

# Rajalakshmi Engineering College

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Branch: REC

Department: AI & ML - Section 1

Batch: 2028

Degree: B.E - AI & ML

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 1\_Q8

Attempt : 1

Total Mark : 10

Marks Obtained : 5

### Section 1 : Coding

#### 1. Problem Statement

In the Kingdom of Finance, the royal treasury is managed by the treasurer, Sir Cedric. Sir Cedric tracks the daily expenses of the kingdom using an expense report that lists three major categories: food, clothing, and utilities. However, the King wants to know if the average daily expense is greater than at least two of these categories to ensure the kingdom is spending wisely.

Your task is to help Sir Cedric determine if the average daily expense is greater than two of the categories. Specifically, you need to calculate the average of the three expenses and check if it is greater than any two categories.

Note: Use the ternary operator

### ***Input Format***

Three integers a, b, and c represent the daily expenses for food, clothing, and utilities. Each integer is provided on a single line.

### ***Output Format***

The average of the three expenses, rounded to two decimal places.

A message indicating whether the average is greater than at least two of the expense categories.

1. If the average is greater than the two smallest monthly expenses, print "Average is greater than both X and Y," where X and Y are the two smallest expenses.
2. Otherwise, display "Average is not greater than two smallest expenses".

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 4

6

10

Output: 6.67

Average is greater than both 4 and 6

### ***Answer***

```
import java.util.Scanner;  
import java.util.Arrays;
```

```
public class Main {  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);
```

```
        // Read three integers  
        int a = sc.nextInt();  
        int b = sc.nextInt();  
        int c = sc.nextInt();
```

```
        // Calculate average
```

```
double average = (a + b + c) / 3.0;

// Store expenses in array to find two smallest easily
int[] expenses = {a, b, c};
Arrays.sort(expenses); // Now expenses[0] and expenses[1] are smallest
two

// Check if average > both smallest two expenses using ternary operator
String message = (average > expenses[0] && average > expenses[1])
    ? "Average is greater than both " + expenses[0] + " and " + expenses[1]
    : "Average is not greater than two smallest expenses";

// Print average rounded to 2 decimal places
System.out.printf("%.2f %s\n", average, message);
}
```

**Status :** Partially correct

**Marks :** 5/10