WEEK-10

ROLL NO:230701235

1) Given an ArrayList, the task is to get the first and last element of the ArrayList in Java.

Input: ArrayList = [1, 2, 3, 4]

Output: First = 1, Last = 4

Input: ArrayList = [12, 23, 34, 45, 57, 67, 89]

Output: First = 12, Last = 89 CODE:

```
import java.util.ArrayList; import
java.util.Scanner;

public class ArrayListExample {     public
static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
ArrayList<Integer> list = new ArrayList<>();        int
n = scanner.nextInt();        for (int i = 0; i < n; i++) {
int element = scanner.nextInt();
list.add(element);
      }
      int firstElement = list.get(0);        int
lastElement = list.get(list.size() - 1);
      System.out.println("ArrayList: " + list);
      System.out.printf("First : %d, Last : %d%n", firstElement, lastElement);
scanner.close();
   }
}
```

OUTPUT:

	Test	Input	Expected	Got	
✓	1	6 30 20 40 50 10 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80	ArrayList: [30, 20, 40, 50, 10, 80] First : 30, Last : 80	✓
✓	2	4 5 15 25 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35	ArrayList: [5, 15, 25, 35] First : 5, Last : 35	✓

Passed all tests! ✓

2) The given Java program is based on the ArrayList methods and its usage. The Java program is partially filled. Your task is to fill in the incomplete statements to get the desired output.

list.set();

list.indexOf());

list.lastIndexOf())

list.contains()

list.size()); list.add();

list.remove();

The above methods are used for the below Java program.

CODE:

```
class Prog {


public static void main(String[] args)

{

 Scanner sc= new Scanner(System.in);  int n

= sc.nextInt();


 ArrayList<Integer> list = new ArrayList<Integer>();
```

```
 for(int i = 0; i<n;i++)  list.add(sc.nextInt());

 // printing initial value ArrayList
 System.out.println("ArrayList: " + list);

//Replacing the element at index 1 with 100


 //Getting the index of first occurrence of 100
System.out.println("Index of 100 = "+            );

//Getting the index of last occurrence of 100
 System.out.println("LastIndex of 100 = "+          );
// Check whether 200 is in the list or not
System.out.println(         ); //Output : false
 // Print ArrayList size
 System.out.println("Size Of ArrayList = "+       );
//Inserting 500 at index 1
                        // code here
 //Removing an element from position 3
                       // code here
  System.out.print("ArrayList: " + list);
 }
}
```

OUTPUT:

Test	Input	Expected	Got
1	5 1 2 3 100 5	ArrayList: [1, 2, 3, 100, 5] Index of 100 = 1 LastIndex of 100 = 3 false Size Of ArrayList = 5 ArrayList: [1, 500, 100, 100, 5]	***Run error*** Error: Could not find or load main class prog Caused by: java.lang.ClassNotFoundException: prog

3) Write a Java program to reverse elements in an array list.

Sample input and Output:
Red
Green
Orange
White
Black
Sample output
List before reversing :

[Red, Green, Orange, White, Black] List

after reversing :

[Black, White, Orange, Green, Red]

CODE:

```
import java.util.ArrayList; import
java.util.Collections; import
java.util.Scanner; public class
ReverseArrayList {     public static void
main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        ArrayList<String> colors = new ArrayList<>();
        System.out.println("List before reversing :");
int n = scanner.nextInt();         scanner.nextLine();
for (int i = 0; i < n; i++) {
```

```
            String color = scanner.nextLine();
colors.add(color);
        }
        System.out.println( colors);
        Collections.reverse(colors);
        System.out.println("List after reversing :");
System.out.println(colors);         scanner.close();
    }
}
```

OUTPUT:

	Test	Input	Expected	Got	
✓	1	5 Red Green Orange White Black	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	List before reversing : [Red, Green, Orange, White, Black] List after reversing : [Black, White, Orange, Green, Red]	✓
✓	2	4 CSE AIML AIDS CYBER	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	List before reversing : [CSE, AIML, AIDS, CYBER] List after reversing : [CYBER, AIDS, AIML, CSE]	✓

Passed all tests! ✓