Assignment 2

Coding Question

Q.1 : "Write a Java program that takes an integer array as input and converts it into an ArrayList. The program should have a method called convertArrayToList that takes in the array as a parameter and returns the converted ArrayList.

The input for the program is an array {1, 2, 3, 4, 5}

The output of the program should be the ArrayList

[1, 2, 3, 4, 5] after the conversion."Sol :

Code - >

```
import java.util.*;
public class ConvertToArrayList {

   public static ArrayList<Integer> convertArrayToList(int [] arr){
      ArrayList <Integer> al = new ArrayList<>();
      for (int i=0; i<arr.length; i++){
         al.add(arr[i]);
      }
      return al;
   }


   public static void main(String[] args) {
      Scanner sc = new Scanner(System.in);
      System.out.print("Enter the size of the array : ");
      int n = sc.nextInt();
      int arr [] = new int [n];
      for (int i=0; i<n; i++){
         arr[i] = sc.nextInt();
      }
      System.out.println("Array");
      for (int i=0; i<n; i++){
         System.out.print(arr[i]+" ");;
      }
      System.out.println();
```

```
        System.out.println("Array converted to ArrayList");
        ArrayList<Integer> ans = convertArrayToList(arr);
        System.out.println(ans);
    }
}
```

Output ->

Array

1 2 3 4 5

Array converted to ArrayList

[1, 2, 3, 4, 5]

Process finished with exit code 0

Q.2 : Write a program to Print all the elements of a collection in Java.

Code - >

```
import java.util.ArrayList;

public class PrintEleOfCollection {
    public static void main(String[] args) {
        ArrayList<Integer> al = new ArrayList<>();
        al.add(1);
        al.add(2);
        al.add(3);
        al.add(4);
        al.add(5);
        for (int i=0; i<al.size(); i++){
            System.out.print(al.get(i) + " ");
        }
    }
}
```

Output ->

1 2 3 4 5

Process finished with exit code 0

Q.3 : Write a program in java to join two arraylists into one arraylist.

Code - >

```
import java.util.ArrayList;

public class JoinArrayList {
   public static void main(String[] args) {
      ArrayList<Integer> al1 = new ArrayList<>();
      al1.add(1);
      al1.add(2);
      al1.add(3);
      al1.add(4);
      al1.add(5);
      ArrayList<Integer> al2 = new ArrayList<>();
      al2.add(10);
      al2.add(9);
      al2.add(8);
      al2.add(7);
      al1.addAll(al2);
      System.out.println("Joined al1 and al2 in al1");

      for (int i=0; i<al1.size(); i++){
         System.out.print(al1.get(i) + " ");
      }

   }
}
```

Output ->

Joined al1 and al2 in al1

1 2 3 4 5 10 9 8 7

Process finished with exit code 0

Q.4 : Write a program in java make a arraylist and do certain operation

1. reverse the arraylist

2. sort the arraylist.

3. remove elements of arraylist.

Code - >

```java
import java.util.ArrayList;
import java.util.Collections;
public class FunctionsOfArraylist {
    public static void main(String[] args) {
        ArrayList<Integer> al = new ArrayList<>();
        al.add(10);
        al.add(2);
        al.add(9);
        al.add(1);
        al.add(5);
        System.out.print("Initially arraylist is :  ");
        for (int i=0; i<al.size(); i++){
            System.out.print(al.get(i) + " ");
        }
        System.out.println();

        System.out.print("reversing arrayList using Collection operations :  ");
        Collections.reverse(al);
        for (int i=0; i<al.size(); i++){
            System.out.print(al.get(i) + " ");
        }
        System.out.println();

        System.out.print("sorting arrayList using Collection operations :  ");
        Collections.sort(al);
        for (int i=0; i<al.size(); i++){
            System.out.print(al.get(i) + " ");
        }
        System.out.println();
        al.removeAll(al);
        System.out.print("size of arraylist becomes 0 after we remove all elements :  ");
        System.out.println(al.size());

    }
}
```

Output ->

Initially arraylist is : 10 2 9 1 5

reversing arrayList using Collection operations : 5 1 9 2 10

sorting arrayList using Collection operations : 1 2 5 9 10

size of arraylist becomes 0 after we remove all elements : 0

Process finished with exit code 0