg : args) {
   ProtocVersion v = getVersion(arg);
   if (v != null) protocVersion = v;
   if (arg.equals("--include_std_types")) includeStdTypes = true;
  }

  File protocTemp = extractProtoc(protocVersion, includeStdTypes);
  int exitCode = runProtoc(protocTemp.getAbsolutePath(), Arrays.asList(args));
```

```
 protocTemp.delete();
 return exitCode;
}

public static int runProtoc(String cmd, String[] args) throws IOException, InterruptedException {
 return runProtoc(cmd, Arrays.asList(args));
}

public static int runProtoc(String cmd, List<String> argList) throws IOException, InterruptedException {
 ProtocVersion protocVersion = ProtocVersion.PROTOC_VERSION;
 String javaShadedOutDir = null;

 List<String> protocCmd = new ArrayList<String>();
 protocCmd.add(cmd);
 for (String arg : argList) {
  if (arg.startsWith("--java_shaded_out=")) {
   javaShadedOutDir = arg.split("--java_shaded_out=")[1];
   protocCmd.add("--java_out=" + javaShadedOutDir);
  }
  else if (arg.equals("--include_std_types")) {
   File stdTypeDir = new File(new File(cmd).getParentFile().getParentFile(), "include");
   protocCmd.add("-I" + stdTypeDir.getAbsolutePath());
  }
  else {
   ProtocVersion v = getVersion(arg);
   if (v != null) protocVersion = v; else protocCmd.add(arg);
  }
 }

 Process protoc = null;
 int numTries = 1;
 while (protoc == null) {
  try {
   log("executing: " + protocCmd);
   ProcessBuilder pb = new ProcessBuilder(protocCmd);
   protoc = pb.start();
  }
  catch (IOException ioe) {
   if (numTries++ >= 3) throw ioe;
   log("caught exception, retrying: " + ioe);
   Thread.sleep(1000);
  }
 }

 new Thread(new StreamCopier(protoc.getInputStream(), System.out)).start();
 new Thread(new StreamCopier(protoc.getErrorStream(), System.err)).start();
 int exitCode = protoc.waitFor();
```

```
 if (javaShadedOutDir != null) {
  log("shading (version " + protocVersion + "): " + javaShadedOutDir);
  doShading(new File(javaShadedOutDir), protocVersion.mVersion);
 }

 return exitCode;
}

public static void doShading(File dir, String version) throws IOException {
 if (dir.listFiles() == null) return;
 for (File file : dir.listFiles()) {
  if (file.isDirectory()) {
   doShading(file, version);
  }
  else if (file.getName().endsWith(".java")) {
   //log(file.getPath());
   File tmpFile = null;
   PrintWriter pw = null;
   BufferedReader br = null;
   try {
    tmpFile = File.createTempFile(file.getName(), null);
    pw = new PrintWriter(tmpFile);
    br = new BufferedReader(new FileReader(file));
    String line;
    while ((line = br.readLine()) != null) {
     pw.println(line.replace("com.google.protobuf", "com.github.os72.protobuf" + version));
    }
    pw.close();
    br.close();
    file.delete();
    tmpFile.renameTo(file);
   }
   finally {
    if (br != null) { try {br.close();} catch (Exception e) {} }
    if (pw != null) { try {pw.close();} catch (Exception e) {} }
   }
  }
 }
}

public static File extractProtoc(ProtocVersion protocVersion) throws IOException {
 log("protoc version: " + protocVersion + ", detected platform: " + getPlatform());

 String srcFilePath = null;
 if (protocVersion.mArtifact == null) { // extract embedded protoc
  String binVersionDir = "bin_" + protocVersion;
  String osName = System.getProperty("os.name").toLowerCase();
  String osArch = System.getProperty("os.arch").toLowerCase();
```

```
 if (osName.startsWith("win")) {
  srcFilePath = binVersionDir + "/win32/protoc.exe";
 }
 else if (osName.startsWith("linux") && osArch.contains("64")) {
  srcFilePath = binVersionDir + "/linux/protoc";
 }
 else if (osName.startsWith("mac") && osArch.contains("64")) {
  srcFilePath = binVersionDir + "/mac/protoc";
 }
 else {
  throw new IOException("Unsupported platform: " + getPlatform());
 }
}
else { // download protoc from maven central
 srcFilePath = downloadProtoc(protocVersion).getAbsolutePath();
}

 File tmpDir = File.createTempFile("protocjar", "");
 tmpDir.delete(); tmpDir.mkdirs();
 tmpDir.deleteOnExit();
 File binDir = new File(tmpDir, "bin");
 binDir.mkdirs();
 binDir.deleteOnExit();

 File protocTemp = new File(binDir, "protoc.exe");
 populateFile(srcFilePath, protocTemp);
 protocTemp.setExecutable(true);
 protocTemp.deleteOnExit();
 return protocTemp;
}

public static File extractProtoc(ProtocVersion protocVersion, boolean includeStdTypes) throws IOException {
 File protocTemp = extractProtoc(protocVersion);
 if (!includeStdTypes) return protocTemp;

 File tmpDir = protocTemp.getParentFile().getParentFile();
 File tmpDirProtos = new File(tmpDir, "include/google/protobuf");
 tmpDirProtos.mkdirs();
 tmpDirProtos.getParentFile().getParentFile().deleteOnExit();
 tmpDirProtos.getParentFile().deleteOnExit();
 tmpDirProtos.deleteOnExit();

 for (String srcFilePath : sStdTypes) {
  File tmpFile = new File(tmpDir, srcFilePath);
  populateFile(srcFilePath, tmpFile);
  tmpFile.deleteOnExit();
 }
```

```
 return protocTemp;
}

public static File downloadProtoc(ProtocVersion protocVersion) throws IOException {
 Properties detectorProps = new Properties();
 new PlatformDetector().detect(detectorProps, null);
 String platform = detectorProps.getProperty("os.detected.classifier");

 String exeName = protocVersion.mGroup.replace(".", "/") + "/" +
   protocVersion.mArtifact + "/" + protocVersion.mVersion + "/" +
   protocVersion.mArtifact + "-" + protocVersion.mVersion + "-" + platform + ".exe";

 File tmpFile = File.createTempFile("protocjar", ".exe");
 File exeFile = new File(tmpFile.getParentFile(), "protocjar.webcache/" + exeName);
 exeFile.getParentFile().mkdirs();
 if (!exeFile.exists()) {
  URL exeUrl = new URL("http://central.maven.org/maven2/" + exeName);
  log("downloading: " + exeUrl);

  InputStream is = null;
  FileOutputStream os = null;
  try {
   is = exeUrl.openStream();
   os = new FileOutputStream(tmpFile);
   streamCopy(is, os);
   is.close();
   os.close();
   tmpFile.renameTo(exeFile);
  }
  catch (IOException e) {
   tmpFile.delete();
   throw e;
  }
  finally {
   if (is != null) is.close();
   if (os != null) os.close();
  }
 }

 log("cached: " + exeFile);
 return exeFile;
}

public static File populateFile(String srcFilePath, File destFile) throws IOException {
 String resourcePath = "/" + srcFilePath; // resourcePath for jar, srcFilePath for test

 FileOutputStream os = null;
 InputStream is = Protoc.class.getResourceAsStream(resourcePath);
```

```
 if (is == null) is = new FileInputStream(srcFilePath);

 try {
  os = new FileOutputStream(destFile);
  streamCopy(is, os);
 }
 finally {
  if (is != null) is.close();
  if (os != null) os.close();
 }

 return destFile;
}

public static void streamCopy(InputStream in, OutputStream out) throws IOException {
 int read = 0;
 byte[] buf = new byte[4096];
 while ((read = in.read(buf)) > 0) out.write(buf, 0, read);
}

static ProtocVersion getVersion(String spec) {
 return ProtocVersion.getVersion(spec);
}

static String getPlatform() {
 return System.getProperty("os.name").toLowerCase() + "/" + System.getProperty("os.arch").toLowerCase();
}

static void log(String msg) {
 System.out.println("protoc-jar: " + msg);
}

static class StreamCopier implements Runnable
{
 public StreamCopier(InputStream in, OutputStream out) {
  mIn = in;
  mOut = out;
 }

 public void run() {
  try {
   streamCopy(mIn, mOut);
  }
  catch (IOException e) {
   e.printStackTrace();
  }
 }
```

```
 private InputStream mIn;
 private OutputStream mOut;
}

static String[] sStdTypes = {
 "include/google/protobuf/any.proto",
 "include/google/protobuf/api.proto",
 "include/google/protobuf/descriptor.proto",
 "include/google/protobuf/duration.proto",
 "include/google/protobuf/empty.proto",
 "include/google/protobuf/field_mask.proto",
 "include/google/protobuf/source_context.proto",
 "include/google/protobuf/struct.proto",
 "include/google/protobuf/timestamp.proto",
 "include/google/protobuf/type.proto",
 "include/google/protobuf/wrappers.proto",
};
}
```

Found in path(s):
* /opt/cola/permits/1294625013_1648234404.94/0/protoc-jar-3-5-0-sources-jar/com/github/os72/protocjar/Protoc - Copy.javax

1.93 apache-xml-commons 1.4.01

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1.94 jackson-databind 2.13.4.2

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1.95 guava 31.0.1-android

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ForwardingFluentFuture.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/MapMaker.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/FilteredMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RangeMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AbstractMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/EvictingQueue.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/DescendingImmutableSortedSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingImmutableList.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/DescendingMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingBlockingDeque.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RegularImmutableAsList.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/FilteredKeySetMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableEnumMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/collect/FilteredSetMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/CompactLinkedHashSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/TransformedListIterator.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/CompactLinkedHashMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AllEqualOrdering.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/CompactHashMap.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ListeningExecutorService.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Equivalence.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Ascii.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/Monitor.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/SortedLists.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/net/package-info.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ContiguousSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/Atomics.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/UncaughtExceptionHandlers.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/annotations/Beta.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Count.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/SortedIterable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/GeneralRange.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingSortedMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AbstractRangeSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/collect/RegularImmutableSortedMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/SortedIterables.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/escape/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/net/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/net/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ParametricNullness.java

* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/ElementTypesAreNonnullByDefault.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/math/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/xml/ParametricNullness.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/xml/ElementTypesAreNonnullByDefault.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/html/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/ParametricNullness.java
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/**
  * Returns an array containing all of the elements in the specified collection. This method
  * returns the elements in the order they are returned by the collection's iterator. The returned
  * array is "safe" in that no references to it are maintained by the collection. The caller is
  * thus free to modify the returned array.
  *
  * <p>This method assumes that the collection size doesn't change while the method is running.
  *
  * <p>TODO(kevinb): support concurrently modified collections?
  *
  * @param c the collection for which to return an array of elements
  */
```

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ObjectCountHashMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ObjectCountLinkedHashMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/BaseGraph.java

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Utf8.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Verify.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/CharSequenceReader.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/FilteredMultimapValues.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/ParseRequest.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/UnsignedInts.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/math/DoubleMath.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/PairwiseEquivalence.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/UnsignedLong.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/Weigher.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/Murmur3_32HashFunction.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/RemovalNotification.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/Cache.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/AtomicLongMap.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AbstractSortedMultiset.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/Murmur3_128HashFunction.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/util/concurrent/FutureCallback.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/AbstractNonStreamingHashFunction.java
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  * This following method is a modified version of one found in
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/AbstractValueGraph.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/StandardMutableNetwork.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/MapRetrievalCache.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/GraphConnections.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/MultiEdgesConnecting.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ForwardingGraph.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ForwardingValueGraph.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/StandardNetwork.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/AbstractNetwork.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ValueGraph.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/ReaderInputStream.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/Platform.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/InterruptibleTask.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/AggregateFutureState.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ConsumingQueueIterator.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/IndexedImmutableSet.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/Network.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/MutableNetwork.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ImmutableNetwork.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/SuccessorsFunction.java

* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/TopKSelector.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/Graph.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/ImmutableGraph.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/graph/PredecessorsFunction.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/NullnessCasts.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ReverseNaturalOrdering.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Multiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/TreeMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Maps.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/CompoundOrdering.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingSortedSet.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Throwables.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Function.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/package-info.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Primitives.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ExecutionList.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/MultiInputStream.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Interners.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Charsets.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/DirectExecutor.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Predicate.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/CountingInputStream.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/FinalizableWeakReference.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/AbstractFuture.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/ByteStreams.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/FinalizableReference.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/Resources.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/CountingOutputStream.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/Subscribe.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/FinalizablePhantomReference.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/AsyncEventBus.java

* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/Files.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/AbstractIterator.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/eventbus/AllowConcurrentEvents.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/package-info.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/Closeables.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/CharStreams.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Suppliers.java
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 *
 * As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
 * java.util.HashMap class.
 */

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/AbstractHashFunction.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/ImmutableIntArray.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ForwardingCondition.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ForwardingLock.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/ImmutableLongArray.java

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ComputationException.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ForwardingTable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RegularImmutableList.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableTable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/DiscreteDomain.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ArrayTable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RegularImmutableSortedSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableEnumSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/SingletonImmutableTable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/collect/ComparisonChain.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/AbstractIndexedListIterator.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSetMultimap.java
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jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/collect/ImmutableRangeMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/math/Stats.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/reflect/Parameter.java
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jar/com/google/common/html/package-info.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/reflect/ClassPath.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/RateLimiter.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/SipHashFunction.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/reflect/AbstractInvocationHandler.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/ChecksumHashFunction.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/reflect/TypeToInstanceMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/ByteSink.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/math/StatsAccumulator.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/reflect/TypeCapture.java
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/**
* Holder for web specializations of methods of {@code Ints}. Intended to be empty for regular
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*/
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Chars.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Ints.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/FluentIterable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/escape/UnicodeEscaper.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/net/InetAddresses.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/CharMatcher.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Converter.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Doubles.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Joiner.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Shorts.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/io/MultiReader.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/ListenableFutureTask.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/FileBackedOutputStream.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/net/PercentEscaper.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Longs.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Floats.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/thirdparty/publicsuffix/TrieParser.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Booleans.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/internal/Finalizer.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/Stopwatch.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/AtomicDoubleArray.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/cache/Striped64.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/LongAdder.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/hash/Striped64.java
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/*
  * This method was rewritten in Java from an intermediate step of the Murmur hash function in
  * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
  * following header:
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  */
```

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/SmallCharMatcher.java
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*/
/**
  * Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
  * key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
  * version.
  *
  * @throws UnsupportedOperationException always
  * @deprecated <b>Pass a key of type {@code Comparable} to use {@link
  *     ImmutableSortedMap#of(Comparable, Object)}.</b>
  */
```

Found in path(s):
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/primitives/Platform.java
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*/
/*
  * This method was rewritten in Java from an intermediate step of the Murmur hash function in
  * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
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  */
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jar/com/google/common/collect/Hashing.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/base/PatternCompiler.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/base/CommonPattern.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/base/JdkPattern.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-
jar/com/google/common/base/CommonMatcher.java
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jar/com/google/common/base/Java8Compatibility.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-

jar/com/google/common/hash/Java8Compatibility.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/Java8Compatibility.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/math/BigDecimalMath.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/OverflowAvoidingLockSupport.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/math/ToDoubleRounder.java
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* the License.
*/
/**
* Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain
* {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available
* under GWT but with a slightly different signature.
*
* <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize
* it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT
* compiler to autostrip the normal server method in order to expose the special, inherited GWT
* version.
*/
```

Found in path(s):
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/Partially.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Table.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableSortedSet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RegularImmutableMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/EmptyImmutableListMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMapEntrySet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableEntry.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Serialization.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMultimap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/PeekingIterator.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/Range.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableBiMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/HashBasedTable.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableCollection.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/UnmodifiableIterator.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/RegularImmutableBiMap.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMultiset.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/thirdparty/publicsuffix/PublicSuffixPatterns.java

* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMapKeySet.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/CollectPreconditions.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/ImmutableMapValues.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/collect/StandardTable.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/FuturesGetChecked.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/AppendableWriter.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/AbstractCatchingFuture.java

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/io/PatternFilenameFilter.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/TimeLimiter.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/CaseFormat.java
* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/FluentFuture.java
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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/util/concurrent/CollectionFuture.java
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*/

```
/**
* Holder for extra methods of {@code Objects} only in web. Intended to be empty for regular
* version.
*/
```

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* /opt/cola/permits/1427929651_1664341337.4713492/0/guava-31-0-1-android-sources-2-jar/com/google/common/base/ExtraObjectsMethodsForWeb.java

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1.101 snake-yaml 1.33

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jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/UnicodeEscaper.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/PercentEscaper.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
jar/org/yaml/snakeyaml/external/com/google/gdata/util/common/base/Escaper.java
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/**
* A Base64 encoder/decoder.
*
* <p>
* This class is used to encode and decode data in Base64 format as described in RFC 1521.
*
* <p>
* Project home page: www.
* source-code.biz/base64coder/java
* Author: Christian d'Heureuse, Inventec Informatik AG, Zurich, Switzerland
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
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jar/org/yaml/snakeyaml/introspector/PropertySubstitute.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
jar/org/yaml/snakeyaml/introspector/FieldProperty.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
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jar/org/yaml/snakeyaml/error/MissingEnvironmentVariableException.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-
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jar/org/yaml/snakeyaml/resolver/Resolver.java

* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/serializer/Serializer.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/ScalarToken.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/introspector/BeanAccess.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/constructor/CustomClassLoaderConstructor.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/constructor/AbstractConstruct.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/FlowMappingEndToken.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/AnchorToken.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/BlockEndToken.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/parser/Parser.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/parser/ParserException.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/comments/CommentEventsCollector.java

* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/AliasToken.java
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* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/nodes/SequenceNode.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/nodes/NodeId.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/representer/BaseRepresenter.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/DocumentStartToken.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/introspector/PropertyUtils.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/introspector/MissingProperty.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/StreamStartToken.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/introspector/GenericProperty.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/util/UriEncoder.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/tokens/FlowMappingStartToken.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/util/EnumUtils.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/events/CollectionStartEvent.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/representer/Representer.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/composer/ComposerException.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/nodes/AnchorNode.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/emitter/EmitterState.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/nodes/NodeTuple.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/env/EnvScalarConstructor.java
* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/scanner/SimpleKey.java

* /opt/cola/permits/1446188159_1666171012.444366/0/snakeyaml-1-33-sources-1-jar/org/yaml/snakeyaml/error/MarkedYAMLException.java

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