Expt.no:-4	ARRAY LIST
Date:-16-08-19	

Aim:-

To develop a java application to maintain list of strings using arraylist.
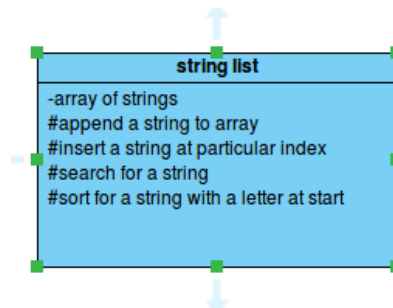
Requirement:-

Develop a java application to create a package String collection and create a class string list with the data members append(string) at the end, Insert-add at particular index, Search-search for a string.

Algorithm:-

Step1:-Develop package for string collection
Step2:-Create a class name string list.
Step3:-Declare a object with add at end and add at particular index.
Step4:-Get the index from user.
Step5:-Print the list of strings starts with given letter.
Step6:-Display all the strings.

Class diagram:-

Program:-

```
 /*
* This program is maintain the list of numbers
* Developed by monica
* Saveetha Engineering College
* monicarajavel26@gmail.com
*
*/
package stringcollection;

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

```java
public class Stringlist {
public static void main(String[] args) {
int option,index,i;
String n,s;
Scanner sc=new Scanner(System.in);
ArrayList alpha;
alpha=new ArrayList();
while(true)
{
System.out.println("1. To add an string at the end");
System.out.println("2. To insert an string at particular index");
System.out.println("3. To search for a string");
System.out.println("4. To display all the string");
System.out.println("5. To List all string starts with given letter");
System.out.println("6. Exit");
System.out.print("Enter your choice:");

option=sc.nextInt();
switch(option)
{
case 1:
        System.out.print("Enter a string:");
        n=sc.next();
        alpha.add(n);
        System.out.println("The given string is added at the end");
        break;
case 2:
        System.out.print("Enter a string:");
        n=sc.next();
        System.out.print("Enter the index:");
        index=sc.nextInt();
        alpha.add(index,n);
        System.out.println("The given string is added at the given index");
        break;
case 3:
        System.out.print("Enter a string:");
        n=sc.next();
        index=alpha.indexOf(n);
        if(index<0)
        {
        System.out.println("The given string is not available in the list");
        }else
        {
        System.out.printf("The string %s is found at the index %s\n",n,index);
        }
        break;
case 4:
        System.out.println("The available string are:");
        for(i=0;i<alpha.size();i++) {
        System.out.println(alpha.get(i));
        }
        break;
```

```java
case 5:
        {
        System.out.println("enter string starting letter");
        s=sc.next();
        for(i=0;i<alpha.size();i++) {
        if (((String) alpha.get(i)).startsWith(s)){
        System.out.println(alpha.get(i));
        }
        }
        break;
        }
case 6:
        System.out.println("Thankyou for using string list application !!!");
        break;
        default:
        System.out.println("Please enter a valid number !!!");
        }
        if(option==6)
        {
        break;
        }
}

}
}
```

Output:-

```
1. To add an string at the end
2. To insert an string at particular index
3. To search for a string
4. To display all the string
5. To List all string starts with given letter
6. Exit
Enter your choice:1
Enter a string:moni
The given string is added at the end
1. To add an string at the end
2. To insert an string at particular index
3. To search for a string
4. To display all the string
5. To List all string starts with given letter
6. Exit
Enter your choice:1
Enter a string:Tamil
The given string is added at the end
1. To add an string at the end
2. To insert an string at particular index
3. To search for a string
4. To display all the string
5. To List all string starts with given letter
6. Exit
```

Enter your choice:2
Enter a string:Harini
Enter the index:0
The given string is added at the given index
1. To add an string at the end
2. To insert an string at particular index
3. To search for a string
4. To display all the string
5. To List all string starts with given letter
6. Exit
Enter your choice:4
The available string are:
Harini
moni
Tamil
1. To add an string at the end
2. To insert an string at particular index
3. To search for a string
4. To display all the string
5. To List all string starts with given letter
6. Exit
Enter your choice:

Result:-

Thus the java console application is developed to maintain a list of numbers using arraylist.