EX-8
ArrayList
==========
1. Write a program to perform string operations using ArrayList. Write functions for the

```
import java.io.*;
import java.util.*;

class ArrayListEg
{
    public static void main(String args[]) throws IOException
      {
        Scanner obj=new Scanner(System.in);
        int maxsize=10;

        ArrayList<String> a=new ArrayList<String>(maxsize);

        System.out.println("Enter elements and enter -1 to exit");

          do{
            System.out.print("Enter:");
              String str=obj.nextLine();
             if(str.equals("-1"))\
               {
            break;
             }
             a.add(str);
           }while(true);

          System.out.println("After Adding "+a);
          a.add("hello");
          System.out.println("After appending 'hello' at end "+a);

          a.add(2,"hey");
          System.out.println("After Inserting 'hey at index 2 "+a);
          System.out.println("Index of 0 is "+a.indexOf(0));

          a.remove("hey");
          System.out.println("After removing 'hey' "+a);

          System.out.print("Elements starting with 'a':");
           for(int i=0;i<a.size();i++)
            {
                  if(a.get(i).charAt(0)=='a')
                        System.out.print(a.get(i)+" ");
            }
            System.out.print("\nElements contaning with 'he':");
            for(int k=0;k<a.size();k++)
            {
                  if(a.get(k).contains("he"))
                        System.out.print(a.get(k)+" ");
            }

            String temp1,temp2;
            for(int i=0;i<a.size();i++)
            {
                  for(int j=0;j<a.size()-i-1;j++)
                  {
                        if(a.get(j).compareTo(a.get(j+1))>0)
                        {
                              temp1=a.get(j);
                              temp2=a.get(j+1);
                              a.set(j+1,temp1);
```

```
                            a.set(j,temp2);
                        }
                    }
              }
          System.out.println("\nAfter Sorting "+a);

          a.set(0,"First");
          System.out.println("After replacing first element "+a);

            Set<String> withodup=new LinkedHashSet<String>(a);
          System.out.println("After removing duplicates "+withodup);
      }
}
```

```
OUTPUT:
cs1050@u11:~/Desktop$ javac ArrayListEg.java
cs1050@u11:~/Desktop$ java ArrayListEg
Enter elements and enter -1 to exit
Enter:sub
Enter:mud
Enter:sed
Enter:gru
Enter:bug
Enter:sil
Enter:-1
After Adding [sub, mud, sed, gru, bug, sil]
After appending 'hello' at end [sub, mud, sed, gru, bug, sil, hello]
After Inserting 'hey at index 2 [sub, mud, hey, sed, gru, bug, sil, hello]
Index of 0 is -1
After removing 'hey' [sub, mud, sed, gru, bug, sil, hello]
Elements starting with 'a':
Elements contaning with 'he':hello
After Sorting [bug, gru, hello, mud, sed, sil, sub]
After replacing first element [First, gru, hello, mud, sed, sil, sub]
After removing duplicates [First, gru, hello, mud, sed, sil, sub]
```

```
==========================================================================
```

2.Write a program to get two integer arraylist. Perform the following operations

```
import java.io.*;
import java.util.*;


class Array1
{
    public static void main(String[] args)
                        throws IOException
    {
        Scanner in=new Scanner(System.in);// size of ArrayList
        int n = 5;
      int s;
        ArrayList<Integer> a1 = new ArrayList<Integer>(n);
    ArrayList<Integer> m = new ArrayList<Integer>(n);
    System.out.println("enter 5 elements array 1");
     for (int i=1; i<=n; i++)
        {
        s=in.nextInt();
        a1.add(s);
        m.add(s);
    }
     System.out.println("enter 5 elements array 2");
    ArrayList<Integer> a2 = new ArrayList<Integer>(n);
     for (int i=1; i<=n; i++)
```

```
        {
        s=in.nextInt();
        a2.add(s);
    }
         System.out.println(a1);
       System.out.println(a2);
             m.addAll(a2); //mergeharshini
    System.out.println("merged\n"+m);


//union
 Set<Integer> set = new HashSet<Integer>();

        set.addAll(a1);
        set.addAll(a2);
  System.out.println("union\n"+set);
//intersection
List<Integer> list = new ArrayList<Integer>();

        for (Integer t : a1) {
            if(a2.contains(t)) {
                list.add(t);
            }
        }
 System.out.println(" intersection\n"+list);


//compare
ArrayList<Integer> listThree = new ArrayList<>(a1);

       boolean isEqual = a2.equals(listThree);      //true
        System.out.println("compared\n"+isEqual);

    }
}



Sample input/output
cs1050@u11:~/Desktop$ java Array1
enter 5 elements array 1
1
2
3
4
5
enter 5 elements array 2
4
5
6
7
8
[1, 2, 3, 4, 5]
[4, 5, 6, 7, 8]
merged
[1, 2, 3, 4, 5, 4, 5, 6, 7, 8]
union
[1, 2, 3, 4, 5, 6, 7, 8]
 intersection
[4, 5]
compared
false

========================================================================
```