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org.apache.commons.collections4.trie

## Class UnmodifiableTrie<K,V>

* [java.lang.Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)
  + org.apache.commons.collections4.trie.UnmodifiableTrie<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>, [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.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>, [IterableSortedMap](http://docs.google.com/org/apache/commons/collections4/IterableSortedMap.html)<K,V>, [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<K,V>, [Put](http://docs.google.com/org/apache/commons/collections4/Put.html)<K,V>, [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,V>, [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
    
  public class UnmodifiableTrie<K,V>  
  extends [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true)  
  implements [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,V>, [Serializable](https://docs.oracle.com/javase/7/docs/api/java/io/Serializable.html?is-external=true), [Unmodifiable](http://docs.google.com/org/apache/commons/collections4/Unmodifiable.html)  
  An unmodifiable [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html).Since: 4.0 See Also: [Serialized Form](http://docs.google.com/serialized-form.html#org.apache.commons.collections4.trie.UnmodifiableTrie)

### Nested Class Summary

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

### Constructor SummaryConstructors

|  |
| --- |
| * + Constructor and Description |
| * + [UnmodifiableTrie](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#UnmodifiableTrie-org.apache.commons.collections4.Trie-)([Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> trie) Constructor that wraps (not copies). |

### Method SummaryAll Methods Static Methods Instance Methods Concrete Methods

|  |  |
| --- | --- |
| * + Modifier and Type | * + Method and Description |
| * + void | * + [clear](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#clear--)() |
| * + [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<? super [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [comparator](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#comparator--)() |
| * + boolean | * + [containsKey](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html#containsValue-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>> | * + [entrySet](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#entrySet--)() |
| * + boolean | * + [equals](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#equals-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) obj) |
| * + [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [firstKey](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#firstKey--)() Gets the first key currently in this map. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [get](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#get-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) |
| * + int | * + [hashCode](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#hashCode--)() |
| * + [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [headMap](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#headMap-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) toKey) |
| * + boolean | * + [isEmpty](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html)> | * + [keySet](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#keySet--)() |
| * + [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [lastKey](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#lastKey--)() Gets the last key currently in this map. |
| * + [OrderedMapIterator](http://docs.google.com/org/apache/commons/collections4/OrderedMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [mapIterator](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#mapIterator--)() Obtains an OrderedMapIterator over the map. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [nextKey](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#nextKey-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Gets the next key after the one specified. |
| * + [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [prefixMap](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#prefixMap-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Returns a view of this [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html) of all elements that are prefixed by the given key. |
| * + [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [previousKey](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#previousKey-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Gets the previous key before the one specified. |
| * + [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [put](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#put-K-V-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key, [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) value) Note that the return type is Object, rather than V as in the Map interface. |
| * + void | * + [putAll](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> m) |
| * + [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) | * + [remove](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#remove-java.lang.Object-)([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html?is-external=true) key) |
| * + int | * + [size](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#size--)() |
| * + [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [subMap](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#subMap-K-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) fromKey, [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) toKey) |
| * + [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> | * + [tailMap](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#tailMap-K-)([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) fromKey) |
| * + [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/trie/UnmodifiableTrie.html#toString--)() |
| * + static <K,V> [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,V> | * + [unmodifiableTrie](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#unmodifiableTrie-org.apache.commons.collections4.Trie-)([Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,? extends V> trie) Factory method to create a unmodifiable trie. |
| * + [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/trie/UnmodifiableTrie.html)> | * + [values](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html#values--)() |

### 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

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

### Method Detail

#### unmodifiableTrie public static <K,V> [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,V> unmodifiableTrie([Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<K,? extends V> trie) Factory method to create a unmodifiable trie.Type Parameters: K - the key type V - the value type Parameters: trie - the trie to decorate, must not be null Returns: a new unmodifiable trie Throws: [NullPointerException](https://docs.oracle.com/javase/7/docs/api/java/lang/NullPointerException.html?is-external=true) - if trie is null

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>> entrySet()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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [entrySet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#entrySet--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Returns: a set view of the mappings contained in this map See Also: [Map.entrySet()](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#entrySet--)

#### 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/trie/UnmodifiableTrie.html)> keySet()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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [keySet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#keySet--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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--)

#### 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/trie/UnmodifiableTrie.html)> values()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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [values](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#values--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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--)

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> 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)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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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-)

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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-)

#### get public [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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-)

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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--)

#### put public [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) put([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key, [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) value) Description copied from interface: [Put](http://docs.google.com/org/apache/commons/collections4/Put.html#put-K-V-) Note that the return type is Object, rather than V as in the Map interface. See the class Javadoc for further info.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Parameters: key - key with which the specified value is to be associated value - value to be associated with the specified key Returns: the previous value associated with key, or null if there was no mapping for key. (A null return can also indicate that the map previously associated null with key, if the implementation supports null values.) 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/trie/UnmodifiableTrie.html),? extends [V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> m)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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Parameters: m - 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/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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-)

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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--)

#### firstKey public [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) firstKey() Description copied from interface: [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#firstKey--) Gets the first key currently in this map.Specified by: [firstKey](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#firstKey--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [firstKey](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#firstKey--) in interface [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Returns: the first key currently in this map

#### headMap public [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> headMap([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) toKey)Specified by: [headMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#headMap-K-) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>

#### lastKey public [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) lastKey() Description copied from interface: [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#lastKey--) Gets the last key currently in this map.Specified by: [lastKey](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#lastKey--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [lastKey](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#lastKey--) in interface [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Returns: the last key currently in this map

#### subMap public [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> subMap([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) fromKey, [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) toKey)Specified by: [subMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#subMap-K-K-) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>

#### tailMap public [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> tailMap([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) fromKey)Specified by: [tailMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#tailMap-K-) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>

#### prefixMap public [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> prefixMap([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Description copied from interface: [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html#prefixMap-K-) Returns a view of this [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html) of all elements that are prefixed by the given key. In a [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html) with fixed size keys, this is essentially a [Map.get(Object)](https://docs.oracle.com/javase/7/docs/api/java/util/Map.html?is-external=true#get-java.lang.Object-) operation. For example, if the [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html) contains 'Anna', 'Anael', 'Analu', 'Andreas', 'Andrea', 'Andres', and 'Anatole', then a lookup of 'And' would return 'Andreas', 'Andrea', and 'Andres'.Specified by: [prefixMap](http://docs.google.com/org/apache/commons/collections4/Trie.html#prefixMap-K-) in interface [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Parameters: key - the key used in the search Returns: a [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true) view of this [Trie](http://docs.google.com/org/apache/commons/collections4/Trie.html) with all elements whose key is prefixed by the search key

#### comparator public [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html?is-external=true)<? super [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> comparator()Specified by: [comparator](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true#comparator--) in interface [SortedMap](https://docs.oracle.com/javase/7/docs/api/java/util/SortedMap.html?is-external=true)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)>

#### mapIterator public [OrderedMapIterator](http://docs.google.com/org/apache/commons/collections4/OrderedMapIterator.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> mapIterator() Description copied from interface: [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#mapIterator--) Obtains an OrderedMapIterator over the map. A ordered map iterator is an efficient way of iterating over maps in both directions.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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Specified by: [mapIterator](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#mapIterator--) in interface [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Returns: a map iterator

#### nextKey public [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) nextKey([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Description copied from interface: [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#nextKey-K-) Gets the next key after the one specified.Specified by: [nextKey](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#nextKey-K-) in interface [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Parameters: key - the key to search for next from Returns: the next key, null if no match or at end

#### previousKey public [K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) previousKey([K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html) key) Description copied from interface: [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#previousKey-K-) Gets the previous key before the one specified.Specified by: [previousKey](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html#previousKey-K-) in interface [OrderedMap](http://docs.google.com/org/apache/commons/collections4/OrderedMap.html)<[K](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.html)> Parameters: key - the key to search for previous from Returns: the previous key, null if no match or at start

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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)

#### 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/trie/UnmodifiableTrie.html),[V](http://docs.google.com/org/apache/commons/collections4/trie/UnmodifiableTrie.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)

#### 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)

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