**Methods in HashSet**

|  |  |
| --- | --- |
| Modifier and Type | Method and Description |
| Boolean | [add](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#add(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html) e)  Adds the specified element to this set if it is not already present. |
| Void | [clear](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#clear())()  Removes all of the elements from this set. |
| [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) | [clone](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#clone())()  Returns a shallow copy of this HashSet instance: the elements themselves are not cloned. |
| Boolean | [contains](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#contains(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o)  Returns true if this set contains the specified element. |
| Boolean | [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#isEmpty())()  Returns true if this set contains no elements. |
| [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html)> | [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#iterator())()  Returns an iterator over the elements in this set. |
| Boolean | [remove](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#remove(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o)  Removes the specified element from this set if it is present. |
| Int | [size](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#size())()  Returns the number of elements in this set (its cardinality). |

**Methods in LinkedHashSet**

Methods inherited from class java.util.[HashSet](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html)

[add](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#add(E)), [clear](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#clear()), [clone](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#clone()), [contains](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#contains(java.lang.Object)), [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html" \l "isEmpty()), [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html" \l "iterator()), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#remove(java.lang.Object)), [size](https://docs.oracle.com/javase/7/docs/api/java/util/HashSet.html#size())

Methods inherited from class java.util.[AbstractSet](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html)

[equals](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html#equals(java.lang.Object)), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html" \l "hashCode()), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html" \l "removeAll(java.util.Collection))

Methods inherited from class java.util.[AbstractCollection](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html)

[addAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html#addAll(java.util.Collection)), [containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "containsAll(java.util.Collection)), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "retainAll(java.util.Collection)), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toArray()), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toArray(T[])), [toString](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toString())

Methods inherited from class java.lang.[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html)

[finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#finalize()), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html" \l "getClass()), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#notify()), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html" \l "notifyAll()), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait()), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait(long)), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait(long,%20int))

Methods inherited from interface java.util.[Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html)

[add](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#add(E)), [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#addAll(java.util.Collection)), [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#clear()), [contains](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#contains(java.lang.Object)), [containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#containsAll(java.util.Collection)), [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#equals(java.lang.Object)), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#hashCode()), [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#isEmpty()), [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#iterator()), [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#remove(java.lang.Object)), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#removeAll(java.util.Collection)), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#retainAll(java.util.Collection)), [size](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#size()), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#toArray()), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#toArray(T[]))

Methods in TreeSet

Method Summary

|  |  |
| --- | --- |
| Methods | |
| Modifier and Type | Method and Description |
| boolean | [add](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#add(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) e)  Adds the specified element to this set if it is not already present. |
| boolean | [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#addAll(java.util.Collection))([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html)<? extends [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> c)  Adds all of the elements in the specified collection to this set. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [ceiling](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#ceiling(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) e)  Returns the least element in this set greater than or equal to the given element, or null if there is no such element. |
| void | [clear](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#clear())()  Removes all of the elements from this set. |
| [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) | [clone](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#clone())()  Returns a shallow copy of this TreeSet instance. |
| [Comparator](https://docs.oracle.com/javase/7/docs/api/java/util/Comparator.html)<? super [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [comparator](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#comparator())()  Returns the comparator used to order the elements in this set, or null if this set uses the [natural ordering](https://docs.oracle.com/javase/7/docs/api/java/lang/Comparable.html) of its elements. |
| boolean | [contains](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#contains(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o)  Returns true if this set contains the specified element. |
| [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [descendingIterator](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#descendingIterator())()  Returns an iterator over the elements in this set in descending order. |
| [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [descendingSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#descendingSet())()  Returns a reverse order view of the elements contained in this set. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [first](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#first())()  Returns the first (lowest) element currently in this set. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [floor](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#floor(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) e)  Returns the greatest element in this set less than or equal to the given element, or null if there is no such element. |
| [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [headSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#headSet(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) toElement)  Returns a view of the portion of this set whose elements are strictly less than toElement. |
| [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [headSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#headSet(E,%20boolean))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) toElement, boolean inclusive)  Returns a view of the portion of this set whose elements are less than (or equal to, if inclusive is true) toElement. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [higher](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#higher(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) e)  Returns the least element in this set strictly greater than the given element, or null if there is no such element. |
| boolean | [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#isEmpty())()  Returns true if this set contains no elements. |
| [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#iterator())()  Returns an iterator over the elements in this set in ascending order. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [last](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#last())()  Returns the last (highest) element currently in this set. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [lower](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#lower(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) e)  Returns the greatest element in this set strictly less than the given element, or null if there is no such element. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [pollFirst](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#pollFirst())()  Retrieves and removes the first (lowest) element, or returns null if this set is empty. |
| [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) | [pollLast](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#pollLast())()  Retrieves and removes the last (highest) element, or returns null if this set is empty. |
| boolean | [remove](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#remove(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o)  Removes the specified element from this set if it is present. |
| int | [size](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#size())()  Returns the number of elements in this set (its cardinality). |
| [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#subSet(E,%20boolean,%20E,%20boolean))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) fromElement, boolean fromInclusive, [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) toElement, boolean toInclusive)  Returns a view of the portion of this set whose elements range from fromElement to toElement. |
| [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [subSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#subSet(E,%20E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) fromElement, [E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) toElement)  Returns a view of the portion of this set whose elements range from fromElement, inclusive, to toElement, exclusive. |
| [SortedSet](https://docs.oracle.com/javase/7/docs/api/java/util/SortedSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#tailSet(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) fromElement)  Returns a view of the portion of this set whose elements are greater than or equal to fromElement. |
| [NavigableSet](https://docs.oracle.com/javase/7/docs/api/java/util/NavigableSet.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html)> | [tailSet](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html#tailSet(E,%20boolean))([E](https://docs.oracle.com/javase/7/docs/api/java/util/TreeSet.html) fromElement, boolean inclusive)  Returns a view of the portion of this set whose elements are greater than (or equal to, if inclusive is true) fromElement. |

Methods inherited from class java.util.[AbstractSet](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html)

[equals](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html#equals(java.lang.Object)), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html" \l "hashCode()), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractSet.html" \l "removeAll(java.util.Collection))

Methods inherited from class java.util.[AbstractCollection](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html)

[containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html#containsAll(java.util.Collection)), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "retainAll(java.util.Collection)), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toArray()), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toArray(T[])), [toString](https://docs.oracle.com/javase/7/docs/api/java/util/AbstractCollection.html" \l "toString())

Methods inherited from class java.lang.[Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html)

[finalize](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#finalize()), [getClass](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html" \l "getClass()), [notify](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#notify()), [notifyAll](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html" \l "notifyAll()), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait()), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait(long)), [wait](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html#wait(long,%20int))

Methods inherited from interface java.util.[Set](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html)

[containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#containsAll(java.util.Collection)), [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#equals(java.lang.Object)), [hashCode](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#hashCode()), [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#removeAll(java.util.Collection)), [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#retainAll(java.util.Collection)), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#toArray()), [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Set.html#toArray(T[]))