Magic Touch(---RETIRED---)

Grade settings: Maximum grade: 100
Disable external file upload, paste and drop external content: Yes
Based on: Magic Touch(---RETIRED---)
Run: Yes **Evaluate**: Yes
Automatic grade: Yes

Magic Touch is a well-known AC Maintenance company across the city. They wanted to get the Service code based on the AC type. The manager intimates a software developer to help in their process. You, being the software developer, develop a Java program based on the requirement.

Component Specification: ACMaintenanceMain Class

Type (Class)	Attributes	Methods
ACMaintenanceMain	private Map<String, String> **recordMap**	Getter and setter methods for the attribute are included in the code skeleton.

Note: Here the recordMap, holds the Key as serviceCode and Value as acType.

Requirement 1: Find the number of records based on the given acType.

Type (Class)	Methods	Responsibilities
ACMaintenanceMain	public int **findNumberOfRecordsBasedOnTheACType(** String acType)	This method accepts acType as an argument. If the acType matches the acType present in the Map, it must count the records and return the same. Else return -1. *Condition: acType is a case-insensitive*

Requirement 2: Filter the Service codes based on the acType.

Type (Class)	Methods	Responsibilities
ACMaintenanceMain	public List<String> **findServiceCodesBasedOnACType(** String acType)	This method filters the service codes with the acType as specified in the parameter and returns the list of service codes. *Condition: acType is a case-insensitive*

You are provided with the main method as code template and it is excluded from evaluation.

Note:

- In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user, and the rest of the text represents the output.
- Ensure to follow the object-oriented specifications provided in the question description.

- Ensure to provide the names for the classes, attributes, and methods as specified in the question description.
- Adhere to the code template, if provided.

Sample Input/Output 1:

Enter number of records to be added

3

Enter the records (Service code: AC type)

CVW:Window

ASF:Split

AJS:Window

Enter the AC type to be searched

window

The Service codes based on window are 2

Enter the AC Type to identify the Service codes

split

Service codes based on the split are

ASF

Sample Input/Output 2:

Enter number of records to be added

2

Enter the records (Service code: AC type)

SJH:Window

JAS:Split
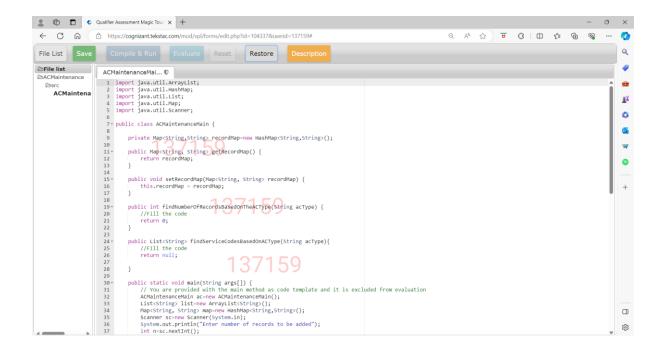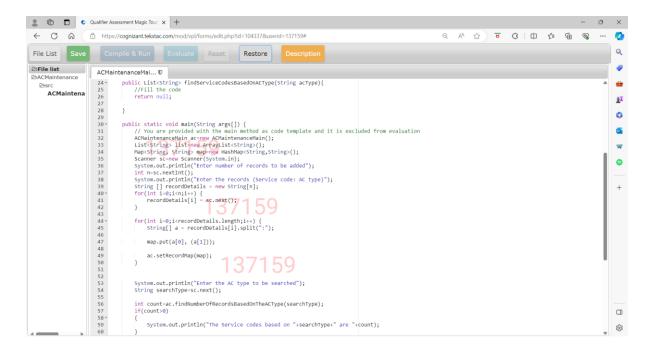
Enter the AC type to be searched

FloorMounted

No service codes were found for FloorMounted

Enter the AC Type to identify the Service codes

Smart

No service codes were found for the type Smart

File List | Save | Compile & Run | Evaluate | Reset | Restore | Description

ACMaintenanceMai...

```java
1  import java.util.ArrayList;
2  import java.util.HashMap;
3  import java.util.List;
4  import java.util.Map;
5  import java.util.Scanner;
6
7  public class ACMaintenanceMain {
8
9      private Map<String,String> recordMap=new HashMap<String,String>();
10
11     public Map<String, String> getRecordMap() {
12         return recordMap;
13     }
14
15     public void setRecordMap(Map<String, String> recordMap) {
16         this.recordMap = recordMap;
17     }
18
19     public int findNumberOfRecordsBasedOnTheACType(String acType) {
20         //Fill the code
21         return 0;
22     }
23
24     public List<String> findServiceCodesBasedOnACType(String acType){
25         //Fill the code
26         return null;
27
28     }
29
30     public static void main(String args[]) {
31         // You are provided with the main method as code template and it is excluded from evaluation
32         ACMaintenanceMain ac=new ACMaintenanceMain();
33         List<String> list=new ArrayList<String>();
34         Map<String, String> map=new HashMap<String,String>();
35         Scanner sc=new Scanner(System.in);
36         System.out.println("Enter number of records to be added");
37         int n=sc.nextInt();
```

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ACMaintenanceMai...

```java
24     public List<String> findServiceCodesBasedOnACType(String acType){
25         //Fill the code
26         return null;
27
28     }
29
30     public static void main(String args[]) {
31         // You are provided with the main method as code template and it is excluded from evaluation
32         ACMaintenanceMain ac=new ACMaintenanceMain();
33         List<String> list=new ArrayList<String>();
34         Map<String, String> map=new HashMap<String,String>();
35         Scanner sc=new Scanner(System.in);
36         System.out.println("Enter number of records to be added");
37         int n=sc.nextInt();
38         System.out.println("Enter the records (Service code: AC type)");
39         String [] recordDetails = new String[n];
40         for(int i=0;i<n;i++) {
41             recordDetails[i] = sc.next();
42         }
43
44         for(int i=0;i<recordDetails.length;i++) {
45             String[] a = recordDetails[i].split(":");
46
47             map.put(a[0], (a[1]));
48
49             ac.setRecordMap(map);
50         }
51
52
53         System.out.println("Enter the AC type to be searched");
54         String searchType=sc.next();
55
56         int count=ac.findNumberOfRecordsBasedOnTheACType(searchType);
57         if(count>0)
58         {
59             System.out.println("The Service codes based on "+searchType+" are "+count);
60         }
```

```java
48
49              ac.setRecordMap(map);
50          }
51
52
53          System.out.println("Enter the AC type to be searched");
54          String searchType=sc.next();
55
56          int count=ac.findNumberOfRecordsBasedOnTheACType(searchType);
57          if(count>0)
58          {
59              System.out.println("The Service codes based on "+searchType+" are "+count);
60          }
61          else
62          {
63              System.out.println("No service codes were found for "+searchType);
64          }
65
66          System.out.println("Enter the AC Type to identify the Service codes");
67          String acType=sc.next();
68
69          list=ac.findServiceCodesBasedOnACType(acType);
70
71
72          if(list.size()>=1) {
73              System.out.println("Service codes based on the "+acType+" are ");
74              for(String s:list)
75              {
76                  System.out.println(s);
77              }
78          }
79          else
80              System.out.println("No service codes were found for the type "+acType);
81      }
82
83  }
84
```