

# Rajalakshmi Engineering College

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Branch: REC

Department: AI & ML - Section 4

Batch: 2028

Degree: B.E - AI & ML

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

### 2028\_REC\_OOPS using Java\_Week 2\_Q3

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. Problem Statement

John is a fitness trainer, and he wants to use the BMI calculator to assess the body mass index of his clients. He has a list of clients based on their height and weight.

John plans to write a program to quickly determine the BMI and provide a classification for each client.

If BMI is less than 18.5, the program will classify it as "Underweight" If BMI is between 18.6 and 24.9, the program will classify it as "Normal Weight" If BMI is between 25.0 and 29.9, the program will classify it as "Overweight" If BMI is 30.0 or higher, the program will classify it as "Obese"

Note: Formula to calculate BMI =  $\text{weight}/(\text{height}*\text{height})$

**Input Format**

The first line of input consists of a double value, representing the height of the person in meters.

The second line consists of a double value, representing the weight of the person in kilograms.

### ***Output Format***

The first line of output prints "BMI: " followed by a double (rounded to two decimal places) representing the calculated BMI.

The second line prints "Classification: " followed by a string indicating the BMI category (Underweight, Normal Weight, Overweight, or Obese).

Refer to the sample output for formatting specifications.

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

Input: 1.2

45.2

Output: BMI: 31.39

Classification: Obese

### ***Answer***

```
// You are using Java
import java.util.Scanner;
import java.text.DecimalFormat;

public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        double height = scanner.nextDouble();
        double weight = scanner.nextDouble();

        double bmi = weight / (height * height);
        DecimalFormat df = new DecimalFormat("0.00");
        String formattedBMI = df.format(bmi);

        System.out.println("BMI: " + formattedBMI);

        String classification;
```

```
        classification = (bmi < 18.5) ? "Underweight" :  
            (bmi <= 24.9) ? "Normal Weight" :  
            (bmi <= 29.9) ? "Overweight" :  
            "Obese";  
  
        System.out.println("Classification: " + classification);  
  
        scanner.close();  
    }  
}
```

**Status :** Correct

**Marks :** 10/10