

# Rajalakshmi Engineering College

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Roll no:

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Branch: REC

Department: AI & ML - Section 3

Batch: 2028

Degree: B.E - AI & ML

Scan to verify results



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

### 2028\_REC\_OOPS using Java\_Week 2\_Q1

Attempt : 1

Total Mark : 10

Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

Arun is working on a project to automate the process of determining whether a student has passed or failed based on their subject marks.

He aims to create a simple program that takes positive integers as marks for five subjects from the user. If the average of the marks is greater than or equal to 50, the student has passed the exam. Otherwise, the student has failed.

Help Arun to implement the project.

##### *Input Format*

The input consists of five space-separated integers, representing the marks in five subjects.

### ***Output Format***

The first line of output prints "Average score: " followed by an integer representing the average score.

The second line prints one of the following:

1. If the condition is satisfied, print "The student has passed".
2. Otherwise, the output prints "The student has failed".

Refer to the sample output for formatting specifications.

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

Input: 50 60 70 80 90

Output: Average score: 70

The student has passed

### ***Answer***

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

public class Main {

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        int[] marks = new int[5];

        // Read marks from user input
        for (int i = 0; i < 5; i++) {
            marks[i] = scanner.nextInt();
        }

        // Calculate the average score
        int total = 0;
        for (int mark : marks) {
            total += mark;
        }
    }
}
```

```
int average = total / 5;

// Output the average score
System.out.println("Average score: " + average);

// Determine pass/fail
if (average >= 50) {
    System.out.println("The student has passed");
} else {
    System.out.println("The student has failed");
}

// Close the scanner
scanner.close();
}
```

**Status :** Correct

**Marks :** 10/10

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

### 2028\_REC\_OOPS using Java\_Week 2\_Q2

Attempt : 1

Total Mark : 10

Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

Samantha is a diligent math student who is exploring the world of programming. She is learning Java and has recently studied conditional statements. One day, her teacher gives her an interesting problem to solve, which takes a number as input and checks whether it is a multiple of 5 or 7.

Help her complete the task.

##### *Input Format*

The input consists of a single integer N, representing the number to be checked.

##### *Output Format*

If the number is a multiple of 5 but not 7, the output prints "N is a multiple of 5".

If the number is a multiple of 7, the output prints "N is a multiple of 7".

Otherwise the output prints "N is neither multiple of 5 nor 7" where N is an entered integer.

Refer to the sample output for formatting specifications.

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

Input: 10

Output: 10 is a multiple of 5

### ***Answer***

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

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

        // Input: Read an integer N
        int N = scanner.nextInt();

        // Check if N is a multiple of 5 and not a multiple of 7
        if (N % 5 == 0 && N % 7 != 0) {
            System.out.println(N + " is a multiple of 5");
        }
        // Check if N is a multiple of 7
        else if (N % 7 == 0) {
            System.out.println(N + " is a multiple of 7");
        }
        // If neither
        else {
            System.out.println(N + " is neither multiple of 5 nor 7");
        }

        scanner.close();
    }
}
```

**Status :** Correct

**Marks :** 10/10

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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 = weight/(height\*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;

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

        // Input height in meters
        double height = scanner.nextDouble();

        // Input weight in kilograms
        double weight = scanner.nextDouble();

        // Calculate BMI
        double bmi = weight / (height * height);

        // Round BMI to two decimal places
```

```
bmi = Math.round(bmi * 100.0) / 100.0;

// Determine classification
String classification;
if (bmi < 18.5) {
    classification = "Underweight";
} else if (bmi >= 18.6 && bmi <= 24.9) {
    classification = "Normal Weight";
} else if (bmi >= 25.0 && bmi <= 29.9) {
    classification = "Overweight";
} else {
    classification = "Obese";
}

// Output result
System.out.printf("BMI: %.2f\n", bmi);
System.out.println("Classification: " + classification);

scanner.close();
}
}
```

**Status :** Correct

**Marks :** 10/10