PROGRAM 9

Write a program to perform string operations using ArrayList. Write functions for the following:-
a. Append - add at end
b. Insert – add at particular index
c. Search
d. List all string starts with given letter.

```
import java.util.Scanner;
import java.util.ArrayList;
import java.util.Iterator;
class AList
{
	Scanner sc;
	String str;
	public void append(ArrayList AL)
	{
		char ans;
		do
		{
			System.out.println("Enter string:");
			sc = new Scanner(System.in);
			str=sc.next();
			AL.add(str);

			System.out.println("Do u wanna append more strings?");
			ans=sc.next().charAt(0);
		}while(ans=='y'||ans=='Y');
		System.out.println("The array elements are:" +AL);
		System.out.println("The array size is:" +AL.size());
	}
	public void insert(ArrayList AL)
	{
		System.out.println("Enter string:");
		sc = new Scanner(System.in);
```

```
        str=sc.next();

        while(true)
        {
        try
        {
        System.out.println("Enter index at which the string to be inserted:");
                sc=new Scanner(System.in);
                int index = sc.nextInt();
                AL.add(index,str);
                System.out.println("The array elements are:" +AL);
                break;
                }
                catch(Exception e)
                {
                        System.out.println("Invalid index");
                }
      }
}
  public void search(ArrayList AL)
  {
        String searchstr;
        System.out.println("Enter string for searching:");
        sc=new Scanner(System.in);
        searchstr=sc.next();
        boolean found = false;
        Iterator <String> iter = AL.iterator();
        String curitem = "";
        int pos = 0;
        while(iter.hasNext() == true)
        {
                pos=pos+1;
                curitem=(String)iter.next();
                if(curitem.equals(searchstr))
                {
```

```
                        found=true;
                        break;
                    }
                }
                if(found)
                {
                System.out.println(searchstr + "String found in position:" +pos);
                }
                else
                {
                    System.out.println(searchstr + "String not found");
                }
        }
        public void findParticular(ArrayList AL)
        {
                String[] str_list = new String[AL.size()];
                str_list = (String[]) AL.toArray(str_list);

                System.out.println("Enter starting letter to search:"); //Searching
                sc=new Scanner(System.in);
                String searchchar=sc.next();

System.out.println("The string's starting with letter's "  +searchchar + " are:");
                for(int i=0; i<str_list.length; i++)
                {
                    if(str_list[i].startsWith(searchchar))
                    System.out.println(str_list[i]);            }
        }
}
class ArrayListDemo
{
        public static void main(String args[])
        {
        System.out.println("\n---Implementing ArrayList for List of Strings---");
        ArrayList AL = new ArrayList<String>( );
```

```
        AList obj = new AList();
        char ans;
        do
          {
                System.out.println("Main Menu");
                System.out.println("1.Append \n 2.Insert at particular index \n
                3.Search \n 4.List strings");
                System.out.println("Enter your choice");
                Scanner sc = new Scanner(System.in);
                int ch = sc.nextInt();

                switch(ch)
                {
                        case 1: obj.append(AL);
                                break;
                        case 2: obj.insert(AL);
                                break;
                        case 3: obj.search(AL);
                                break;
                        case 4: obj.findParticular(AL);
                                break;
                }
                System.out.println("Do you wanna go to Main Menu?(y/n):");
                ans=sc.next().charAt(0);
           }while(ans=='y'||ans=='Y');
        if(ans=='n'||ans=='N')
        {
          System.out.println("End of the program");
        }
        }
}
```