LAB-6
Dhaval Malsattar
202203028

Question 1:

Code:

```java
import java.util.*;

public class Lab_6_1
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int len = sc.nextInt();
        int temp;
        ArrayList<Integer> arrl = new ArrayList<Integer>();
        for(int i=0;i<len;i++){
            //arrl.add((int)(Math.random()*100));
            arrl.add(sc.nextInt());
        }
        System.out.print(arrl);
        System.out.println();
        for(int i=0;i<len-1;i++){
            for(int j=0;j<len-1-i;j++){
                if(arrl.get(j)>arrl.get(j+1)){
                    temp=arrl.get(j);
                    arrl.set(j,arrl.get(j+1));
                    arrl.set(j+1,temp);
                }
            }
        }
        //Collections.sort(arrl);
        System.out.print(arrl);
        System.out.println();
        System.out.print("second last element is :"+arrl.get(len-2));
    }
}
```

Output:

Question 2:

Code:

```java
import java.util.*;
public class Lab_6_2
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int len = sc.nextInt();
        int temp;
        ArrayList<Integer> arrl = new ArrayList<Integer>();
        for(int i=0;i<len;i++){
            arrl.add(sc.nextInt());
        }
        System.out.print(arrl);
        System.out.println();
        for(int i=0;i<len-1;i++){
            for(int j=0;j<len-1-i;j++){
                if(arrl.get(j)>arrl.get(j+1)){
                    temp=arrl.get(j);
                    arrl.set(j,arrl.get(j+1));
                    arrl.set(j+1,temp);
                }
            }
        }
        System.out.print(arrl);
    }
}
```

Output:

```
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList> javac Lab_6_2.java
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList> java Lab_6_2
5
12 43 23 54 44
[12, 43, 23, 54, 44]
[12, 23, 43, 44, 54]
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList>
```

Question 3:

Code:

```java
import java.util.*;
public class Lab_6_3
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int len = sc.nextInt();
        int temp;
        ArrayList<Integer> arrl = new ArrayList<Integer>();
        for(int i=0;i<len;i++){
            arrl.add(sc.nextInt());
        }
        System.out.print(arrl);
        System.out.println();
        for(int i=0;i<len/2;i++){
            temp=arrl.get(i);
            arrl.set(i,arrl.get(len-1-i));
            arrl.set(len-1-i,temp);
        }
        System.out.print("your reversed array is\n"+arrl);
        System.out.println();
    }
}
```

Output:

```
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList> java Lab_6_3
5
12 33 121 44 52
[12, 33, 121, 44, 52]
your reversed array is
[52, 44, 121, 33, 12]
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList>
```

Question 4:

Code:

```java
import java.util.*;
public class Lab_6_4
{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int t1,count,len = sc.nextInt();

        ArrayList<Integer> arrl = new ArrayList<Integer>();
        ArrayList<Integer> temp = new ArrayList<Integer>();
        for(int i=0;i<len;i++){
            arrl.add(sc.nextInt());
            temp.add(arrl.get(i));
        }
        System.out.print(arrl);
        System.out.println();
        while(!temp.isEmpty()){
            count=0;
            t1=temp.get(0);
            for(int i=0;i<len;i++){
                if(t1==temp.get(i)){
                    count++;
                }
            }
            len -= count;
            temp.removeAll(Collections.singleton(t1));
            System.out.println("number "+t1+" :"+count);
        }
    }
}
```

Output:

```
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList> java Lab_6_4
8
1 2 43 2 34 43 1 2
[1, 2, 43, 2, 34, 43, 1, 2]
number 1 :2
number 2 :3
number 43 :2
number 34 :1
PS C:\Users\Admin\Desktop\OOPs-LAB\ArrayList>
```