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org.apache.commons.collections4.bidimap

## Class AbstractBidiMapDecorator<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + [org.apache.commons.collections4.map.AbstractIterableMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html)<K,V>
    - [org.apache.commons.collections4.map.AbstractMapDecorator](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html)<K,V>
      * org.apache.commons.collections4.bidimap.AbstractBidiMapDecorator<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: [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<K,V>, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<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>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,V> Direct Known Subclasses: [AbstractOrderedBidiMapDecorator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractOrderedBidiMapDecorator.html), [UnmodifiableBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/UnmodifiableBidiMap.html)  
    
  public abstract class AbstractBidiMapDecorator<K,V>  
  extends [AbstractMapDecorator](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html)<K,V>  
  implements [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<K,V>  
  Provides a base decorator that enables additional functionality to be added to a BidiMap via decoration.  
  Methods are forwarded directly to the decorated map.  
  This implementation does not perform any special processing with the map views. Instead it simply returns the set/collection from the wrapped map. This may be undesirable, for example if you are trying to write a validating implementation it would provide a loophole around the validation. But, you might want that loophole, so this class is kept simple.Since: 3.0

### Nested Class Summary

### 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)>

### Constructor SummaryConstructors

|  |  |
| --- | --- |
| * + Modifier | * + Constructor and Description |
| * + protected | * + [AbstractBidiMapDecorator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#AbstractBidiMapDecorator-org.apache.commons.collections4.BidiMap-)([BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> map) Constructor that wraps (not copies). |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + protected [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> | * + [decorated](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#decorated--)() Gets the map being decorated. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html) | * + [getKey](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#getKey-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Gets the key that is currently mapped to the specified value. |
| * + [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> | * + [inverseBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#inverseBidiMap--)() Gets a view of this map where the keys and values are reversed. |
| * + [MapIterator](http://docs.google.com/org/apache/commons/collections4/MapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> | * + [mapIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#mapIterator--)() Obtains a MapIterator over the map. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html) | * + [removeValue](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#removeValue-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Removes the key-value pair that is currently mapped to the specified value (optional operation). |
| * + [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> | * + [values](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html#values--)() Returns a [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true) view of the values contained in this map. |

### Methods inherited from class org.apache.commons.collections4.map.[**AbstractMapDecorator**](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html)[clear](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#clear--), [containsKey](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#containsKey-java.lang.Object-), [containsValue](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#containsValue-java.lang.Object-), [entrySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#entrySet--), [equals](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#equals-java.lang.Object-), [get](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#get-java.lang.Object-), [hashCode](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#hashCode--), [isEmpty](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#isEmpty--), [keySet](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#keySet--), [put](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#put-K-V-), [putAll](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#putAll-java.util.Map-), [remove](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#remove-java.lang.Object-), [size](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#size--), [toString](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#toString--)

### 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--), [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 org.apache.commons.collections4.[**BidiMap**](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)[put](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#put-K-V-)

### Methods inherited from interface java.util.[**Map**](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)[clear](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#clear--), [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-), [containsValue](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-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-), [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--)

### Methods inherited from interface org.apache.commons.collections4.[**Put**](http://docs.google.com/org/apache/commons/collections4/Put.html)[clear](http://docs.google.com/org/apache/commons/collections4/Put.html#clear--), [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-), [containsValue](http://docs.google.com/org/apache/commons/collections4/Get.html#containsValue-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--)

### Constructor Detail

#### AbstractBidiMapDecorator protected AbstractBidiMapDecorator([BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> map) Constructor that wraps (not copies).Parameters: map - the map to decorate, must not be null Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the collection is null

### Method Detail

#### decorated protected [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> decorated() Gets the map being decorated.Overrides: [decorated](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#decorated--) in class [AbstractMapDecorator](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Returns: the decorated map

#### mapIterator public [MapIterator](http://docs.google.com/org/apache/commons/collections4/MapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> mapIterator() Description copied from class: [AbstractIterableMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html#mapIterator--) Obtains a MapIterator over the map. A map iterator is an efficient way of iterating over maps. There is no need to access the entry set or use Map Entry objects. IterableMap<String,Integer> map = new HashedMap<String,Integer>(); MapIterator<String,Integer> it = map.mapIterator(); while (it.hasNext()) { String key = it.next(); Integer value = it.getValue(); it.setValue(value + 1); } Specified by: [mapIterator](http://docs.google.com/org/apache/commons/collections4/IterableGet.html#mapIterator--) in interface [IterableGet](http://docs.google.com/org/apache/commons/collections4/IterableGet.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Overrides: [mapIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html#mapIterator--) in class [AbstractIterableMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Returns: a map iterator

#### getKey public [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html) getKey([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Description copied from interface: [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#getKey-java.lang.Object-) Gets the key that is currently mapped to the specified value. If the value is not contained in the map, null is returned. Implementations should seek to make this method perform equally as well as get(Object).Specified by: [getKey](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#getKey-java.lang.Object-) in interface [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Parameters: value - the value to find the key for Returns: the mapped key, or null if not found

#### removeValue public [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html) removeValue([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Description copied from interface: [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#removeValue-java.lang.Object-) Removes the key-value pair that is currently mapped to the specified value (optional operation). If the value is not contained in the map, null is returned. Implementations should seek to make this method perform equally as well as remove(Object).Specified by: [removeValue](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#removeValue-java.lang.Object-) in interface [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Parameters: value - the value to find the key-value pair for Returns: the key that was removed, null if nothing removed

#### inverseBidiMap public [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> inverseBidiMap() Description copied from interface: [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#inverseBidiMap--) Gets a view of this map where the keys and values are reversed. Changes to one map will be visible in the other and vice versa. This enables both directions of the map to be accessed as a Map. Implementations should seek to avoid creating a new object every time this method is called. See AbstractMap.values() etc. Calling this method on the inverse map should return the original.Specified by: [inverseBidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#inverseBidiMap--) in interface [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Returns: an inverted bidirectional map

#### values public [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> values() Description copied from interface: [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#values--) Returns a [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true) view of the values contained in this map. The set is backed by the map, so changes to the map are reflected in the set, and vice-versa. If the map is modified while an iteration over the set is in progress (except through the iterator's own remove operation), the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the Iterator.remove, Collection.remove, removeAll, retainAll and clear operations. It does not support the add or addAll operations.Specified by: [values](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--) in interface [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Specified by: [values](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#values--) in interface [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Specified by: [values](http://docs.google.com/org/apache/commons/collections4/Get.html#values--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Overrides: [values](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html#values--) in class [AbstractMapDecorator](http://docs.google.com/org/apache/commons/collections4/map/AbstractMapDecorator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractBidiMapDecorator.html)> Returns: a collection view of the values contained in this map See Also: [Map.values()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--)

[Skip navigation links](#3whwml4)

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* [Package](http://docs.google.com/package-summary.html)
* Class
* [Use](http://docs.google.com/class-use/AbstractBidiMapDecorator.html)
* [Tree](http://docs.google.com/package-tree.html)
* [Deprecated](http://docs.google.com/deprecated-list.html)
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* [All Classes](http://docs.google.com/allclasses-noframe.html)
* Summary:
* Nested |
* Field |
* [Constr](#tyjcwt) |
* [Method](#3dy6vkm)
* Detail:
* Field |
* [Constr](#lnxbz9) |
* [Method](#1ksv4uv)

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