JavaScript is disabled on your browser.

[Skip navigation links](#1fob9te)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/LinkedMap.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/org/apache/commons/collections4/map/LazySortedMap.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/map/ListOrderedMap.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/map/LinkedMap.html)
* [No Frames](http://docs.google.com/LinkedMap.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* [Nested](#2et92p0) |
* [Field](#2s8eyo1) |
* [Constr](#17dp8vu) |
* [Method](#3rdcrjn)
* Detail:
* Field |
* [Constr](#z337ya) |
* [Method](#1ci93xb)

org.apache.commons.collections4.map

## Class LinkedMap<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [java.util.AbstractMap](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.html?is-external=true)<K,V>
    - [org.apache.commons.collections4.map.AbstractHashedMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html)<K,V>
      * [org.apache.commons.collections4.map.AbstractLinkedMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html)<K,V>
        + org.apache.commons.collections4.map.LinkedMap<K,V>
* Type Parameters: K - the type of the keys in this map V - the type of the values in this map All Implemented Interfaces: [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Cloneable](https://docs.oracle.com/javase/7/docs/api/java/lang/Cloneable.html?is-external=true), [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V>, [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<K,V>, [IterableGet](http://docs.google.com/org/apache/commons/collections4/IterableGet.html)<K,V>, [IterableMap](http://docs.google.com/org/apache/commons/collections4/IterableMap.html)<K,V>, [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<K,V>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,V>  
    
  public class LinkedMap<K,V>  
  extends [AbstractLinkedMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html)<K,V>  
  implements [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Cloneable](https://docs.oracle.com/javase/7/docs/api/java/lang/Cloneable.html?is-external=true)  
  A Map implementation that maintains the order of the entries. In this implementation order is maintained by original insertion.  
  This implementation improves on the JDK1.4 LinkedHashMap by adding the [MapIterator](http://docs.google.com/org/apache/commons/collections4/MapIterator.html) functionality, additional convenience methods and allowing bidirectional iteration. It also implements OrderedMap. In addition, non-interface methods are provided to access the map by index.  
  The orderedMapIterator() method provides direct access to a bidirectional iterator. The iterators from the other views can also be cast to OrderedIterator if required.  
  All the available iterators can be reset back to the start by casting to ResettableIterator and calling reset().  
  The implementation is also designed to be subclassed, with lots of useful methods exposed.  
  **Note that LinkedMap is not synchronized and is not thread-safe.** If you wish to use this map from multiple threads concurrently, you must use appropriate synchronization. The simplest approach is to wrap this map using [Collections.synchronizedMap(Map)](https://docs.oracle.com/javase/7/docs/api/java/util/Collections.html?is-external=true#synchronizedMap-java.util.Map-). This class may throw exceptions when accessed by concurrent threads without synchronization.Since: 3.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.map.LinkedMap)

### Nested Class Summary

### Nested classes/interfaces inherited from class org.apache.commons.collections4.map.[**AbstractLinkedMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html)[AbstractLinkedMap.EntrySetIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.EntrySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.EntrySetIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.EntrySetIterator.html)>, [AbstractLinkedMap.KeySetIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.KeySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.KeySetIterator.html)>, [AbstractLinkedMap.LinkEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkEntry.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkEntry.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkEntry.html)>, [AbstractLinkedMap.LinkIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkIterator.html)>, [AbstractLinkedMap.LinkMapIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkMapIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.LinkMapIterator.html)>, [AbstractLinkedMap.ValuesIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.ValuesIterator.html)<[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.ValuesIterator.html)>

### Nested classes/interfaces inherited from class org.apache.commons.collections4.map.[**AbstractHashedMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html)[AbstractHashedMap.EntrySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.EntrySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.EntrySet.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.EntrySet.html)>, [AbstractHashedMap.HashEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashEntry.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashEntry.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashEntry.html)>, [AbstractHashedMap.HashIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashIterator.html)>, [AbstractHashedMap.HashMapIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashMapIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.HashMapIterator.html)>, [AbstractHashedMap.KeySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.KeySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.KeySet.html)>, [AbstractHashedMap.Values](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.Values.html)<[V](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.Values.html)>

### Nested classes/interfaces inherited from class java.util.[**AbstractMap**](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.html?is-external=true)[AbstractMap.SimpleEntry](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleEntry.html?is-external=true)<[K](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleEntry.html?is-external=true),[V](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleEntry.html?is-external=true)>, [AbstractMap.SimpleImmutableEntry](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleImmutableEntry.html?is-external=true)<[K](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleImmutableEntry.html?is-external=true),[V](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractMap.SimpleImmutableEntry.html?is-external=true)>

### Nested classes/interfaces inherited from interface java.util.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true),[V](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)>

### Field Summary

### Fields inherited from class org.apache.commons.collections4.map.[**AbstractHashedMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html)[DEFAULT\_CAPACITY](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#DEFAULT_CAPACITY), [DEFAULT\_LOAD\_FACTOR](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#DEFAULT_LOAD_FACTOR), [DEFAULT\_THRESHOLD](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#DEFAULT_THRESHOLD), [GETKEY\_INVALID](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#GETKEY_INVALID), [GETVALUE\_INVALID](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#GETVALUE_INVALID), [MAXIMUM\_CAPACITY](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#MAXIMUM_CAPACITY), [NO\_NEXT\_ENTRY](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#NO_NEXT_ENTRY), [NO\_PREVIOUS\_ENTRY](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#NO_PREVIOUS_ENTRY), [NULL](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#NULL), [REMOVE\_INVALID](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#REMOVE_INVALID), [SETVALUE\_INVALID](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#SETVALUE_INVALID)

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#LinkedMap--)() Constructs a new empty map with default size and load factor. |
| * + [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#LinkedMap-int-)(int initialCapacity) Constructs a new, empty map with the specified initial capacity. |
| * + [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#LinkedMap-int-float-)(int initialCapacity, float loadFactor) Constructs a new, empty map with the specified initial capacity and load factor. |
| * + [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#LinkedMap-java.util.Map-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends [K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> map) Constructor copying elements from another map. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + [List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> | * + [asList](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#asList--)() Gets an unmodifiable List view of the keys. |
| * + [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> | * + [clone](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#clone--)() Clones the map without cloning the keys or values. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) | * + [get](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#get-int-)(int index) Gets the key at the specified index. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) | * + [getValue](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#getValue-int-)(int index) Gets the value at the specified index. |
| * + int | * + [indexOf](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#indexOf-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Gets the index of the specified key. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html#remove-int-)(int index) Removes the element at the specified index. |

### Methods inherited from class org.apache.commons.collections4.map.[**AbstractLinkedMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html)[addEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#addEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-int-), [clear](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#clear--), [containsValue](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#containsValue-java.lang.Object-), [createEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#createEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-int-K-V-), [createEntrySetIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#createEntrySetIterator--), [createKeySetIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#createKeySetIterator--), [createValuesIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#createValuesIterator--), [entryAfter](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#entryAfter-org.apache.commons.collections4.map.AbstractLinkedMap.LinkEntry-), [entryBefore](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#entryBefore-org.apache.commons.collections4.map.AbstractLinkedMap.LinkEntry-), [firstKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#firstKey--), [getEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#getEntry-int-), [getEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#getEntry-java.lang.Object-), [init](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#init--), [lastKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#lastKey--), [mapIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#mapIterator--), [nextKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#nextKey-java.lang.Object-), [previousKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#previousKey-java.lang.Object-), [removeEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractLinkedMap.html#removeEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-int-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-)

### Methods inherited from class org.apache.commons.collections4.map.[**AbstractHashedMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html)[addMapping](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#addMapping-int-int-K-V-), [calculateNewCapacity](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#calculateNewCapacity-int-), [calculateThreshold](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#calculateThreshold-int-float-), [checkCapacity](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#checkCapacity--), [containsKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#containsKey-java.lang.Object-), [convertKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#convertKey-java.lang.Object-), [destroyEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#destroyEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [doReadObject](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#doReadObject-java.io.ObjectInputStream-), [doWriteObject](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#doWriteObject-java.io.ObjectOutputStream-), [ensureCapacity](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#ensureCapacity-int-), [entryHashCode](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#entryHashCode-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [entryKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#entryKey-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [entryNext](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#entryNext-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [entrySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#entrySet--), [entryValue](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#entryValue-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [equals](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#equals-java.lang.Object-), [get](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#get-java.lang.Object-), [hash](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#hash-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#hashCode--), [hashIndex](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#hashIndex-int-int-), [isEmpty](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#isEmpty--), [isEqualKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#isEqualKey-java.lang.Object-java.lang.Object-), [isEqualValue](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#isEqualValue-java.lang.Object-java.lang.Object-), [keySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#keySet--), [put](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#putAll-java.util.Map-), [remove](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#remove-java.lang.Object-), [removeMapping](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#removeMapping-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-int-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-), [reuseEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#reuseEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-int-int-K-V-), [size](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#size--), [toString](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#toString--), [updateEntry](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#updateEntry-org.apache.commons.collections4.map.AbstractHashedMap.HashEntry-V-), [values](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#values--)

### Methods inherited from class java.lang.[**Object**](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)[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--), [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--), [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-)

### Methods inherited from interface java.util.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[compute](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#compute-K-java.util.function.BiFunction-), [computeIfAbsent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#computeIfAbsent-K-java.util.function.Function-), [computeIfPresent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#computeIfPresent-K-java.util.function.BiFunction-), [containsKey](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsKey-java.lang.Object-), [entrySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#entrySet--), [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#equals-java.lang.Object-), [forEach](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#forEach-java.util.function.BiConsumer-), [get](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-), [getOrDefault](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#getOrDefault-java.lang.Object-V-), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#hashCode--), [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#isEmpty--), [keySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#keySet--), [merge](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#merge-K-V-java.util.function.BiFunction-), [put](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-), [putAll](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putAll-java.util.Map-), [putIfAbsent](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putIfAbsent-K-V-), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-java.lang.Object-), [replace](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replace-K-V-), [replace](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replace-K-V-V-), [replaceAll](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#replaceAll-java.util.function.BiFunction-), [size](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#size--), [values](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--)

### Methods inherited from interface org.apache.commons.collections4.[**Put**](http://docs.google.com/org/apache/commons/collections4/Put.html)[put](http://docs.google.com/org/apache/commons/collections4/Put.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/Put.html#putAll-java.util.Map-)

### Methods inherited from interface org.apache.commons.collections4.[**Get**](http://docs.google.com/org/apache/commons/collections4/Get.html)[containsKey](http://docs.google.com/org/apache/commons/collections4/Get.html#containsKey-java.lang.Object-), [entrySet](http://docs.google.com/org/apache/commons/collections4/Get.html#entrySet--), [get](http://docs.google.com/org/apache/commons/collections4/Get.html#get-java.lang.Object-), [isEmpty](http://docs.google.com/org/apache/commons/collections4/Get.html#isEmpty--), [keySet](http://docs.google.com/org/apache/commons/collections4/Get.html#keySet--), [remove](http://docs.google.com/org/apache/commons/collections4/Get.html#remove-java.lang.Object-), [size](http://docs.google.com/org/apache/commons/collections4/Get.html#size--), [values](http://docs.google.com/org/apache/commons/collections4/Get.html#values--)

### Constructor Detail

#### LinkedMap public LinkedMap() Constructs a new empty map with default size and load factor.

#### LinkedMap public LinkedMap(int initialCapacity) Constructs a new, empty map with the specified initial capacity.Parameters: initialCapacity - the initial capacity Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the initial capacity is negative

#### LinkedMap public LinkedMap(int initialCapacity, float loadFactor) Constructs a new, empty map with the specified initial capacity and load factor.Parameters: initialCapacity - the initial capacity loadFactor - the load factor Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the initial capacity is negative [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if the load factor is less than zero

#### LinkedMap public LinkedMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<? extends [K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> map) Constructor copying elements from another map.Parameters: map - the map to copy Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the map is null

### Method Detail

#### clone public [LinkedMap](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> clone() Clones the map without cloning the keys or values.Overrides: [clone](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#clone--) in class [AbstractHashedMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> Returns: a shallow clone

#### get public [K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) get(int index) Gets the key at the specified index.Parameters: index - the index to retrieve Returns: the key at the specified index Throws: [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) - if the index is invalid

#### getValue public [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) getValue(int index) Gets the value at the specified index.Parameters: index - the index to retrieve Returns: the value at the specified index Throws: [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) - if the index is invalid

#### indexOf public int indexOf([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Gets the index of the specified key.Parameters: key - the key to find the index of Returns: the index, or -1 if not found

#### remove public [V](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html) remove(int index) Removes the element at the specified index.Parameters: index - the index of the object to remove Returns: the previous value corresponding the key, or null if none existed Throws: [IndexOutOfBoundsException](https://docs.oracle.com/javase/7/docs/api/java/lang/IndexOutOfBoundsException.html?is-external=true) - if the index is invalid

#### asList public [List](https://docs.oracle.com/javase/7/docs/api/java/util/List.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/map/LinkedMap.html)> asList() Gets an unmodifiable List view of the keys. The returned list is unmodifiable because changes to the values of the list (using [ListIterator.set(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/ListIterator.html?is-external=true#set-E-)) will effectively remove the value from the list and reinsert that value at the end of the list, which is an unexpected side effect of changing the value of a list. This occurs because changing the key, changes when the mapping is added to the map and thus where it appears in the list. An alternative to this method is to use [AbstractHashedMap.keySet()](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#keySet--).Returns: The ordered list of keys. See Also: [AbstractHashedMap.keySet()](http://docs.google.com/org/apache/commons/collections4/map/AbstractHashedMap.html#keySet--)

[Skip navigation links](#3o7alnk)

* [Overview](http://docs.google.com/overview-summary.html)
* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/LinkedMap.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
* [Index](http://docs.google.com/index-all.html)
* [Help](http://docs.google.com/help-doc.html)
* [Prev Class](http://docs.google.com/org/apache/commons/collections4/map/LazySortedMap.html)
* [Next Class](http://docs.google.com/org/apache/commons/collections4/map/ListOrderedMap.html)
* [Frames](http://docs.google.com/index.html?org/apache/commons/collections4/map/LinkedMap.html)
* [No Frames](http://docs.google.com/LinkedMap.html)
* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* [Nested](#2et92p0) |
* [Field](#2s8eyo1) |
* [Constr](#17dp8vu) |
* [Method](#3rdcrjn)
* Detail:
* Field |
* [Constr](#z337ya) |
* [Method](#1ci93xb)

Copyright © 2001–2019 [The Apache Software Foundation](https://www.apache.org/). All rights reserved.