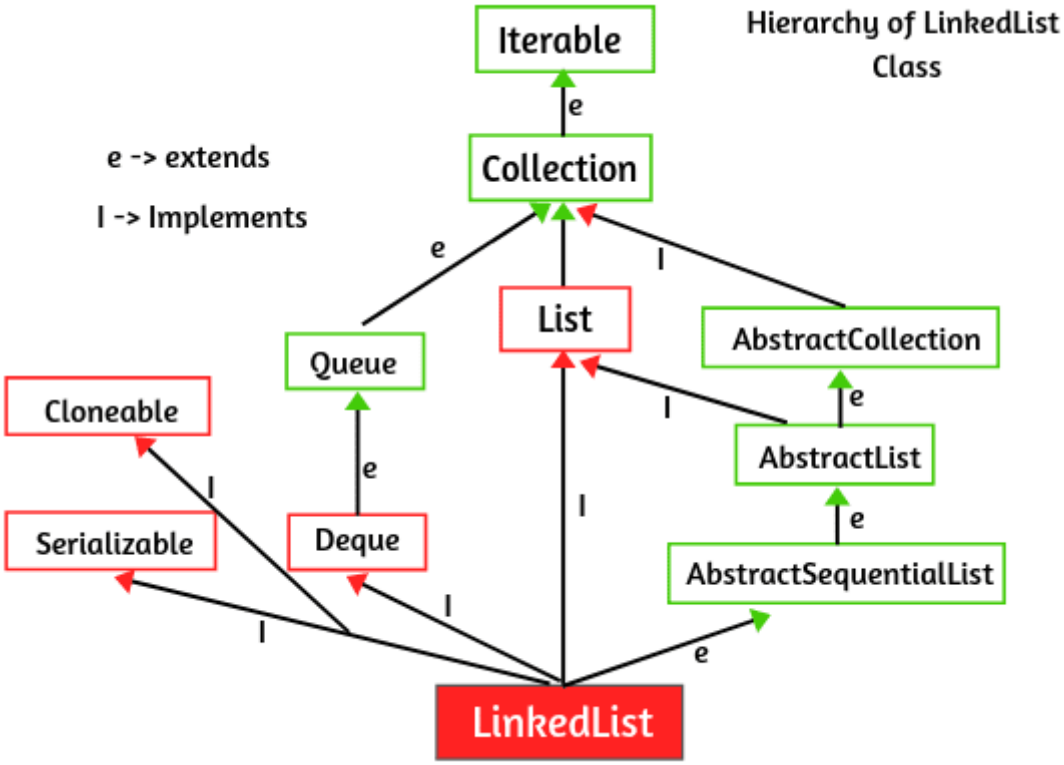
LinkedList

➲ **LinkedList in Java** is a linear data structure that uses a doubly linked list internally to store a group of elements.

A doubly linked list consists of a group of nodes that together represents a sequence in the list. It stores the group of elements in the sequence of nodes.

➲ Each node contains three fields: a data field that contains data stored in the node, left and right fields contain references or pointers that point to the previous and next nodesin the list.

A pointer indicates the addresses of the next node and the previous node. Elements in the linked list are called **nodes**.




```
package linkedlistPrograms;
import java.util.LinkedList;
public class LinkedListEx {
public static void main(String[] args)
{
// Create a LinkedList object of string type.
   LinkedList names = new LinkedList();

// Adding elements of only string type.
```

```
   names.add("John");
   names.add("Bob");
   names.add("Mark");
   names.add("John");

   System.out.println("Size of linked list: " +names.size());
   System.out.println("LinkedList insertion oreder: ");
   System.out.println(names);
 }
}
```

```
Output:
        Size of linked list: 4
        LinkedList insertion oreder:
        [John, Bob, Mark, John]
```

```
package linkedlistPrograms;
import java.util.LinkedList;
public class LinkedListEx {
public static void main(String[] args)
{
// Create a LinkedList object of string type.
   LinkedList cities = new LinkedList();

// Adding elements of only string type.
   cities.add("New York");
   cities.add("Dhanbad");
   cities.add("Sydney");
   cities.add("London");

// This statement removes "Sydney" from the LinkedList
   cities.remove(2);
   System.out.println(cities);

// This statement removes the first element ("New York") from the LinkedList.
   cities.removeFirst();

// This statement removes the last element ("London") from the LinkedList.
   cities.removeLast();
   System.out.println(cities);
 }
}
```

```
Output:
      [New York, Dhanbad, London]
      [Dhanbad]
```

```
package linkedlistPrograms;
import java.util.LinkedList;
public class LinkedListEx {
public static void main(String[] args)
{
// Create a LinkedList object of string type.
   LinkedList cities = new LinkedList();

// Adding elements of only string type.
   cities.add("New York");
   cities.add("Dhanbad");
   cities.add("Sydney");
   cities.add("London");

// This statement return "Dhanbad" from the LinkedList.
   String city = cities.get(1);
   System.out.println(city);
 }
}
```

```
Output:
      Dhanbad
```

```
package linkedlistPrograms;
import java.util.LinkedList;
public class LinkedListEx {
public static void main(String[] args)
{
// Create a LinkedList object of string type.
   LinkedList cities = new LinkedList();

// Adding elements of only string type.
   cities.add("New York");
   cities.add("Moscow");
   cities.add("Sydney");
   cities.add("London");

// This statement sets "Dhanbad" at specified position the LinkedList.
// It replaces "Moscow" with "Dhanbad" at index 1 in the LinkedList.
   cities.set(1, "Dhanbad");
   System.out.println(cities);
 }
}
```

```
Output:
       [New York, Dhanbad, Sydney, London]
```