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org.apache.commons.collections4.bidimap

## Class AbstractDualBidiMap<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.bidimap.AbstractDualBidiMap<K,V>
* Type Parameters: K - the type of the keys in the map V - the type of the values in the 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: [DualHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualHashBidiMap.html), [DualLinkedHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualLinkedHashBidiMap.html), [DualTreeBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualTreeBidiMap.html)  
    
  public abstract class AbstractDualBidiMap<K,V>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<K,V>  
  Abstract [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html) implemented using two maps.  
  An implementation can be written simply by implementing the [createBidiMap(Map, Map, BidiMap)](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-) method.Since: 3.0 See Also: [DualHashBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualHashBidiMap.html), [DualTreeBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/DualTreeBidiMap.html)

### Nested Class SummaryNested Classes

|  |  |
| --- | --- |
| * + Modifier and Type | * + Class and Description |
| * + protected static class | * + [AbstractDualBidiMap.BidiMapIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.BidiMapIterator.html)> Inner class MapIterator. |
| * + protected static class | * + [AbstractDualBidiMap.EntrySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySet.html)> Inner class EntrySet. |
| * + protected static class | * + [AbstractDualBidiMap.EntrySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.EntrySetIterator.html)> Inner class EntrySetIterator. |
| * + protected static class | * + [AbstractDualBidiMap.KeySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySet.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySet.html)> Inner class KeySet. |
| * + protected static class | * + [AbstractDualBidiMap.KeySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySetIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.KeySetIterator.html)> Inner class KeySetIterator. |
| * + protected static class | * + [AbstractDualBidiMap.MapEntry](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.MapEntry.html)> Inner class MapEntry. |
| * + protected static class | * + [AbstractDualBidiMap.Values](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.Values.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.Values.html)> Inner class Values. |
| * + protected static class | * + [AbstractDualBidiMap.ValuesIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.ValuesIterator.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.ValuesIterator.html)> Inner class ValuesIterator. |
| * + protected static class | * + [AbstractDualBidiMap.View](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html),[E](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.View.html)> Inner class View. |

### 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 | * + [AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#AbstractDualBidiMap--)() Creates an empty map, initialised by createMap. |
| * + protected | * + [AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#AbstractDualBidiMap-java.util.Map-java.util.Map-)([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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap) Creates an empty map using the two maps specified as storage. |
| * + protected | * + [AbstractDualBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#AbstractDualBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-)([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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> inverseBidiMap) Constructs a map that decorates the specified maps, used by the subclass createBidiMap implementation. |

### Method SummaryAll Methods Instance Methods Abstract Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [clear](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#clear--)() |
| * + boolean | * + [containsKey](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#containsKey-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) |
| * + boolean | * + [containsValue](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#containsValue-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) |
| * + protected abstract [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [createBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createBidiMap-java.util.Map-java.util.Map-org.apache.commons.collections4.BidiMap-)([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> inverseMap) Creates a new instance of the subclass. |
| * + protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> | * + [createEntrySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createEntrySetIterator-java.util.Iterator-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> iterator) Creates an entry set iterator. |
| * + protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [createKeySetIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createKeySetIterator-java.util.Iterator-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> iterator) Creates a key set iterator. |
| * + protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [createValuesIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#createValuesIterator-java.util.Iterator-)([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> iterator) Creates a values iterator. |
| * + [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> | * + [entrySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#entrySet--)() Gets an entrySet view of the map. |
| * + boolean | * + [equals](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#equals-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) obj) |
| * + [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) | * + [get](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#get-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) |
| * + [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) | * + [getKey](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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. |
| * + int | * + [hashCode](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#hashCode--)() |
| * + [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [inverseBidiMap](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#inverseBidiMap--)() Gets a view of this map where the keys and values are reversed. |
| * + boolean | * + [isEmpty](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#isEmpty--)() |
| * + [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [keySet](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#keySet--)() Gets a keySet view of the map. |
| * + [MapIterator](http://docs.google.com/org/apache/commons/collections4/MapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> | * + [mapIterator](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#mapIterator--)() Obtains a MapIterator over the map. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) | * + [put](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#put-K-V-)([K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) value) Puts the key-value pair into the map, replacing any previous pair. |
| * + void | * + [putAll](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#putAll-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/bidimap/AbstractDualBidiMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> map) |
| * + [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) |
| * + [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) | * + [removeValue](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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). |
| * + int | * + [size](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#size--)() |
| * + [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) | * + [toString](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#toString--)() |
| * + [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/AbstractDualBidiMap.html)> | * + [values](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#values--)() Gets a values view of the map. |

### 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 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-), [forEach](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#forEach-java.util.function.BiConsumer-), [getOrDefault](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#getOrDefault-java.lang.Object-V-), [merge](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#merge-K-V-java.util.function.BiFunction-), [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-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-)

### Constructor Detail

#### AbstractDualBidiMap protected AbstractDualBidiMap() Creates an empty map, initialised by createMap. This constructor remains in place for deserialization. All other usage is deprecated in favour of [AbstractDualBidiMap(Map, Map)](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html#AbstractDualBidiMap-java.util.Map-java.util.Map-).

#### AbstractDualBidiMap protected AbstractDualBidiMap([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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap) Creates an empty map using the two maps specified as storage. The two maps must be a matching pair, normal and reverse. They will typically both be empty. Neither map is validated, so nulls may be passed in. If you choose to do this then the subclass constructor must populate the maps[] instance variable itself.Parameters: normalMap - the normal direction map reverseMap - the reverse direction map Since: 3.1

#### AbstractDualBidiMap protected AbstractDualBidiMap([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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> inverseBidiMap) Constructs a map that decorates the specified maps, used by the subclass createBidiMap implementation.Parameters: normalMap - the normal direction map reverseMap - the reverse direction map inverseBidiMap - the inverse BidiMap

### Method Detail

#### createBidiMap protected abstract [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> createBidiMap([Map](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> normalMap, [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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> reverseMap, [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> inverseMap) Creates a new instance of the subclass.Parameters: normalMap - the normal direction map reverseMap - the reverse direction map inverseMap - this map, which is the inverse in the new map Returns: the inverse map

#### get public [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) get([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key)Specified by: [get](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [get](http://docs.google.com/org/apache/commons/collections4/Get.html#get-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: key - the key whose associated value is to be returned Returns: the value to which the specified key is mapped, or null if this map contains no mapping for the key See Also: [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-)

#### size public int size()Specified by: [size](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#size--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [size](http://docs.google.com/org/apache/commons/collections4/Get.html#size--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: the number of key-value mappings in this map See Also: [Map.size()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#size--)

#### isEmpty public boolean isEmpty()Specified by: [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#isEmpty--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [isEmpty](http://docs.google.com/org/apache/commons/collections4/Get.html#isEmpty--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: true if this map contains no key-value mappings See Also: [Map.isEmpty()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#isEmpty--)

#### containsKey public boolean containsKey([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key)Specified by: [containsKey](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsKey-java.lang.Object-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [containsKey](http://docs.google.com/org/apache/commons/collections4/Get.html#containsKey-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: key - key whose presence in this map is to be tested Returns: true if this map contains a mapping for the specified key See Also: [Map.containsKey(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsKey-java.lang.Object-)

#### equals public boolean equals([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) obj)Specified by: [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#equals-java.lang.Object-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Overrides: [equals](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#equals-java.lang.Object-) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)

#### hashCode public int hashCode()Specified by: [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#hashCode--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Overrides: [hashCode](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#hashCode--) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)

#### toString public [String](https://docs.oracle.com/javase/7/docs/api/java/lang/String.html?is-external=true) toString()Overrides: [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--) in class [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)

#### put public [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) put([K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) value) Description copied from interface: [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#put-K-V-) Puts the key-value pair into the map, replacing any previous pair. When adding a key-value pair, the value may already exist in the map against a different key. That mapping is removed, to ensure that the value only occurs once in the inverse map. BidiMap map1 = new DualHashBidiMap(); map.put("A","B"); // contains A mapped to B, as per Map map.put("A","C"); // contains A mapped to C, as per Map BidiMap map2 = new DualHashBidiMap(); map.put("A","B"); // contains A mapped to B, as per Map map.put("C","B"); // contains C mapped to B, key A is removed Specified by: [put](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [put](http://docs.google.com/org/apache/commons/collections4/BidiMap.html#put-K-V-) in interface [BidiMap](http://docs.google.com/org/apache/commons/collections4/BidiMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [put](http://docs.google.com/org/apache/commons/collections4/Put.html#put-K-V-) in interface [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: key - the key to store value - the value to store Returns: the previous value mapped to this key See Also: [Map.put(Object, Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#put-K-V-)

#### putAll public void putAll([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/bidimap/AbstractDualBidiMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> map)Specified by: [putAll](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putAll-java.util.Map-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [putAll](http://docs.google.com/org/apache/commons/collections4/Put.html#putAll-java.util.Map-) in interface [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: map - mappings to be stored in this map See Also: [Map.putAll(Map)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#putAll-java.util.Map-)

#### remove public [V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html) remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key)Specified by: [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [remove](http://docs.google.com/org/apache/commons/collections4/Get.html#remove-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: key - key whose mapping is to be removed from the map Returns: the previous value associated with key, or null if there was no mapping for key. See Also: [Map.remove(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#remove-java.lang.Object-)

#### clear public void clear()Specified by: [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#clear--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [clear](http://docs.google.com/org/apache/commons/collections4/Put.html#clear--) in interface [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> See Also: [Map.clear()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#clear--)

#### containsValue public boolean containsValue([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value)Specified by: [containsValue](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-java.lang.Object-) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [containsValue](http://docs.google.com/org/apache/commons/collections4/Get.html#containsValue-java.lang.Object-) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Parameters: value - value whose presence in this map is to be tested Returns: true if this map maps one or more keys to the specified value See Also: [Map.containsValue(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-java.lang.Object-)

#### mapIterator public [MapIterator](http://docs.google.com/org/apache/commons/collections4/MapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> mapIterator() Obtains a MapIterator over the map. The iterator implements ResetableMapIterator. This implementation relies on the entrySet iterator. The setValue() methods only allow a new value to be set. If the value being set is already in the map, an IllegalArgumentException is thrown (as setValue cannot change the size of the map).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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: a map iterator

#### getKey public [K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: an inverted bidirectional map

#### keySet public [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> keySet() Gets a keySet view of the map. Changes made on the view are reflected in the map. The set supports remove and clear but not add.Specified by: [keySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#keySet--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [keySet](http://docs.google.com/org/apache/commons/collections4/Get.html#keySet--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: the keySet view See Also: [Map.keySet()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#keySet--)

#### createKeySetIterator protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> createKeySetIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> iterator) Creates a key set iterator. Subclasses can override this to return iterators with different properties.Parameters: iterator - the iterator to decorate Returns: the keySet iterator

#### 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/AbstractDualBidiMap.html)> values() Gets a values view of the map. Changes made on the view are reflected in the map. The set supports remove and clear but not add.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: the values view See Also: [Map.values()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#values--)

#### createValuesIterator protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> createValuesIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> iterator) Creates a values iterator. Subclasses can override this to return iterators with different properties.Parameters: iterator - the iterator to decorate Returns: the values iterator

#### entrySet public [Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> entrySet() Gets an entrySet view of the map. Changes made on the set are reflected in the map. The set supports remove and clear but not add. The Map Entry setValue() method only allow a new value to be set. If the value being set is already in the map, an IllegalArgumentException is thrown (as setValue cannot change the size of the map).Specified by: [entrySet](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#entrySet--) 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/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Specified by: [entrySet](http://docs.google.com/org/apache/commons/collections4/Get.html#entrySet--) in interface [Get](http://docs.google.com/org/apache/commons/collections4/Get.html)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)> Returns: the entrySet view See Also: [Map.entrySet()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#entrySet--)

#### createEntrySetIterator protected [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> createEntrySetIterator([Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html?is-external=true)<[Map.Entry](https://docs.oracle.com/javase/7/docs/api/java/util/Map.Entry.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html),[V](http://docs.google.com/org/apache/commons/collections4/bidimap/AbstractDualBidiMap.html)>> iterator) Creates an entry set iterator. Subclasses can override this to return iterators with different properties.Parameters: iterator - the iterator to decorate Returns: the entrySet iterator

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