

# Rajalakshmi Engineering College

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Department: CSE - Section 8  
Batch: 2028  
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## 2024\_28\_III\_OOPS Using Java Lab

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

Attempt : 1  
Total Mark : 15  
Marks Obtained : 14

#### Section 1 : MCQ

1. What will be the output of the following code?

```
import java.util.*;

class TernaryOperatorExample {
    public static void main(String[] args) {
        int a = 5, b = 10;
        int result = (a > b) ? a : b;
        System.out.println(result);
    }
}
```

**Answer**

10

**Status : Correct**

**Marks : 1/1**

2. What will be the output of the following program?

```
class DataTypesMCQ {  
    public static void main(String[] args) {  
        int a = 10;  
        double b = 5;  
        System.out.println(a / b);  
    }  
}
```

**Answer**

2.0

**Status :** Correct

**Marks :** 1/1

3. What is the output of the following program?

```
class Arithmetic {  
    public static void main(String[] args) {  
        char ch = 'A';  
        System.out.println(ch);  
    }  
}
```

**Answer**

A

**Status :** Correct

**Marks :** 1/1

4. What will be the output of the following code snippet?

```
import java.util.*;
```

```
class OperatorPrecedenceExample {  
    public static void main(String[] args) {  
        int a = 5, b = 3, c = 2;  
        int result = a + b * c;  
  
        System.out.println(result);  
    }  
}
```

```
}  
}
```

**Answer**

11

**Status :** Correct

**Marks :** 1/1

5. What is the output of the following program?

```
class Demo {  
    public static void main(String[] args) {  
        String text = "Hello, World!";  
        System.out.println(text);  
    }  
}
```

**Answer**

Hello, World!

**Status :** Correct

**Marks :** 1/1

6. What is the output of the following code?

```
class TestClass {  
    public static void main(String[] args) {  
        int a = 5;  
        int b = 10;  
  
        int sum = a + b;  
        int bitwiseAnd = a & b;  
        int bitwiseOr = a | b;  
  
        System.out.println(sum);  
        System.out.println(bitwiseAnd);  
        System.out.println(bitwiseOr);  
    }  
}
```

**Answer**

15015

**Status :** Correct

**Marks :** 1/1

7. What is the output of the following code?

```
import java.util.*;

class RelationalOperatorExample {
    public static void main(String[] args) {
        int x = 8, y = 4;
        boolean result = (x != y);

        System.out.println(result);
    }
}
```

**Answer**

true

**Status :** Correct

**Marks :** 1/1

8. What is the output of the following code?

```
class TestClass {
    public static void main(String[] args) {
        int count = 8;
        count = count ^ 1;

        System.out.println(count);
    }
}
```

**Answer**

9

**Status :** Correct

**Marks :** 1/1

9. What is the output of the following code?

```
class TestClass {  
    public static void main(String[] args) {  
        int a = 10;  
        int b = 3;  
        System.out.println(a / b);  
    }  
}
```

**Answer**

3

**Status :** Correct

**Marks :** 1/1

10. Which of the following is not a primitive data type?

**Answer**

char

**Status :** Wrong

**Marks :** 0/1

11. What is the result of the following expression?

```
import java.util.*;  
  
class ComplexExpressionExample {  
    public static void main(String[] args) {  
        int a = 5, b = 2, c = 3, d = 4;  
        int result = a + b * c / d - b;  
  
        System.out.println(result);  
    }  
}
```

**Answer**

4

**Status :** Correct

**Marks :** 1/1

12. What will be the output of the following code snippet?

```
class DivisionExample {  
    public static void main(String[] args) {  
        double num1 = 10.5;  
        double num2 = 3;  
        int result = (int)(num1 / num2);  
        System.out.println(result);  
    }  
}
```

**Answer**

3

**Status :** Correct

**Marks :** 1/1

13. Which of the following data types is used to store single characters?

**Answer**

char

**Status :** Correct

**Marks :** 1/1

14. Which of the following data types is used to store floating-point numbers with greater precision?

**Answer**

double

**Status :** Correct

**Marks :** 1/1

15. What is the output of the following code?

```
class TestClass {  
    public static void main(String[] args) {  
        int x = 5;  
        int X = 10;
```

```
int sum = x + X;  
int bitwiseResult = x | X;  
  
System.out.println(sum);  
System.out.println(bitwiseResult);  
}  
}
```

**Answer**

1515

**Status :** Correct

**Marks :** 1/1

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q1

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. Problem Statement

Gloria is responsible for monitoring the performance of two machines in a factory. She needs to determine which of the two machines is operating closest to the optimal temperature of 100 degrees Celsius using the relational operator.

Assist Gloria in displaying the machine's temperature, which is closer to 100, and the difference from 100.

#### ***Input Format***

The first line of input consists of an integer N, representing the temperature of the first machine.

The second line consists of an integer M, representing the temperature of the second machine.



### **Output Format**

The output prints "The integer closer to 100 is X with a difference of Y" where X is the temperature of the closer machine and Y is the difference from 100.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 90

80

Output: The integer closer to 100 is 90 with a difference of 10

### **Answer**

```
import java.io.*;
import java.util.Scanner;
class Main1{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        int N=s.nextInt();
        int M=s.nextInt();
        int diffn=0;
        int diffm=0;
        if(N>=100){
            diffn=N-100;
        }
        else{
            diffn=100-N;
        }
        if(M>=100){
            diffm=M-100;
        }
        else
        {
            diffm=100-M;
        }
        if(diffn<diffm){
            System.out.println("The integer closer to 100 is" +N+ "with a difference
of"+diffn);
        }
    }
}
```

```
        else
        {
            System.out.println("The integer closer to 100 is" +M+ "with a difference
of"+diffm);
        }

    }
}
```

**Status :** Correct

**Marks : 10/10**

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q2

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. PROBLEM STATEMENT:

Dave got two students who want help with their doubt. Each hands out an integer and wants to find if one integer is positive while the other is not divisible by 3. Write a program to achieve this and conclude for them.

#### ***Input Format***

The first line of input represents the first integer.

The second line of input represents the second integer.

#### ***Output Format***

The output should display as "One of the integers is positive while the other is not divisible by 3." or "Neither of the integers meets the condition."

Refer to the sample output for the formatting specifications.

**Sample Test Case**

Input: 4

3

Output: One of the integers is positive while the other is not divisible by 3.

**Answer**

```
import java.io.*;
import java.util.Scanner;
class Main{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        int a=s.nextInt();
        int b=s.nextInt();
        if((b>=0)&&(a%3!=0))
        {
            System.out.println("One of the integers is positive while the other is not
divisible by 3.");
        }
        else
        {
            System.out.println("Neither of the integers meets the condition.");
        }
    }
}
```

**Status : Correct**

**Marks : 10/10**

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q3

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. Problem statement

Manoj, a developer at MoneyMatters Inc., is working on improving the company's financial system. He needs to create a program that takes an integer input, converts it into a double, and displays both the original integer and the converted double value.

#### ***Input Format***

The input consists of a single integer representing a monetary amount.

#### ***Output Format***

The first line of the output displays the "Original Integer: ", followed by an integer representation of the input value.

The second line displays the "Converted Double: ", followed by a double value representing the input as a decimal value.

Refer to the sample output for the formatting specifications.

**Sample Test Case**

Input: 20

Output: Original Integer: 20

Converted Double: 20.0

**Answer**

```
import java.io.*;
import java.util.Scanner;
class Main1{
    public static void main(String[] args)
    {
        Scanner s= new Scanner(System.in);
        int a=s.nextInt();
        System.out.println("Original Integer: "+a);
        double b=a;
        System.out.println("Converted Double: "+b);
    }
}
```

**Status :** Correct

**Marks :** 10/10

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q4

Attempt : 1

Total Mark : 10

Marks Obtained : 10

### Section 1 : Coding

#### 1. Problem Statement

Vishal and Arun are discussing the properties of numbers. Vishal gives Arun two integers. He asks Arun to check if the sum of these two numbers is a multiple of their product.

Can you assist Arun and determine whether the sum is a multiple of the product?

#### ***Input Format***

The input consists of two space-separated integers.

#### ***Output Format***

The output prints:

1. "Sum is Multiple of Product" if the sum of the two numbers is divisible by their product.
2. "Sum is Not Multiple of Product" otherwise.

Refer to the sample output for formatting specifications.

**Sample Test Case**

Input: 1 2

Output: Sum is Not Multiple of Product

**Answer**

```
import java.io.*;
import java.util.Scanner;
class Add{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        int a=s.nextInt();
        int b=s.nextInt();
        int sum=a+b;
        int product=a*b;
        if(sum%product==0){
            System.out.println("Sum is Multiple of Product");
        }
        else
        {
            System.out.println("Sum is Not Multiple of Product");
        }
    }
}
```

**Status :** Correct

**Marks :** 10/10



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

### 2028\_REC\_OOPS using Java\_Week 1\_Q5

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement:

Emily has a beautiful circular garden in her backyard. She's interested in calculating two important measurements for her garden: the circumference and the area. To do this, she needs a program that can take the radius of her circular garden as input and provide the calculated circumference and area as output. The formulas she should use are as follows:

To calculate the circumference (C) of a circle, you can use the formula:

$$C = 2 * \pi * r$$

$$A = \pi * r^2$$

Where:

C represents the circumference.

A represents the area.

$\pi$  (pi) is approximately 3.14159.

r is the radius of the circle.

Emily is not a programmer, and she needs your help to create a program that will make these calculations for her garden.

### ***Input Format***

The first line of input contains a single double-point number radius, representing the radius of the circle.

### ***Output Format***

The output should consist of two lines:

The first line should print the circumference of the circle rounded to 2 decimal places, followed by the unit "meters".

The second line should print the area of the circle rounded to 2 decimal places, followed by the unit "square meters".

Refer to the sample output for formatting specifications.

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

Input: 3.0

Output: Circumference: 18.85 meters

Area: 28.27 square meters

### ***Answer***

```
import java.io.*;
import java.util.Scanner;
class Main1{
    public static void main(String[] args)
    {
        Scanner s=new Scanner(System.in);
        double radius=s.nextDouble();
```

```
final double PI=3.14159;  
double cir=2*PI*radius;  
double area=PI*radius*radius;  
System.out.printf("Circumference: %.2f meters\n",cir);  
System.out.printf("Area: %.2f square meters",area);  
}  
}
```

**Status :** Correct

**Marks :** 10/10

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q6

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### Section 1 : Coding

##### 1. Problem Statement

Joey is learning about bitwise operations and is working on a project that involves extracting specific bits from integers. He needs to write a program that takes an integer and the number of bits N as input and outputs the value of the lowest N bits of the integer.

Help Joey in his project to understand and visualize how bitwise operations work in practical scenarios.

##### ***Input Format***

The first line of input consists of an integer X, representing the given integer.

The second line consists of an integer N, representing the number of bits to extract.

### **Output Format**

The output displays "Result: " followed by an integer representing the value of the lowest N bits of the given integer.

Refer to the sample output for formatting specifications.

### **Sample Test Case**

Input: 85

2

Output: Result: 1

### **Answer**

```
import java.io.*;
import java.util.Scanner;
class add{
    public static void main(String[] args){
        Scanner s=new Scanner(System.in);
        int x=s.nextInt();
        int n=s.nextInt();
        int mask=(1<<n)-1;
        int r=x&mask;
        System.out.println("Result: "+r);
    }
}
```

**Status : Correct**

**Marks : 10/10**

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

### 2028\_REC\_OOPS using Java\_Week 1\_Q7

Attempt : 1  
Total Mark : 10  
Marks Obtained : 2.5

#### Section 1 : Coding

##### 1. Problem Statement:

Miles is working on a program that involves analyzing two integers. He wants to check if either one of the integers is both:

Less than or equal to zero, and Odd. Can you help him create a program that identifies whether either of the integers meets these conditions?

##### ***Input Format***

The input consists of two integers on separate lines, denoted as 'input1' and 'input2'.

##### ***Output Format***

A single line with a boolean result (either 'true' or 'false') indicating whether either 'input1' or 'input2' is both less than or equal to zero and odd.

Refer to the sample output for format specifications

**Sample Test Case**

Input: -45

10

Output: true

**Answer**

```
import java.io.*;
import java.util.Scanner;
class Main{
    public static void main(String[] args)
    {
        Scanner s=new Scanner(System.in);
        int a=s.nextInt();
        int b=s.nextInt();
        if((a<=0 && a%3==0)||(b<=0 && b%3==0))
        {
            System.out.println("true");
        }
        else
        {
            System.out.println("false");
        }
    }
}
```

**Status :** Partially correct

**Marks :** 2.5/10