Ex No: 4	
Date:	ARRAY LIST
16/08/2019	

AIM:

* To create an array of strings and append a string at the end and search for a string to sort a string from array.

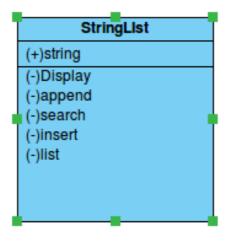
REQUIREMENTS:

- * To add a string to the array at the end.
- * To insert a string at particular index.
- * To search for a string in array.
- * To sort a string with a particular index.

ALGORITHM:

- 1. Create a package stringcollection.
- 2. Create a class StringList.
- 3. Declare array of string structure.
- 4. Define the requirement in different cases.
- 5. Declare case(1) for appending a string to the array.
- 6. Declare case(2) for inserting a string at a particular index.
- 7. Declare case(3) for searching a string.
- 8. Declare case(4) to display all the strings starts with given letter.
- 9. Declare case(5) to display all the strings.
- 10. Stop.

CLASS DIAGRAM:



PROGRAM:

```
/***
* EXPERIMENT-04
*developed by U.TAMILSELVAN
*Saveetha Engineering College
*/
package Stringcollection;
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();
                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++)</pre>
                     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++)</pre>
                     System.out.println(nums.get(i));
                break;
            case 6:
                System.out.println("Thankyou for using string 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:tamil
The given String is added at the end
1. To add an String % \left( 1\right) =\left( 1\right) \left( 1\right)  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:selvan
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 with letter
5. display all
6. Exit
Enter your choice:3
Enter a String:tamil
The String tamil is found at the index 1
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:
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 with letter
5. display all
6. Exit
Enter your choice:5
```

The available strings are:

selvan 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 with letter 5. display all 6. Exit Enter your choice:6

Thankyou for using string list application !!!

RESULT:

Thus the Java program to create ArrayList using StringList is written and executed successfully.