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org.apache.commons.collections4

## Class MapUtils

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.MapUtils
* public class MapUtils  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
* Provides utility methods and decorators for [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true) and [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) instances.  
  It contains various type safe methods as well as other useful features like deep copying.  
  It also provides the following decorators:
  + [fixedSizeMap(Map)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#fixedSizeMap-java.util.Map-)
  + [fixedSizeSortedMap(SortedMap)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#fixedSizeSortedMap-java.util.SortedMap-)
  + [lazyMap(Map,Factory)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazyMap-java.util.Map-org.apache.commons.collections4.Factory-)
  + [lazyMap(Map,Transformer)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazyMap-java.util.Map-org.apache.commons.collections4.Transformer-)
  + [lazySortedMap(SortedMap,Factory)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazySortedMap-java.util.SortedMap-org.apache.commons.collections4.Factory-)
  + [lazySortedMap(SortedMap,Transformer)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazySortedMap-java.util.SortedMap-org.apache.commons.collections4.Transformer-)
  + [predicatedMap(Map,Predicate,Predicate)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#predicatedMap-java.util.Map-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)
  + [predicatedSortedMap(SortedMap,Predicate,Predicate)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#predicatedSortedMap-java.util.SortedMap-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)
  + [transformedMap(Map, Transformer, Transformer)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#transformedMap-java.util.Map-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)
  + [transformedSortedMap(SortedMap, Transformer, Transformer)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#transformedSortedMap-java.util.SortedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)
  + [multiValueMap( Map )](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-)
  + [multiValueMap( Map, Class )](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-java.lang.Class-)
  + [multiValueMap( Map, Factory )](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-org.apache.commons.collections4.Factory-)

Since: 1.0

### Field SummaryFields

|  |  |
| --- | --- |
| * + Modifier and Type | * + Field and Description |
| * + static [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) | * + [EMPTY\_SORTED\_MAP](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#EMPTY_SORTED_MAP) An empty unmodifiable sorted map. |

### Method SummaryAll Methods Static Methods Concrete Methods Deprecated Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + static void | * + [debugPrint](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#debugPrint-java.io.PrintStream-java.lang.Object-java.util.Map-)([PrintStream](https://docs.oracle.com/javase/7/docs/api/java/io/PrintStream.html?is-external=true) out, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) label, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Prints the given map with nice line breaks. |
| * + static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> | * + [emptyIfNull](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#emptyIfNull-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns an immutable empty map if the argument is null, or the argument itself otherwise. |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [fixedSizeMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#fixedSizeMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a fixed-sized map backed by the given map. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [fixedSizeSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#fixedSizeSortedMap-java.util.SortedMap-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map) Returns a fixed-sized sorted map backed by the given sorted map. |
| * + static <K> [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) | * + [getBoolean](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getBoolean-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Boolean from a Map in a null-safe manner. |
| * + static <K> [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) | * + [getBoolean](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getBoolean-java.util.Map-K-java.lang.Boolean-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a boolean, using the default value if the conversion fails. |
| * + static <K> boolean | * + [getBooleanValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getBooleanValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a boolean from a Map in a null-safe manner. |
| * + static <K> boolean | * + [getBooleanValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getBooleanValue-java.util.Map-K-boolean-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, boolean defaultValue) Gets a boolean from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) | * + [getByte](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getByte-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Byte from a Map in a null-safe manner. |
| * + static <K> [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) | * + [getByte](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getByte-java.util.Map-K-java.lang.Byte-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a byte, using the default value if the conversion fails. |
| * + static <K> byte | * + [getByteValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getByteValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a byte from a Map in a null-safe manner. |
| * + static <K> byte | * + [getByteValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getByteValue-java.util.Map-K-byte-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, byte defaultValue) Gets a byte from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) | * + [getDouble](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getDouble-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Double from a Map in a null-safe manner. |
| * + static <K> [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) | * + [getDouble](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getDouble-java.util.Map-K-java.lang.Double-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a double, using the default value if the conversion fails. |
| * + static <K> double | * + [getDoubleValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getDoubleValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a double from a Map in a null-safe manner. |
| * + static <K> double | * + [getDoubleValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getDoubleValue-java.util.Map-K-double-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, double defaultValue) Gets a double from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) | * + [getFloat](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getFloat-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Float from a Map in a null-safe manner. |
| * + static <K> [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) | * + [getFloat](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getFloat-java.util.Map-K-java.lang.Float-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a float, using the default value if the conversion fails. |
| * + static <K> float | * + [getFloatValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getFloatValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a float from a Map in a null-safe manner. |
| * + static <K> float | * + [getFloatValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getFloatValue-java.util.Map-K-float-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, float defaultValue) Gets a float from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) | * + [getInteger](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getInteger-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Integer from a Map in a null-safe manner. |
| * + static <K> [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) | * + [getInteger](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getInteger-java.util.Map-K-java.lang.Integer-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into an integer, using the default value if the conversion fails. |
| * + static <K> int | * + [getIntValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getIntValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets an int from a Map in a null-safe manner. |
| * + static <K> int | * + [getIntValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getIntValue-java.util.Map-K-int-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, int defaultValue) Gets an int from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) | * + [getLong](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getLong-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Long from a Map in a null-safe manner. |
| * + static <K> [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) | * + [getLong](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getLong-java.util.Map-K-java.lang.Long-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a long, using the default value if the conversion fails. |
| * + static <K> long | * + [getLongValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getLongValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a long from a Map in a null-safe manner. |
| * + static <K> long | * + [getLongValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getLongValue-java.util.Map-K-long-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, long defaultValue) Gets a long from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> | * + [getMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getMap-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Map from a Map in a null-safe manner. |
| * + static <K> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> | * + [getMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getMap-java.util.Map-K-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> defaultValue) Looks up the given key in the given map, converting the result into a map, using the default value if the conversion fails. |
| * + static <K> [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) | * + [getNumber](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Number from a Map in a null-safe manner. |
| * + static <K> [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) | * + [getNumber](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-java.lang.Number-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a number, using the default value if the conversion fails. |
| * + static <K,V> V | * + [getObject](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getObject-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,V> map, K key) Gets from a Map in a null-safe manner. |
| * + static <K,V> V | * + [getObject](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getObject-java.util.Map-K-V-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, K key, V defaultValue) Looks up the given key in the given map, converting null into the given default value. |
| * + static <K> [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) | * + [getShort](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getShort-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Short from a Map in a null-safe manner. |
| * + static <K> [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) | * + [getShort](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getShort-java.util.Map-K-java.lang.Short-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a short, using the default value if the conversion fails. |
| * + static <K> short | * + [getShortValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getShortValue-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a short from a Map in a null-safe manner. |
| * + static <K> short | * + [getShortValue](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getShortValue-java.util.Map-K-short-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, short defaultValue) Gets a short from a Map in a null-safe manner, using the default value if the conversion fails. |
| * + static <K> [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [getString](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getString-java.util.Map-K-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a String from a Map in a null-safe manner. |
| * + static <K> [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [getString](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getString-java.util.Map-K-java.lang.String-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a string, using the default value if the conversion fails. |
| * + static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<V,K> | * + [invertMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#invertMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Inverts the supplied map returning a new HashMap such that the keys of the input are swapped with the values. |
| * + static boolean | * + [isEmpty](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#isEmpty-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Null-safe check if the specified map is empty. |
| * + static boolean | * + [isNotEmpty](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#isNotEmpty-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Null-safe check if the specified map is not empty. |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [iterableMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#iterableMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Get the specified [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true) as an [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html). |
| * + static <K,V> [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html)<K,V> | * + [iterableSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#iterableSortedMap-java.util.SortedMap-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> sortedMap) Get the specified [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) as an [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html). |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [lazyMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazyMap-java.util.Map-org.apache.commons.collections4.Factory-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<? extends V> factory) Returns a "lazy" map whose values will be created on demand. |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [lazyMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazyMap-java.util.Map-org.apache.commons.collections4.Transformer-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends V> transformerFactory) Returns a "lazy" map whose values will be created on demand. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [lazySortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazySortedMap-java.util.SortedMap-org.apache.commons.collections4.Factory-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<? extends V> factory) Returns a "lazy" sorted map whose values will be created on demand. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [lazySortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#lazySortedMap-java.util.SortedMap-org.apache.commons.collections4.Transformer-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends V> transformerFactory) Returns a "lazy" sorted map whose values will be created on demand. |
| * + static <K,V> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> | * + [multiValueMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,? super [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> map) Deprecated.  since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead |
| * + static <K,V,C extends [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> | * + [multiValueMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-java.lang.Class-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,C> map, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<C> collectionClass) Deprecated.  since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead |
| * + static <K,V,C extends [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> | * + [multiValueMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#multiValueMap-java.util.Map-org.apache.commons.collections4.Factory-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,C> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<C> collectionFactory) Deprecated.  since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead |
| * + static <K,V> [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<K,V> | * + [orderedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#orderedMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a map that maintains the order of keys that are added backed by the given map. |
| * + static <K,V,E> void | * + [populateMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#populateMap-java.util.Map-java.lang.Iterable-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends E> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,V> valueTransformer) Populates a Map using the supplied Transformers to transform the elements into keys and values. |
| * + static <K,V> void | * + [populateMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#populateMap-java.util.Map-java.lang.Iterable-org.apache.commons.collections4.Transformer-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends V> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<V,K> keyTransformer) Populates a Map using the supplied Transformer to transform the elements into keys, using the unaltered element as the value in the Map. |
| * + static <K,V,E> void | * + [populateMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#populateMap-org.apache.commons.collections4.MultiMap-java.lang.Iterable-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)([MultiMap](http://docs.google.com/org/apache/commons/collections4/MultiMap.html)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends E> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,V> valueTransformer) Populates a MultiMap using the supplied Transformers to transform the elements into keys and values. |
| * + static <K,V> void | * + [populateMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#populateMap-org.apache.commons.collections4.MultiMap-java.lang.Iterable-org.apache.commons.collections4.Transformer-)([MultiMap](http://docs.google.com/org/apache/commons/collections4/MultiMap.html)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends V> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<V,K> keyTransformer) Populates a MultiMap using the supplied Transformer to transform the elements into keys, using the unaltered element as the value in the MultiMap. |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [predicatedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#predicatedMap-java.util.Map-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super K> keyPred, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super V> valuePred) Returns a predicated (validating) map backed by the given map. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [predicatedSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#predicatedSortedMap-java.util.SortedMap-org.apache.commons.collections4.Predicate-org.apache.commons.collections4.Predicate-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super K> keyPred, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super V> valuePred) Returns a predicated (validating) sorted map backed by the given map. |
| * + static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> | * + [putAll](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#putAll-java.util.Map-java.lang.Object:A-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] array) Puts all the keys and values from the specified array into the map. |
| * + static <K> void | * + [safeAddToMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#safeAddToMap-java.util.Map-K-java.lang.Object-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> map, K key, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Protects against adding null values to a map. |
| * + static int | * + [size](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#size-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Gets the given map size or 0 if the map is null |
| * + static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> | * + [synchronizedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#synchronizedMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a synchronized map backed by the given map. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [synchronizedSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#synchronizedSortedMap-java.util.SortedMap-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map) Returns a synchronized sorted map backed by the given sorted map. |
| * + static [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> | * + [toMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#toMap-java.util.ResourceBundle-)([ResourceBundle](https://docs.oracle.com/javase/7/docs/api/java/util/ResourceBundle.html?is-external=true) resourceBundle) Creates a new HashMap using data copied from a ResourceBundle. |
| * + static <K,V> [Properties](https://docs.oracle.com/javase/7/docs/api/java/util/Properties.html?is-external=true) | * + [toProperties](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#toProperties-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Gets a new Properties object initialised with the values from a Map. |
| * + static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> | * + [transformedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#transformedMap-java.util.Map-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a transformed map backed by the given map. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [transformedSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#transformedSortedMap-java.util.SortedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a transformed sorted map backed by the given map. |
| * + static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> | * + [unmodifiableMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#unmodifiableMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends K,? extends V> map) Returns an unmodifiable map backed by the given map. |
| * + static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> | * + [unmodifiableSortedMap](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#unmodifiableSortedMap-java.util.SortedMap-)([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,? extends V> map) Returns an unmodifiable sorted map backed by the given sorted map. |
| * + static void | * + [verbosePrint](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#verbosePrint-java.io.PrintStream-java.lang.Object-java.util.Map-)([PrintStream](https://docs.oracle.com/javase/7/docs/api/java/io/PrintStream.html?is-external=true) out, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) label, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Prints the given map with nice line breaks. |

### Methods inherited from class java.lang.[**Object**](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[clone](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#clone--), [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-), [finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#finalize--), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#getClass--), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notify--), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#notifyAll--), [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-int-)

### Field Detail

#### EMPTY\_SORTED\_MAP public static final [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) EMPTY\_SORTED\_MAP An empty unmodifiable sorted map. This is not provided in the JDK.

### Method Detail

#### getObject public static <K,V> V getObject([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,V> map, K key) Gets from a Map in a null-safe manner.Type Parameters: K - the key type V - the value type Parameters: map - the map to use key - the key to look up Returns: the value in the Map, null if null map input

#### getString public static <K> [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) getString([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a String from a Map in a null-safe manner. The String is obtained via toString.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a String, null if null map input

#### getBoolean public static <K> [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) getBoolean([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Boolean from a Map in a null-safe manner. If the value is a Boolean it is returned directly. If the value is a String and it equals 'true' ignoring case then true is returned, otherwise false. If the value is a Number an integer zero value returns false and non-zero returns true. Otherwise, null is returned.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Boolean, null if null map input

#### getNumber public static <K> [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) getNumber([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Number from a Map in a null-safe manner. If the value is a Number it is returned directly. If the value is a String it is converted using [NumberFormat.parse(String)](https://docs.oracle.com/javase/7/docs/api/java/text/NumberFormat.html?is-external=true#parse-java.lang.String-) on the system default formatter returning null if the conversion fails. Otherwise, null is returned.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Number, null if null map input

#### getByte public static <K> [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) getByte([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Byte from a Map in a null-safe manner. The Byte is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Byte, null if null map input

#### getShort public static <K> [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) getShort([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Short from a Map in a null-safe manner. The Short is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Short, null if null map input

#### getInteger public static <K> [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) getInteger([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Integer from a Map in a null-safe manner. The Integer is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Integer, null if null map input

#### getLong public static <K> [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) getLong([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Long from a Map in a null-safe manner. The Long is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Long, null if null map input

#### getFloat public static <K> [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) getFloat([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Float from a Map in a null-safe manner. The Float is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Float, null if null map input

#### getDouble public static <K> [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) getDouble([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Double from a Map in a null-safe manner. The Double is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Double, null if null map input

#### getMap public static <K> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> getMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a Map from a Map in a null-safe manner. If the value returned from the specified map is not a Map then null is returned.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Map, null if null map input

#### getObject public static <K,V> V getObject([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, K key, V defaultValue) Looks up the given key in the given map, converting null into the given default value.Type Parameters: K - the key type V - the value type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null Returns: the value in the map, or defaultValue if the original value is null or the map is null

#### getString public static <K> [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) getString([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a string, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a string, or defaultValue if the original value is null, the map is null or the string conversion fails

#### getBoolean public static <K> [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) getBoolean([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Boolean](https://docs.oracle.com/javase/7/docs/api/java/lang/Boolean.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a boolean, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a boolean, or defaultValue if the original value is null, the map is null or the boolean conversion fails

#### getNumber public static <K> [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) getNumber([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Number](https://docs.oracle.com/javase/7/docs/api/java/lang/Number.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a number, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getByte public static <K> [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) getByte([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Byte](https://docs.oracle.com/javase/7/docs/api/java/lang/Byte.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a byte, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getShort public static <K> [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) getShort([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Short](https://docs.oracle.com/javase/7/docs/api/java/lang/Short.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a short, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getInteger public static <K> [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) getInteger([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Integer](https://docs.oracle.com/javase/7/docs/api/java/lang/Integer.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into an integer, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getLong public static <K> [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) getLong([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Long](https://docs.oracle.com/javase/7/docs/api/java/lang/Long.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a long, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getFloat public static <K> [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) getFloat([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Float](https://docs.oracle.com/javase/7/docs/api/java/lang/Float.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a float, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getDouble public static <K> [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) getDouble([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Double](https://docs.oracle.com/javase/7/docs/api/java/lang/Double.html?is-external=true) defaultValue) Looks up the given key in the given map, converting the result into a double, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the number conversion fails

#### getMap public static <K> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> getMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> defaultValue) Looks up the given key in the given map, converting the result into a map, using the default value if the conversion fails.Type Parameters: K - the key type Parameters: map - the map whose value to look up key - the key of the value to look up in that map defaultValue - what to return if the value is null or if the conversion fails Returns: the value in the map as a number, or defaultValue if the original value is null, the map is null or the map conversion fails

#### getBooleanValue public static <K> boolean getBooleanValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a boolean from a Map in a null-safe manner. If the value is a Boolean its value is returned. If the value is a String and it equals 'true' ignoring case then true is returned, otherwise false. If the value is a Number an integer zero value returns false and non-zero returns true. Otherwise, false is returned.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a Boolean, false if null map input

#### getByteValue public static <K> byte getByteValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a byte from a Map in a null-safe manner. The byte is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a byte, 0 if null map input

#### getShortValue public static <K> short getShortValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a short from a Map in a null-safe manner. The short is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a short, 0 if null map input

#### getIntValue public static <K> int getIntValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets an int from a Map in a null-safe manner. The int is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as an int, 0 if null map input

#### getLongValue public static <K> long getLongValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a long from a Map in a null-safe manner. The long is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a long, 0L if null map input

#### getFloatValue public static <K> float getFloatValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a float from a Map in a null-safe manner. The float is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a float, 0.0F if null map input

#### getDoubleValue public static <K> double getDoubleValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key) Gets a double from a Map in a null-safe manner. The double is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up Returns: the value in the Map as a double, 0.0 if null map input

#### getBooleanValue public static <K> boolean getBooleanValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, boolean defaultValue) Gets a boolean from a Map in a null-safe manner, using the default value if the conversion fails. If the value is a Boolean its value is returned. If the value is a String and it equals 'true' ignoring case then true is returned, otherwise false. If the value is a Number an integer zero value returns false and non-zero returns true. Otherwise, defaultValue is returned.Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a Boolean, defaultValue if null map input

#### getByteValue public static <K> byte getByteValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, byte defaultValue) Gets a byte from a Map in a null-safe manner, using the default value if the conversion fails. The byte is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a byte, defaultValue if null map input

#### getShortValue public static <K> short getShortValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, short defaultValue) Gets a short from a Map in a null-safe manner, using the default value if the conversion fails. The short is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a short, defaultValue if null map input

#### getIntValue public static <K> int getIntValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, int defaultValue) Gets an int from a Map in a null-safe manner, using the default value if the conversion fails. The int is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as an int, defaultValue if null map input

#### getLongValue public static <K> long getLongValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, long defaultValue) Gets a long from a Map in a null-safe manner, using the default value if the conversion fails. The long is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a long, defaultValue if null map input

#### getFloatValue public static <K> float getFloatValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, float defaultValue) Gets a float from a Map in a null-safe manner, using the default value if the conversion fails. The float is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a float, defaultValue if null map input

#### getDoubleValue public static <K> double getDoubleValue([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,?> map, K key, double defaultValue) Gets a double from a Map in a null-safe manner, using the default value if the conversion fails. The double is obtained from the results of [getNumber(Map,Object)](http://docs.google.com/org/apache/commons/collections4/MapUtils.html#getNumber-java.util.Map-K-).Type Parameters: K - the key type Parameters: map - the map to use key - the key to look up defaultValue - return if the value is null or if the conversion fails Returns: the value in the Map as a double, defaultValue if null map input

#### toProperties public static <K,V> [Properties](https://docs.oracle.com/javase/7/docs/api/java/util/Properties.html?is-external=true) toProperties([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Gets a new Properties object initialised with the values from a Map. A null input will return an empty properties object. A Properties object may only store non-null keys and values, thus if the provided map contains either a key or value which is null, a [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) will be thrown.Type Parameters: K - the key type V - the value type Parameters: map - the map to convert to a Properties object Returns: the properties object Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if a key or value in the provided map is null

#### toMap public static [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true),[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> toMap([ResourceBundle](https://docs.oracle.com/javase/7/docs/api/java/util/ResourceBundle.html?is-external=true) resourceBundle) Creates a new HashMap using data copied from a ResourceBundle.Parameters: resourceBundle - the resource bundle to convert, may not be null Returns: the hashmap containing the data Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the bundle is null

#### verbosePrint public static void verbosePrint([PrintStream](https://docs.oracle.com/javase/7/docs/api/java/io/PrintStream.html?is-external=true) out, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) label, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Prints the given map with nice line breaks. This method prints a nicely formatted String describing the Map. Each map entry will be printed with key and value. When the value is a Map, recursive behaviour occurs. This method is NOT thread-safe in any special way. You must manually synchronize on either this class or the stream as required.Parameters: out - the stream to print to, must not be null label - The label to be used, may be null. If null, the label is not output. It typically represents the name of the property in a bean or similar. map - The map to print, may be null. If null, the text 'null' is output. Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the stream is null

#### debugPrint public static void debugPrint([PrintStream](https://docs.oracle.com/javase/7/docs/api/java/io/PrintStream.html?is-external=true) out, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) label, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Prints the given map with nice line breaks. This method prints a nicely formatted String describing the Map. Each map entry will be printed with key, value and value classname. When the value is a Map, recursive behaviour occurs. This method is NOT thread-safe in any special way. You must manually synchronize on either this class or the stream as required.Parameters: out - the stream to print to, must not be null label - The label to be used, may be null. If null, the label is not output. It typically represents the name of the property in a bean or similar. map - The map to print, may be null. If null, the text 'null' is output. Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the stream is null

#### invertMap public static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<V,K> invertMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Inverts the supplied map returning a new HashMap such that the keys of the input are swapped with the values. This operation assumes that the inverse mapping is well defined. If the input map had multiple entries with the same value mapped to different keys, the returned map will map one of those keys to the value, but the exact key which will be mapped is undefined.Type Parameters: K - the key type V - the value type Parameters: map - the map to invert, may not be null Returns: a new HashMap containing the inverted data Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

#### safeAddToMap public static <K> void safeAddToMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? super K,[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)> map, K key, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) throws [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) Protects against adding null values to a map. This method checks the value being added to the map, and if it is null it is replaced by an empty string. This could be useful if the map does not accept null values, or for receiving data from a source that may provide null or empty string which should be held in the same way in the map. Keys are not validated. Note that this method can be used to circumvent the map's value type at runtime.Type Parameters: K - the key type Parameters: map - the map to add to, may not be null key - the key value - the value, null converted to "" Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

#### putAll public static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> putAll([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[] array) Puts all the keys and values from the specified array into the map. This method is an alternative to the [Map.putAll(java.util.Map)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putAll-java.util.Map-) method and constructors. It allows you to build a map from an object array of various possible styles. If the first entry in the object array implements [Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true) or [KeyValue](http://docs.google.com/org/apache/commons/collections4/KeyValue.html) then the key and value are added from that object. If the first entry in the object array is an object array itself, then it is assumed that index 0 in the sub-array is the key and index 1 is the value. Otherwise, the array is treated as keys and values in alternate indices. For example, to create a color map: Map colorMap = MapUtils.putAll(new HashMap(), new String[][] { {"RED", "#FF0000"}, {"GREEN", "#00FF00"}, {"BLUE", "#0000FF"} }); or: Map colorMap = MapUtils.putAll(new HashMap(), new String[] { "RED", "#FF0000", "GREEN", "#00FF00", "BLUE", "#0000FF" }); or: Map colorMap = MapUtils.putAll(new HashMap(), new Map.Entry[] { new DefaultMapEntry("RED", "#FF0000"), new DefaultMapEntry("GREEN", "#00FF00"), new DefaultMapEntry("BLUE", "#0000FF") }); Type Parameters: K - the key type V - the value type Parameters: map - the map to populate, must not be null array - an array to populate from, null ignored Returns: the input map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if map is null [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if sub-array or entry matching used and an entry is invalid [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the array contents is mixed Since: 3.2

#### emptyIfNull public static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> emptyIfNull([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns an immutable empty map if the argument is null, or the argument itself otherwise.Type Parameters: K - the key type V - the value type Parameters: map - the map, possibly null Returns: an empty map if the argument is null

#### isEmpty public static boolean isEmpty([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Null-safe check if the specified map is empty. Null returns true.Parameters: map - the map to check, may be null Returns: true if empty or null Since: 3.2

#### isNotEmpty public static boolean isNotEmpty([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Null-safe check if the specified map is not empty. Null returns false.Parameters: map - the map to check, may be null Returns: true if non-null and non-empty Since: 3.2

#### synchronizedMap public static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> synchronizedMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a synchronized map backed by the given map. You must manually synchronize on the returned buffer's iterator to avoid non-deterministic behavior: Map m = MapUtils.synchronizedMap(myMap); Set s = m.keySet(); // outside synchronized block synchronized (m) { // synchronized on MAP! Iterator i = s.iterator(); while (i.hasNext()) { process (i.next()); } } This method uses the implementation in [Collections](https://docs.oracle.com/javase/7/docs/api/java/util/Collections.html?is-external=true).Type Parameters: K - the key type V - the value type Parameters: map - the map to synchronize, must not be null Returns: a synchronized map backed by the given map

#### unmodifiableMap public static <K,V> [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> unmodifiableMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends K,? extends V> map) Returns an unmodifiable map backed by the given map. This method uses the implementation in the decorators subpackage.Type Parameters: K - the key type V - the value type Parameters: map - the map to make unmodifiable, must not be null Returns: an unmodifiable map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

#### predicatedMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> predicatedMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super K> keyPred, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super V> valuePred) Returns a predicated (validating) map backed by the given map. Only objects that pass the tests in the given predicates can be added to the map. Trying to add an invalid object results in an IllegalArgumentException. Keys must pass the key predicate, values must pass the value predicate. It is important not to use the original map after invoking this method, as it is a backdoor for adding invalid objects.Type Parameters: K - the key type V - the value type Parameters: map - the map to predicate, must not be null keyPred - the predicate for keys, null means no check valuePred - the predicate for values, null means no check Returns: a predicated map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map is null

#### transformedMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> transformedMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a transformed map backed by the given map. This method returns a new map (decorating the specified map) that will transform any new entries added to it. Existing entries in the specified map will not be transformed. If you want that behaviour, see [TransformedMap.transformedMap(java.util.Map<K, V>, org.apache.commons.collections4.Transformer<? super K, ? extends K>, org.apache.commons.collections4.Transformer<? super V, ? extends V>)](http://docs.google.com/org/apache/commons/collections4/map/TransformedMap.html#transformedMap-java.util.Map-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-). Each object is passed through the transformers as it is added to the Map. It is important not to use the original map after invoking this method, as it is a backdoor for adding untransformed objects. If there are any elements already in the map being decorated, they are NOT transformed.Type Parameters: K - the key type V - the value type Parameters: map - the map to transform, must not be null, typically empty keyTransformer - the transformer for the map keys, null means no transformation valueTransformer - the transformer for the map values, null means no transformation Returns: a transformed map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map is null

#### fixedSizeMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> fixedSizeMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a fixed-sized map backed by the given map. Elements may not be added or removed from the returned map, but existing elements can be changed (for instance, via the [Map.put(Object,Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-) method).Type Parameters: K - the key type V - the value type Parameters: map - the map whose size to fix, must not be null Returns: a fixed-size map backed by that map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map is null

#### lazyMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> lazyMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<? extends V> factory) Returns a "lazy" map whose values will be created on demand. When the key passed to the returned map's [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) method is not present in the map, then the factory will be used to create a new object and that object will become the value associated with that key. For instance: Factory factory = new Factory() { public Object create() { return new Date(); } } Map lazyMap = MapUtils.lazyMap(new HashMap(), factory); Object obj = lazyMap.get("test"); After the above code is executed, obj will contain a new Date instance. Furthermore, that Date instance is the value for the "test" key in the map.Type Parameters: K - the key type V - the value type Parameters: map - the map to make lazy, must not be null factory - the factory for creating new objects, must not be null Returns: a lazy map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map or Factory is null

#### lazyMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> lazyMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends V> transformerFactory) Returns a "lazy" map whose values will be created on demand. When the key passed to the returned map's [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) method is not present in the map, then the factory will be used to create a new object and that object will become the value associated with that key. The factory is a [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html) that will be passed the key which it must transform into the value. For instance: Transformer factory = new Transformer() { public Object transform(Object mapKey) { return new File(mapKey); } } Map lazyMap = MapUtils.lazyMap(new HashMap(), factory); Object obj = lazyMap.get("C:/dev"); After the above code is executed, obj will contain a new File instance for the C drive dev directory. Furthermore, that File instance is the value for the "C:/dev" key in the map. If a lazy map is wrapped by a synchronized map, the result is a simple synchronized cache. When an object is not is the cache, the cache itself calls back to the factory Transformer to populate itself, all within the same synchronized block.Type Parameters: K - the key type V - the value type Parameters: map - the map to make lazy, must not be null transformerFactory - the factory for creating new objects, must not be null Returns: a lazy map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map or Transformer is null

#### orderedMap public static <K,V> [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<K,V> orderedMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Returns a map that maintains the order of keys that are added backed by the given map. If a key is added twice, the order is determined by the first add. The order is observed through the keySet, values and entrySet.Type Parameters: K - the key type V - the value type Parameters: map - the map to order, must not be null Returns: an ordered map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map is null

#### multiValueMap [@Deprecated](https://docs.oracle.com/javase/7/docs/api/java/lang/Deprecated.html?is-external=true) public static <K,V> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> multiValueMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,? super [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> map) Deprecated. since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead Creates a mult-value map backed by the given map which returns collections of type ArrayList.Type Parameters: K - the key type V - the value type Parameters: map - the map to decorate Returns: a multi-value map backed by the given map which returns ArrayLists of values. Since: 3.2 See Also: [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)

#### multiValueMap [@Deprecated](https://docs.oracle.com/javase/7/docs/api/java/lang/Deprecated.html?is-external=true) public static <K,V,C extends [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> multiValueMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,C> map, [Class](https://docs.oracle.com/javase/7/docs/api/java/lang/Class.html?is-external=true)<C> collectionClass) Deprecated. since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead Creates a multi-value map backed by the given map which returns collections of the specified type.Type Parameters: K - the key type V - the value type C - the collection class type Parameters: map - the map to decorate collectionClass - the type of collections to return from the map (must contain public no-arg constructor and extend Collection) Returns: a multi-value map backed by the given map which returns collections of the specified type Since: 3.2 See Also: [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)

#### multiValueMap [@Deprecated](https://docs.oracle.com/javase/7/docs/api/java/lang/Deprecated.html?is-external=true) public static <K,V,C extends [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<V>> [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)<K,V> multiValueMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,C> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<C> collectionFactory) Deprecated. since 4.1, use [MultiValuedMap](http://docs.google.com/org/apache/commons/collections4/MultiValuedMap.html) instead Creates a multi-value map backed by the given map which returns collections created by the specified collection factory.Type Parameters: K - the key type V - the value type C - the collection class type Parameters: map - the map to decorate collectionFactory - a factor which creates collection objects Returns: a multi-value map backed by the given map which returns collections created by the specified collection factory Since: 3.2 See Also: [MultiValueMap](http://docs.google.com/org/apache/commons/collections4/map/MultiValueMap.html)

#### synchronizedSortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> synchronizedSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map) Returns a synchronized sorted map backed by the given sorted map. You must manually synchronize on the returned buffer's iterator to avoid non-deterministic behavior: Map m = MapUtils.synchronizedSortedMap(myMap); Set s = m.keySet(); // outside synchronized block synchronized (m) { // synchronized on MAP! Iterator i = s.iterator(); while (i.hasNext()) { process (i.next()); } } This method uses the implementation in [Collections](https://docs.oracle.com/javase/7/docs/api/java/util/Collections.html?is-external=true).Type Parameters: K - the key type V - the value type Parameters: map - the map to synchronize, must not be null Returns: a synchronized map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

#### unmodifiableSortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> unmodifiableSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,? extends V> map) Returns an unmodifiable sorted map backed by the given sorted map. This method uses the implementation in the decorators subpackage.Type Parameters: K - the key type V - the value type Parameters: map - the sorted map to make unmodifiable, must not be null Returns: an unmodifiable map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

#### predicatedSortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> predicatedSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super K> keyPred, [Predicate](http://docs.google.com/org/apache/commons/collections4/Predicate.html)<? super V> valuePred) Returns a predicated (validating) sorted map backed by the given map. Only objects that pass the tests in the given predicates can be added to the map. Trying to add an invalid object results in an IllegalArgumentException. Keys must pass the key predicate, values must pass the value predicate. It is important not to use the original map after invoking this method, as it is a backdoor for adding invalid objects.Type Parameters: K - the key type V - the value type Parameters: map - the map to predicate, must not be null keyPred - the predicate for keys, null means no check valuePred - the predicate for values, null means no check Returns: a predicated map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the SortedMap is null

#### transformedSortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> transformedSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super V,? extends V> valueTransformer) Returns a transformed sorted map backed by the given map. This method returns a new sorted map (decorating the specified map) that will transform any new entries added to it. Existing entries in the specified map will not be transformed. If you want that behaviour, see [TransformedSortedMap.transformedSortedMap(java.util.SortedMap<K, V>, org.apache.commons.collections4.Transformer<? super K, ? extends K>, org.apache.commons.collections4.Transformer<? super V, ? extends V>)](http://docs.google.com/org/apache/commons/collections4/map/TransformedSortedMap.html#transformedSortedMap-java.util.SortedMap-org.apache.commons.collections4.Transformer-org.apache.commons.collections4.Transformer-). Each object is passed through the transformers as it is added to the Map. It is important not to use the original map after invoking this method, as it is a backdoor for adding untransformed objects. If there are any elements already in the map being decorated, they are NOT transformed.Type Parameters: K - the key type V - the value type Parameters: map - the map to transform, must not be null, typically empty keyTransformer - the transformer for the map keys, null means no transformation valueTransformer - the transformer for the map values, null means no transformation Returns: a transformed map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the SortedMap is null

#### fixedSizeSortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> fixedSizeSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map) Returns a fixed-sized sorted map backed by the given sorted map. Elements may not be added or removed from the returned map, but existing elements can be changed (for instance, via the [Map.put(Object,Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-) method).Type Parameters: K - the key type V - the value type Parameters: map - the map whose size to fix, must not be null Returns: a fixed-size map backed by that map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the SortedMap is null

#### lazySortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> lazySortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Factory](http://docs.google.com/org/apache/commons/collections4/Factory.html)<? extends V> factory) Returns a "lazy" sorted map whose values will be created on demand. When the key passed to the returned map's [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) method is not present in the map, then the factory will be used to create a new object and that object will become the value associated with that key. For instance: Factory factory = new Factory() { public Object create() { return new Date(); } } SortedMap lazy = MapUtils.lazySortedMap(new TreeMap(), factory); Object obj = lazy.get("test"); After the above code is executed, obj will contain a new Date instance. Furthermore, that Date instance is the value for the "test" key.Type Parameters: K - the key type V - the value type Parameters: map - the map to make lazy, must not be null factory - the factory for creating new objects, must not be null Returns: a lazy map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the SortedMap or Factory is null

#### lazySortedMap public static <K,V> [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> lazySortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> map, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<? super K,? extends V> transformerFactory) Returns a "lazy" sorted map whose values will be created on demand. When the key passed to the returned map's [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) method is not present in the map, then the factory will be used to create a new object and that object will become the value associated with that key. The factory is a [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html) that will be passed the key which it must transform into the value. For instance: Transformer factory = new Transformer() { public Object transform(Object mapKey) { return new File(mapKey); } } SortedMap lazy = MapUtils.lazySortedMap(new TreeMap(), factory); Object obj = lazy.get("C:/dev"); After the above code is executed, obj will contain a new File instance for the C drive dev directory. Furthermore, that File instance is the value for the "C:/dev" key in the map. If a lazy map is wrapped by a synchronized map, the result is a simple synchronized cache. When an object is not is the cache, the cache itself calls back to the factory Transformer to populate itself, all within the same synchronized block.Type Parameters: K - the key type V - the value type Parameters: map - the map to make lazy, must not be null transformerFactory - the factory for creating new objects, must not be null Returns: a lazy map backed by the given map Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the Map or Transformer is null

#### populateMap public static <K,V> void populateMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends V> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<V,K> keyTransformer) Populates a Map using the supplied Transformer to transform the elements into keys, using the unaltered element as the value in the Map.Type Parameters: K - the key type V - the value type Parameters: map - the Map to populate. elements - the Iterable containing the input values for the map. keyTransformer - the Transformer used to transform the element into a key value Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map, elements or transformer are null

#### populateMap public static <K,V,E> void populateMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends E> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,V> valueTransformer) Populates a Map using the supplied Transformers to transform the elements into keys and values.Type Parameters: K - the key type V - the value type E - the type of object contained in the [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true) Parameters: map - the Map to populate. elements - the Iterable containing the input values for the map. keyTransformer - the Transformer used to transform the element into a key value valueTransformer - the Transformer used to transform the element into a value Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map, elements or transformers are null

#### populateMap public static <K,V> void populateMap([MultiMap](http://docs.google.com/org/apache/commons/collections4/MultiMap.html)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends V> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<V,K> keyTransformer) Populates a MultiMap using the supplied Transformer to transform the elements into keys, using the unaltered element as the value in the MultiMap.Type Parameters: K - the key type V - the value type Parameters: map - the MultiMap to populate. elements - the Iterable to use as input values for the map. keyTransformer - the Transformer used to transform the element into a key value Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map, elements or transformer are null

#### populateMap public static <K,V,E> void populateMap([MultiMap](http://docs.google.com/org/apache/commons/collections4/MultiMap.html)<K,V> map, [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true)<? extends E> elements, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,K> keyTransformer, [Transformer](http://docs.google.com/org/apache/commons/collections4/Transformer.html)<E,V> valueTransformer) Populates a MultiMap using the supplied Transformers to transform the elements into keys and values.Type Parameters: K - the key type V - the value type E - the type of object contained in the [Iterable](https://docs.oracle.com/javase/7/docs/api/java/lang/Iterable.html?is-external=true) Parameters: map - the MultiMap to populate. elements - the Iterable containing the input values for the map. keyTransformer - the Transformer used to transform the element into a key value valueTransformer - the Transformer used to transform the element into a value Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map, collection or transformers are null

#### iterableMap public static <K,V> [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V> iterableMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V> map) Get the specified [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true) as an [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html).Type Parameters: K - the key type V - the value type Parameters: map - to wrap if necessary. Returns: IterableMap<K, V> Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if map is null Since: 4.0

#### iterableSortedMap public static <K,V> [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html)<K,V> iterableSortedMap([SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<K,V> sortedMap) Get the specified [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) as an [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html).Type Parameters: K - the key type V - the value type Parameters: sortedMap - to wrap if necessary Returns: [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html)<K, V> Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if sortedMap is null Since: 4.0

#### size public static int size([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<?,?> map) Gets the given map size or 0 if the map is nullParameters: map - a Map or null Returns: the given map size or 0 if the map is null

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