**COLLECTION INTERFACE**

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| --- | --- |
| boolean | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#add-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html) e)  Ensures that this collection contains the specified element (optional operation). |
| boolean | [**addAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#addAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<? extends [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> c)  Adds all of the elements in the specified collection to this collection (optional operation). |
| void | [**clear**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#clear--)()  Removes all of the elements from this collection (optional operation). |
| boolean | [**contains**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#contains-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns true if this collection contains the specified element. |
| boolean | [**containsAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#containsAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Returns true if this collection contains all of the elements in the specified collection. |
| boolean | [**equals**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#equals-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Compares the specified object with this collection for equality. |
| int | [**hashCode**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#hashCode--)()  Returns the hash code value for this collection. |
| boolean | [**isEmpty**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#isEmpty--)()  Returns true if this collection contains no elements. |
| [**Iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> | [**iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#iterator--)()  Returns an iterator over the elements in this collection. |
| default [**Stream**](https://docs.oracle.com/javase/8/docs/api/java/util/stream/Stream.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> | [**parallelStream**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#parallelStream--)()  Returns a possibly parallel Stream with this collection as its source. |
| boolean | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#remove-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes a single instance of the specified element from this collection, if it is present (optional operation). |
| boolean | [**removeAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#removeAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Removes all of this collection's elements that are also contained in the specified collection (optional operation). |
| default boolean | [**removeIf**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#removeIf-java.util.function.Predicate-)([**Predicate**](https://docs.oracle.com/javase/8/docs/api/java/util/function/Predicate.html)<? super [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> filter)  Removes all of the elements of this collection that satisfy the given predicate. |
| boolean | [**retainAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#retainAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Retains only the elements in this collection that are contained in the specified collection (optional operation). |
| int | [**size**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#size--)()  Returns the number of elements in this collection. |
| default **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)**<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> | [**spliterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#spliterator--)()  Creates a **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)** over the elements in this collection. |
| default [**Stream**](https://docs.oracle.com/javase/8/docs/api/java/util/stream/Stream.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)> | [**stream**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#stream--)()  Returns a sequential Stream with this collection as its source. |
| [**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html)[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#toArray--)()  Returns an array containing all of the elements in this collection. |
| <T> T[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html#toArray-T:A-)(T[] a)  Returns an array containing all of the elements in this collection; the runtime type of the returned array is that of the specified array. |

**LIST INTERFACE**

|  |  |
| --- | --- |
| boolean | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#add-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) e)  Appends the specified element to the end of this list (optional operation). |
| void | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#add-int-E-)(int index, [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) element)  Inserts the specified element at the specified position in this list (optional operation). |
| boolean | [**addAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#addAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<? extends [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> c)  Appends all of the elements in the specified collection to the end of this list, in the order that they are returned by the specified collection's iterator (optional operation). |
| boolean | [**addAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#addAll-int-java.util.Collection-)(int index, [**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<? extends [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> c)  Inserts all of the elements in the specified collection into this list at the specified position (optional operation). |
| void | [**clear**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#clear--)()  Removes all of the elements from this list (optional operation). |
| boolean | [**contains**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#contains-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns true if this list contains the specified element. |
| boolean | [**containsAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#containsAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Returns true if this list contains all of the elements of the specified collection. |
| boolean | [**equals**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#equals-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Compares the specified object with this list for equality. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) | [**get**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#get-int-)(int index)  Returns the element at the specified position in this list. |
| int | [**hashCode**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#hashCode--)()  Returns the hash code value for this list. |
| int | [**indexOf**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#indexOf-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element. |
| boolean | [**isEmpty**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#isEmpty--)()  Returns true if this list contains no elements. |
| [**Iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> | [**iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#iterator--)()  Returns an iterator over the elements in this list in proper sequence. |
| int | [**lastIndexOf**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#lastIndexOf-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns the index of the last occurrence of the specified element in this list, or -1 if this list does not contain the element. |
| [**ListIterator**](https://docs.oracle.com/javase/8/docs/api/java/util/ListIterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> | [**listIterator**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#listIterator--)()  Returns a list iterator over the elements in this list (in proper sequence). |
| [**ListIterator**](https://docs.oracle.com/javase/8/docs/api/java/util/ListIterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> | [**listIterator**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#listIterator-int-)(int index)  Returns a list iterator over the elements in this list (in proper sequence), starting at the specified position in the list. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#remove-int-)(int index)  Removes the element at the specified position in this list (optional operation). |
| boolean | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#remove-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes the first occurrence of the specified element from this list, if it is present (optional operation). |
| boolean | [**removeAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#removeAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Removes from this list all of its elements that are contained in the specified collection (optional operation). |
| default void | [**replaceAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#replaceAll-java.util.function.UnaryOperator-)(**[UnaryOperator](https://docs.oracle.com/javase/8/docs/api/java/util/function/UnaryOperator.html" \o "interface in java.util.function)**<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> operator)  Replaces each element of this list with the result of applying the operator to that element. |
| boolean | [**retainAll**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#retainAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Retains only the elements in this list that are contained in the specified collection (optional operation). |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) | [**set**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#set-int-E-)(int index, [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html) element)  Replaces the element at the specified position in this list with the specified element (optional operation). |
| int | [**size**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#size--)()  Returns the number of elements in this list. |
| default void | [**sort**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#sort-java.util.Comparator-)([**Comparator**](https://docs.oracle.com/javase/8/docs/api/java/util/Comparator.html)<? super [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> c)  Sorts this list according to the order induced by the specified [**Comparator**](https://docs.oracle.com/javase/8/docs/api/java/util/Comparator.html). |
| default **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)**<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> | [**spliterator**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#spliterator--)()  Creates a **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)** over the elements in this list. |
| [**List**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html)> | [**subList**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#subList-int-int-)(int fromIndex, int toIndex)  Returns a view of the portion of this list between the specified fromIndex, inclusive, and toIndex, exclusive. |
| [**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html)[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#toArray--)()  Returns an array containing all of the elements in this list in proper sequence (from first to last element). |
| <T> T[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#toArray-T:A-)(T[] a)  Returns an array containing all of the elements in this list in proper sequence (from first to last element); the runtime type of the returned array is that of the specified array. |

**QUEUE INTERFACE**

|  |  |
| --- | --- |
| boolean | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#add-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) e)  Inserts the specified element into this queue if it is possible to do so immediately without violating capacity restrictions, returning true upon success and throwing an IllegalStateException if no space is currently available. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) | [**element**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#element--)()  Retrieves, but does not remove, the head of this queue. |
| boolean | [**offer**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#offer-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) e)  Inserts the specified element into this queue if it is possible to do so immediately without violating capacity restrictions. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) | [**peek**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#peek--)()  Retrieves, but does not remove, the head of this queue, or returns null if this queue is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) | [**poll**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#poll--)()  Retrieves and removes the head of this queue, or returns null if this queue is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html) | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/Queue.html#remove--)()  Retrieves and removes the head of this queue. |

**DEQUEUE INTERFACE**

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| boolean | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#add-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element into the queue represented by this deque (in other words, at the tail of this deque) if it is possible to do so immediately without violating capacity restrictions, returning true upon success and throwing an IllegalStateException if no space is currently available. |
| void | [**addFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#addFirst-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element at the front of this deque if it is possible to do so immediately without violating capacity restrictions, throwing an IllegalStateException if no space is currently available. |
| void | [**addLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#addLast-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element at the end of this deque if it is possible to do so immediately without violating capacity restrictions, throwing an IllegalStateException if no space is currently available. |
| boolean | [**contains**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#contains-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns true if this deque contains the specified element. |
| [**Iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html)> | [**descendingIterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#descendingIterator--)()  Returns an iterator over the elements in this deque in reverse sequential order. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**element**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#element--)()  Retrieves, but does not remove, the head of the queue represented by this deque (in other words, the first element of this deque). |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**getFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#getFirst--)()  Retrieves, but does not remove, the first element of this deque. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**getLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#getLast--)()  Retrieves, but does not remove, the last element of this deque. |
| [**Iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html)> | [**iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#iterator--)()  Returns an iterator over the elements in this deque in proper sequence. |
| boolean | [**offer**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#offer-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element into the queue represented by this deque (in other words, at the tail of this deque) if it is possible to do so immediately without violating capacity restrictions, returning true upon success and false if no space is currently available. |
| boolean | [**offerFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#offerFirst-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element at the front of this deque unless it would violate capacity restrictions. |
| boolean | [**offerLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#offerLast-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Inserts the specified element at the end of this deque unless it would violate capacity restrictions. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**peek**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#peek--)()  Retrieves, but does not remove, the head of the queue represented by this deque (in other words, the first element of this deque), or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**peekFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#peekFirst--)()  Retrieves, but does not remove, the first element of this deque, or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**peekLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#peekLast--)()  Retrieves, but does not remove, the last element of this deque, or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**poll**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#poll--)()  Retrieves and removes the head of the queue represented by this deque (in other words, the first element of this deque), or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**pollFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#pollFirst--)()  Retrieves and removes the first element of this deque, or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**pollLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#pollLast--)()  Retrieves and removes the last element of this deque, or returns null if this deque is empty. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**pop**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#pop--)()  Pops an element from the stack represented by this deque. |
| void | [**push**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#push-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) e)  Pushes an element onto the stack represented by this deque (in other words, at the head of this deque) if it is possible to do so immediately without violating capacity restrictions, throwing an IllegalStateException if no space is currently available. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#remove--)()  Retrieves and removes the head of the queue represented by this deque (in other words, the first element of this deque). |
| boolean | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#remove-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes the first occurrence of the specified element from this deque. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**removeFirst**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#removeFirst--)()  Retrieves and removes the first element of this deque. |
| boolean | [**removeFirstOccurrence**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#removeFirstOccurrence-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes the first occurrence of the specified element from this deque. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html) | [**removeLast**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#removeLast--)()  Retrieves and removes the last element of this deque. |
| boolean | [**removeLastOccurrence**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#removeLastOccurrence-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes the last occurrence of the specified element from this deque. |
| int | [**size**](https://docs.oracle.com/javase/8/docs/api/java/util/Deque.html#size--)()  Returns the number of elements in this deque. |

**SET INTERAFCE**

|  |  |
| --- | --- |
| boolean | [**add**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#add-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html) e)  Adds the specified element to this set if it is not already present (optional operation). |
| boolean | [**addAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#addAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<? extends [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html)> c)  Adds all of the elements in the specified collection to this set if they're not already present (optional operation). |
| void | [**clear**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#clear--)()  Removes all of the elements from this set (optional operation). |
| boolean | [**contains**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#contains-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Returns true if this set contains the specified element. |
| boolean | [**containsAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#containsAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Returns true if this set contains all of the elements of the specified collection. |
| boolean | [**equals**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#equals-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Compares the specified object with this set for equality. |
| int | [**hashCode**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#hashCode--)()  Returns the hash code value for this set. |
| boolean | [**isEmpty**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#isEmpty--)()  Returns true if this set contains no elements. |
| [**Iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html)> | [**iterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#iterator--)()  Returns an iterator over the elements in this set. |
| boolean | [**remove**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#remove-java.lang.Object-)([**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o)  Removes the specified element from this set if it is present (optional operation). |
| boolean | [**removeAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#removeAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Removes from this set all of its elements that are contained in the specified collection (optional operation). |
| boolean | [**retainAll**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#retainAll-java.util.Collection-)([**Collection**](https://docs.oracle.com/javase/8/docs/api/java/util/Collection.html)<?> c)  Retains only the elements in this set that are contained in the specified collection (optional operation). |
| int | [**size**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#size--)()  Returns the number of elements in this set (its cardinality). |
| default **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)**<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html)> | [**spliterator**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#spliterator--)()  Creates a Spliterator over the elements in this set. |
| [**Object**](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html)[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#toArray--)()  Returns an array containing all of the elements in this set. |
| <T> T[] | [**toArray**](https://docs.oracle.com/javase/8/docs/api/java/util/Set.html#toArray-T:A-)(T[] a)  Returns an array containing all of the elements in this set; the runtime type of the returned array is that of the specified array. |

**SORTED SET INTERAFCE**

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| [**Comparator**](https://docs.oracle.com/javase/8/docs/api/java/util/Comparator.html)<? super [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)> | [**comparator**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.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/8/docs/api/java/lang/Comparable.html) of its elements. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html) | [**first**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#first--)()  Returns the first (lowest) element currently in this set. |
| [**SortedSet**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)> | [**headSet**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#headSet-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html) toElement)  Returns a view of the portion of this set whose elements are strictly less than toElement. |
| [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html) | [**last**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#last--)()  Returns the last (highest) element currently in this set. |
| default **[Spliterator](https://docs.oracle.com/javase/8/docs/api/java/util/Spliterator.html" \o "interface in java.util)**<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)> | [**spliterator**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#spliterator--)()  Creates a Spliterator over the elements in this sorted set. |
| [**SortedSet**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)> | [**subSet**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#subSet-E-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html) fromElement, [**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.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/8/docs/api/java/util/SortedSet.html)<[**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html)> | [**tailSet**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html#tailSet-E-)([**E**](https://docs.oracle.com/javase/8/docs/api/java/util/SortedSet.html) fromElement)  Returns a view of the portion of this set whose elements are greater than or equal to fromElement. |