EXP NO:04	
DATE:16.08.19	**ARRAY LIST**

AIM:
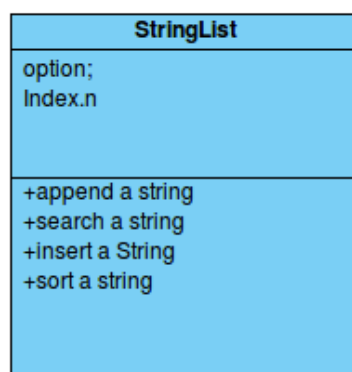
To develope a java application to generate Array of string.

Requriment:

1.To add a string to array at the end.
2.To insert a string at particular index.
3.To search for a string in array.
4.To sort a string with a particular letter.

Algorithm:

Step1: Declare a package Stringcollection.
Step2: Declare a class name StringList.
Step3: Declare Array of string structure.
Step4: Define the requirement in diffenence case.
Step5: Declare case1 append string into the array.
Step6: Declare case2 insert any string at a particular index
Step7: Declare and specify the condition for applying the different cases.
Step8 :Display the result.

Class diagram:

StringList
option;
Index.n
+append a string
+search a string
+insert a String
+sort a string

Program:

```
/****
 * Program for shape

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 */


package strincollection;

import java.util.*;



public class Stringlist {

    public static void main(String[] args) {
        int option;
        String n;
        int index;
        int i;
        String a;
        Scanner sc=new Scanner(System.in);
        ArrayList<String> nums;


        nums=new ArrayList<String>();

        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 with letter");
          System.out.println("5. display all");
          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();
             nums.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();
```

```java
            System.out.print("Enter the index:");
            index=sc.nextInt();
            nums.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=nums.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("Enter a letter");
            a=sc.next();

            for(i=0;i<nums.size();i++)
            {
                if(nums.get(i).startsWith(a))
                {
                    System.out.println(nums.get(i));
                }

            }
            break;
        case 5:
            System.out.println("The available strings are:");
            for(i=0;i<nums.size();i++)
            {
                System.out.println(nums.get(i));
            }
            break;
         case 6:
            System.out.println("Thankyou for using number list application !!!");
            break;
        default:
            System.out.println("Please enter a valid Sting!!!");
        }

        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 with letter
5. display all
6. Exit
Enter your choice:1
Enter a String:raja
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 with letter
5. display all
6. Exit
Enter your choice:1
Enter a String:rani
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 with letter
5. display all
6. Exit
Enter your choice:1
Enter a String:krishna
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 with letter
5. display all
6. Exit
Enter your choice:1
Enter a String:radha
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 with letter
5. display all
6. Exit
Enter your choice:2
Enter a String:raji
Enter the index:2
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 with letter
5. display all
6. Exit
Enter your choice:4
Enter a letter
ram
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 with letter
5. display all
6. Exit
Enter your choice:5
The available strings are:
raja
rani
raji
krishna
radha
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 with letter
5. display all
6. Exit
```

Result:

Thus program for Arraylist is successfully created by Java program.