# Rajalakshmi Engineering College

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## 2024_28_III_OOPS Using Java Lab

## 2028_REC_OOPS using Java_Week 10_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

### Section 1 : COD

1. Problem Statement

John is organizing a fruit festival, and the quantities of various fruits are stored in a HashMap where fruit names are keys and quantities are values.

Help him develop a program to find the total quantity of fruits for the festival by summing up the values in the HashMap.

***Input Format***

The input consists of fruit quantities in the format 'fruitName:quantity', where fruitName is the name of the fruit(a string), and quantity is a double value representing the quantity.

The input is terminated by entering "done".

***Output Format***

The output prints a double value, representing the sum of values in the HashMap, rounded off to two decimal places.

If the value is not numeric, print "Invalid input".

If any special characters other than ':' are entered, print "Invalid format".

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: Banana:15.2
Orange:56.3
Mango:47.3
done

Output: 118.80

***Answer***

```
// You are using Java
import java.util.HashMap;
import java.util.Map;
import java.util.Scanner;

class FruitFestivalTotal {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        Map<String, Double> fruitMap = new HashMap<>();
        double total = 0.0;

        while (sc.hasNextLine()) {
            String line = sc.nextLine().trim();
            if (line.equals("done")) {
                System.out.printf("%.2f%n", total);
                return;
            }

            // Validate presence of exactly one ':'
            int colonCount = countChar(line, ':');
            if (colonCount != 1) {
                System.out.println("Invalid format");
```

```
            return;
        }

        String[] parts = line.split(":", -1);
        if (parts.length != 2) {
            System.out.println("Invalid format");
            return;
        }

        String fruitName = parts[0];
        String quantityStr = parts[1];

        // Validate fruitName: only letters (A-Z, a-z), length 1–20
        if (fruitName.isEmpty() || fruitName.length() > 20 || !
fruitName.matches("[A-Za-z]+")) {
            System.out.println("Invalid format");
            return;
        }

        // Validate quantity format: numeric double (with optional decimal), and
range 1.0–100.0
        // Reject if quantityStr contains any special characters other than digits
and '.'
        if (!quantityStr.matches("\\d+(\\.\\d+)?")) {
            System.out.println("Invalid input");
            return;
        }

        double qty;
        try {
            qty = Double.parseDouble(quantityStr);
        } catch (NumberFormatException e) {
            System.out.println("Invalid input");
            return;
        }

        if (qty < 1.0 || qty > 100.0) {
            System.out.println("Invalid input");
            return;
        }

        // Store and sum
```

```
            fruitMap.put(fruitName, qty);
            total += qty;
        }
    }

    private static int countChar(String s, char c) {
        int count = 0;
        for (int i = 0; i < s.length(); i++) {
            if (s.charAt(i) == c) count++;
        }
        return count;
    }
}
```

***Status :*** Correct ***Marks : 10/10***