***Linked List***

* It uses doubly linked list to store the elements (Each nodes contains address of previous and next node address and data)
* It inherits List and Deque interface

***Properties***

* Manipulation is faster because no manipulations is required
* It can be used as stack/queue/list

***Important Functions/Operations of Linked list class***

|  |  |
| --- | --- |
| *Return type* | ***Methods*** |
| void | [addFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#addFirst-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e) |
| void | [addLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#addLast-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e) |
| [Iterator](https://docs.oracle.com/javase/8/docs/api/java/util/Iterator.html)<[E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html)> | [descendingIterator](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#descendingIterator--)() |
| E | [element](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#element--)() |
| E | [getFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#getFirst--)() |
| E | [getLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#getLast--)() |
| int | [lastIndexOf](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#lastIndexOf-java.lang.Object-)([Object](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o) |
| boolean | [offer](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#offer-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e) |
| boolean | [offerFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#offerFirst-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e)) |
| boolean | [offerLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#offerLast-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e) |
| E | [peek](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#peek--)() |
| E | [peekFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#peekFirst--)() |
| E | [peekLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#peekLast--)() |
| E | [poll](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#poll--)()) |
| E | [pollFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#pollFirst--)() |
| E | [pollLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#pollLast--)() |
| E | [pop](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#pop--)() |
| void | [push](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#push-E-)([E](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html) e) |
| E | [removeFirst](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#removeFirst--)() |
| boolean | [removeFirstOccurrence](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#removeFirstOccurrence-java.lang.Object-)([Object](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o) |
| E | [removeLast](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#removeLast--)() |
| boolean | [removeLastOccurrence](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html#removeLastOccurrence-java.lang.Object-)([Object](https://docs.oracle.com/javase/8/docs/api/java/lang/Object.html) o) |
| E | Remove() |

*Refer-* [*https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html*](https://docs.oracle.com/javase/8/docs/api/java/util/LinkedList.html)

***Important Functions/Operations of List class***

|  |  |
| --- | --- |
| ***Return Type*** | ***Methods*** |
| 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) |
| 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) |
| E | [get](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#get-int-)(int index) |
| 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) |
| int | [hashCode](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#hashCode--)() |
| 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) |
| 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) |
| [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--)() |
| [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) |
| E | [remove](https://docs.oracle.com/javase/8/docs/api/java/util/List.html#remove-int-)(int index) |
| 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) |
| [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) |
| 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) |
| 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--)() |
| [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) |

Refer- <https://docs.oracle.com/javase/8/docs/api/java/util/List.html>

***Important Functions/Operations of Collection interface***

|  |  |
| --- | --- |
| Return type | **Method** |
| boolean | [add](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#add(E))([E](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html) e) |
| boolean | [addAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.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/Collection.html)> c) |
| void | [clear](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#clear())() |
| boolean | [contains](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#contains(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o) |
| boolean | [containsAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#containsAll(java.util.Collection))([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html)<?> c) |
| boolean | [equals](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#equals(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o) |
| int | [isEmpty](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#isEmpty())() |
| [Iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html)<[E](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html)> | [iterator](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#iterator())() |
| boolean | [remove](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#remove(java.lang.Object))([Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html) o) |
| boolean | [removeAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#removeAll(java.util.Collection))([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html)<?> c) |
| boolean | [retainAll](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#retainAll(java.util.Collection))([Collection](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html)<?> c) |
| int | [size](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#size())() |
| [Object](https://docs.oracle.com/javase/7/docs/api/java/lang/Object.html)[] | [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#toArray())() |
| <T> T[] | [toArray](https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html#toArray(T[]))(T[] a) |

* Few methods like **equals(), hashCode(), toString ()** are overridden from object class

Refer <https://docs.oracle.com/javase/7/docs/api/java/util/Collection.html>