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org.apache.commons.collections4.map

## Class CompositeMap<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.CompositeMap<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), [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>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,V>  
    
  public class CompositeMap<K,V>  
  extends [AbstractIterableMap](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html)<K,V>  
  implements [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true)  
  Decorates a map of other maps to provide a single unified view.  
  Changes made to this map will actually be made on the decorated map. Add and remove operations require the use of a pluggable strategy. If no strategy is provided then add and remove are unsupported.  
  **Note that CompositeMap 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.CompositeMap)

### Nested Class SummaryNested Classes

|  |  |
| --- | --- |
| * + Modifier and Type | * + Class and Description |
| * + static interface | * + [CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)> This interface allows definition for all of the indeterminate mutators in a CompositeMap, as well as providing a hook for callbacks on key collisions. |

### 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

|  |
| --- |
| * + Constructor and Description |
| * + [CompositeMap](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#CompositeMap--)() Create a new, empty, CompositeMap. |
| * + [CompositeMap](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#CompositeMap-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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>... composite) Create a new CompositeMap which composites all of the Map instances in the argument. |
| * + [CompositeMap](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#CompositeMap-java.util.Map:A-org.apache.commons.collections4.map.CompositeMap.MapMutator-)([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>[] composite, [CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Create a new CompositeMap which composites all of the Map instances in the argument. |
| * + [CompositeMap](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#CompositeMap-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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> one, [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> two) Create a new CompositeMap with two composited Map instances. |
| * + [CompositeMap](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#CompositeMap-java.util.Map-java.util.Map-org.apache.commons.collections4.map.CompositeMap.MapMutator-)([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> one, [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> two, [CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Create a new CompositeMap with two composited Map instances. |

### Method SummaryAll Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [addComposited](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#addComposited-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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) Add an additional Map to the composite. |
| * + void | * + [clear](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#clear--)() Calls clear() on all composited Maps. |
| * + boolean | * + [containsKey](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#containsKey-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Returns true if this map contains a mapping for the specified key. |
| * + boolean | * + [containsValue](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#containsValue-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Returns true if this map maps one or more keys to the specified value. |
| * + [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>> | * + [entrySet](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#entrySet--)() Returns a set view of the mappings contained in this map. |
| * + boolean | * + [equals](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#equals-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) obj) Checks if this Map equals another as per the Map specification. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) | * + [get](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#get-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Returns the value to which this map maps the specified key. |
| * + int | * + [hashCode](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#hashCode--)() Gets a hash code for the Map as per the Map specification. |
| * + boolean | * + [isEmpty](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#isEmpty--)() Returns true if this map contains no key-value mappings. |
| * + [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/map/CompositeMap.html)> | * + [keySet](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#keySet--)() Returns a set view of the keys contained in this map. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) | * + [put](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#put-K-V-)([K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) value) Associates the specified value with the specified key in this map (optional operation). |
| * + void | * + [putAll](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) Copies all of the mappings from the specified map to this map (optional operation). |
| * + [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Removes the mapping for this key from this map if it is present (optional operation). |
| * + [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> | * + [removeComposited](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#removeComposited-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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) Remove a Map from the composite. |
| * + void | * + [setMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#setMutator-org.apache.commons.collections4.map.CompositeMap.MapMutator-)([CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Specify the MapMutator to be used by mutation operations. |
| * + int | * + [size](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#size--)() Returns the number of key-value mappings in this map. |
| * + [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> | * + [values](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#values--)() Returns a collection view of the values contained in this map. |

### Methods inherited from class org.apache.commons.collections4.map.[**AbstractIterableMap**](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html)[mapIterator](http://docs.google.com/org/apache/commons/collections4/map/AbstractIterableMap.html#mapIterator--)

### 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--), [toString](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#toString--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait--), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true#wait-long-int-)

### 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

#### CompositeMap public CompositeMap() Create a new, empty, CompositeMap.

#### CompositeMap public CompositeMap([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> one, [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> two) Create a new CompositeMap with two composited Map instances.Parameters: one - the first Map to be composited two - the second Map to be composited Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if there is a key collision

#### CompositeMap public CompositeMap([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> one, [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> two, [CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Create a new CompositeMap with two composited Map instances.Parameters: one - the first Map to be composited two - the second Map to be composited mutator - MapMutator to be used for mutation operations

#### CompositeMap public CompositeMap([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>... composite) Create a new CompositeMap which composites all of the Map instances in the argument. It copies the argument array, it does not use it directly.Parameters: composite - the Maps to be composited Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if there is a key collision

#### CompositeMap public CompositeMap([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>[] composite, [CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Create a new CompositeMap which composites all of the Map instances in the argument. It copies the argument array, it does not use it directly.Parameters: composite - Maps to be composited mutator - MapMutator to be used for mutation operations

### Method Detail

#### setMutator public void setMutator([CompositeMap.MapMutator](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.MapMutator.html)<[K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> mutator) Specify the MapMutator to be used by mutation operations.Parameters: mutator - the MapMutator to be used for mutation delegation

#### addComposited public void addComposited([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) throws [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) Add an additional Map to the composite.Parameters: map - the Map to be added to the composite Throws: [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if there is a key collision and there is no MapMutator set to handle it.

#### removeComposited public [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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> removeComposited([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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) Remove a Map from the composite.Parameters: map - the Map to be removed from the composite Returns: The removed Map or null if map is not in the composite

#### clear public void clear() Calls clear() on all composited Maps.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if any of the composited Maps do not support clear() See Also: [Map.clear()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#clear--)

#### containsKey public boolean containsKey([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Returns true if this map contains a mapping for the specified key. More formally, returns true if and only if this map contains at a mapping for a key k such that (key==null ? k==null : key.equals(k)). (There can be at most one such mapping.)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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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. Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key is of an inappropriate type for this map (optional). [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key is null and this map does not not permit null keys (optional). See Also: [Map.containsKey(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsKey-java.lang.Object-)

#### containsValue public boolean containsValue([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) value) Returns true if this map maps one or more keys to the specified value. More formally, returns true if and only if this map contains at least one mapping to a value v such that (value==null ? v==null : value.equals(v)). This operation will probably require time linear in the map size for most implementations of the Map interface.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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. Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the value is of an inappropriate type for this map (optional). [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the value is null and this map does not not permit null values (optional). See Also: [Map.containsValue(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#containsValue-java.lang.Object-)

#### 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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)>> entrySet() Returns a set view of the mappings contained in this map. Each element in the returned set is a Map.Entry. 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, the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the Iterator.remove, Set.remove, removeAll, retainAll and clear operations. It does not support the add or addAll operations. This implementation returns a CompositeSet which composites the entry sets from all of the composited maps.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Returns: a set view of the mappings contained in this map. See Also: [CompositeSet](http://docs.google.com/org/apache/commons/collections4/set/CompositeSet.html)

#### get public [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) get([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Returns the value to which this map maps the specified key. Returns null if the map contains no mapping for this key. A return value of null does not *necessarily* indicate that the map contains no mapping for the key; it's also possible that the map explicitly maps the key to null. The containsKey operation may be used to distinguish these two cases. More formally, if this map contains a mapping from a key k to a value v such that (key==null ? k==null : key.equals(k)), then this method returns v; otherwise it returns null. (There can be at most one such mapping.)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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Parameters: key - key whose associated value is to be returned. Returns: the value to which this map maps the specified key, or null if the map contains no mapping for this key. Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key is of an inappropriate type for this map (optional). [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - key is null and this map does not not permit null keys (optional). See Also: [containsKey(Object)](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#containsKey-java.lang.Object-)

#### isEmpty public boolean isEmpty() Returns true if this map contains no key-value mappings.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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--)

#### 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/map/CompositeMap.html)> keySet() Returns a set view of the keys 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, the results of the iteration are undefined. The set supports element removal, which removes the corresponding mapping from the map, via the Iterator.remove, Set.remove, removeAll retainAll, and clear operations. It does not support the add or addAll operations. This implementation returns a CompositeSet which composites the key sets from all of the composited maps.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Returns: a set view of the keys contained in this map. See Also: [Map.keySet()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#keySet--)

#### put public [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) put([K](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) key, [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html) value) Associates the specified value with the specified key in this map (optional operation). If the map previously contained a mapping for this key, the old value is replaced by the specified value. (A map m is said to contain a mapping for a key k if and only if [m.containsKey(k)](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#containsKey-java.lang.Object-) would return true.))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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Parameters: key - key with which the specified value is to be associated. value - value to be associated with the specified key. Returns: previous value associated with specified key, or null if there was no mapping for key. A null return can also indicate that the map previously associated null with the specified key, if the implementation supports null values. Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if no MapMutator has been specified [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the class of the specified key or value prevents it from being stored in this map. [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - if some aspect of this key or value prevents it from being stored in this map. [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - this map does not permit null keys or values, and the specified key or value is null. 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/map/CompositeMap.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> map) Copies all of the mappings from the specified map to this map (optional operation). The effect of this call is equivalent to that of calling [put(k, v)](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html#put-K-V-) on this map once for each mapping from key k to value v in the specified map. The behavior of this operation is unspecified if the specified map is modified while the operation is in progress.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Parameters: map - Mappings to be stored in this map. Throws: [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the putAll method is not supported by this map. [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the class of a key or value in the specified map prevents it from being stored in this map. [IllegalArgumentException](https://docs.oracle.com/javase/7/docs/api/java/lang/IllegalArgumentException.html?is-external=true) - some aspect of a key or value in the specified map prevents it from being stored in this map. [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - the specified map is null, or if this map does not permit null keys or values, and the specified map contains null keys or values. 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/map/CompositeMap.html) remove([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) Removes the mapping for this key from this map if it is present (optional operation). More formally, if this map contains a mapping from key k to value v such that (key==null ? k==null : key.equals(k)), that mapping is removed. (The map can contain at most one such mapping.) Returns the value to which the map previously associated the key, or null if the map contained no mapping for this key. (A null return can also indicate that the map previously associated null with the specified key if the implementation supports null values.) The map will not contain a mapping for the specified key once the call returns.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> Parameters: key - key whose mapping is to be removed from the map. Returns: previous value associated with specified key, or null if there was no mapping for key. Throws: [ClassCastException](https://docs.oracle.com/javase/7/docs/api/java/lang/ClassCastException.html?is-external=true) - if the key is of an inappropriate type for the composited map (optional). [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if the key is null and the composited map does not not permit null keys (optional). [UnsupportedOperationException](https://docs.oracle.com/javase/7/docs/api/java/lang/UnsupportedOperationException.html?is-external=true) - if the remove method is not supported by the composited map containing the 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-)

#### size public int size() Returns the number of key-value mappings in this map. If the map contains more than Integer.MAX\_VALUE elements, returns Integer.MAX\_VALUE.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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--)

#### values public [Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html?is-external=true)<[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.html)> values() Returns a collection view of the values contained in this map. The collection is backed by the map, so changes to the map are reflected in the collection, and vice-versa. If the map is modified while an iteration over the collection is in progress, the results of the iteration are undefined. The collection 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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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--)

#### equals public boolean equals([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) obj) Checks if this Map equals another as per the Map specification.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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) Parameters: obj - the object to compare to Returns: true if the maps are equal

#### hashCode public int hashCode() Gets a hash code for the Map as per the Map specification.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/map/CompositeMap.html),[V](http://docs.google.com/org/apache/commons/collections4/map/CompositeMap.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)

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