create a linked list using the java collection framework and perform six basic operations such as

Add. Insert, Delete, Display, sort, and search an element

CODE:

```
import java.util.*;

public class Linklist {
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System.in);
        LinkedList<Integer> ll = new LinkedList<>();
        boolean L=true;
        while(L)
        {
            System.out.println(" Enter 1 to perform Insertion\n Enter 2 to
perform deletion\n Enter 3 to perform Display\n Enter 4 to perform sorting\n
Enter 5 to perform Search.\n Enter 6 to terminate!");
            int choice = sc.nextInt();
            switch(choice)
            {
                case 1:
                {
                    System.out.println("Enter an element to insert into the
linked list :");
                    int ele = sc.nextInt();
                    ll.add(ele);
                    break;
                }
                case 2:
                {
                    System.out.println("Removing the last element \n After
removal the link list is :");
                    ll.remove(ll.size()-1);
                    System.out.println(ll);
                    break;
                }

                case 3:
                {
                    System.out.println("The Linked list is : ");
                    for (int i = 0; i < ll.size(); i++)
                    {
                        System.out.print(ll.get(i) + " ");
                    }
                    System.out.println();
```

```
                    break;
                }

                case 4:
                {
                    System.out.println("After sorting the link list : ");
                    Collections.sort(ll);
                    for (int i = 0; i < ll.size(); i++)
                    {
                        System.out.print(ll.get(i) + " ");
                    }
                    System.out.println();
                    break;
                }

                case 5:
                {
                    System.out.println("Enter the element to be searched
for.");
                    int ele = sc.nextInt();
                    boolean found = false;
                    for (int i = 0; i < ll.size(); i++)
                    {
                        if(ll.get(i)==ele)
                        {
                            System.out.println("The element is found in the
link list!");
                            found =true;
                        }
                    }
                    if(found==false)
                    {
                        System.out.println("Element not found in the link
list.");
                    }
                    break;
                }

                case 6:
                {
                    System.out.println("Terminating now...");
                    L=false;
                    break;
                }

                default:
                System.out.println("Wrong choice!");
            }
```

```
        }
    }
}
```

OUTPUT:

```
PS D:\Work\Java_programs-main> javac Linklist.java
PS D:\Work\Java_programs-main> java Linklist
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
1
Enter an element to insert into the linked list :
10
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
1
Enter an element to insert into the linked list :
20
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
1
Enter an element to insert into the linked list :
60
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
1
Enter an element to insert into the linked list :
30
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
3
```

```
3
The Linked list is :
10 20 60 5
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
4
After sorting the link list :
5 10 20 60
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
5
Enter the element to be searched for.
20
The element is found at 21 position of the link list
 Enter 1 to perform Insertion
 Enter 2 to perform deletion
 Enter 3 to perform Display
 Enter 4 to perform sorting
 Enter 5 to perform Search.
 Enter 6 to terminate!
6
Terminating now...
PS D:\Work\Java_programs-main>
```