

Identify the Function Represented by a Calculator Key

Problem Statement

In GUI-based calculators, each key or button corresponds to a particular mathematical function. For example:

- '+' stands for "Addition"
- 'R' stands for "Square Root"
- 'F' stands for "Reciprocal"

In this task, you are given a calculator key (character), and your goal is to **map it to its corresponding function name** using a helper method named `mapFunction(char key)`.

This method is already implemented and returns the function name as a string.

You are required to write just **one line of code** that calls this method with the given key and prints the result.

Private Test cases used for evaluation	Input	Expected Output	Actual Output	Status
Test Case 1	F	Reciprocal	Reciprocal	Passed

The due date for submitting this assignment has passed.
1 out of 1 tests passed.
You scored 100.0/100.

Assignment submitted on 2025-04-16, 23:29 IST

Your last recorded submission was :

```
1 import java.util.Scanner;
2
3 public class W12_P2 {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6
7         // Read a single character input representing a calculator function key
8         char key = sc.next().charAt(0);
9         System.out.print(mapFunction(key));
10        sc.close();
11    }
12
13    // Helper method that maps each calculator key to its function name
14    public static String mapFunction(char key) {
15        switch (key) {
16            case '+': return "Addition";
17            case '-': return "Subtraction";
18            case '*': return "Multiplication";
19            case '/': return "Division";
20            case 'R': return "Square Root";
21            case 'S': return "Square";
22            case 'F': return "Reciprocal";
23            case '=': return "Equals";
24            case 'C': return "Clear";
25            default: return "Unknown Function";
26        }
27    }
28 }
```

Sample solutions (Provided by instructor)

```
1 import java.util.Scanner;
2
3 public class W12_P2 {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6
7         // Read a single character input representing a calculator function key
8         char key = sc.next().charAt(0);
9         System.out.println(mapFunction(key)); // Call the function-mapping method and print the result
10
11        /*
12        Explanation:
13        - The method mapFunction receives a calculator key as input and returns its corresponding function name.
14        - We pass the user input 'key' to this method and print the returned string.
15
16        Final Note:
17        This task demonstrates how programs convert low-level inputs (like characters) into meaningful user-facing actions.
18        Although the solution involves only one line of code, it ties together your understanding of method usage, return types,
19        Reaching this final stage of the course reflects consistent effort and growth.
20        We encourage you to explore how each helper method contributes to the program's clarity and structure.
21        Well done on completing Week 12.
22        */
23        sc.close();
24    }
25
26    // Helper method that maps each calculator key to its function name
27    public static String mapFunction(char key) {
28        switch (key) {
29            case '+': return "Addition";
30            case '-': return "Subtraction";
31            case '*': return "Multiplication";
32            case '/': return "Division";
33            case 'R': return "Square Root";
34            case 'S': return "Square";
35            case 'F': return "Reciprocal";
36            case '=': return "Equals";
37            case 'C': return "Clear";
38            default: return "Unknown Function";
39        }
40    }
41 }
```