GOVERNMENT OF KERALA

DEPARTMENT OF TECHNICAL EDUCATION

# RAJIV GANDHI INSTITUTE OF TECHNOLOGY

(GOVT. ENGINEERING COLLEGE)

KOTTAYAM - 686501


# RECORD BOOK

# GOVERNMENT OF KERALA

# DEPARTMENT OF TECHNICAL EDUCATION

# RAJIV GANDHI INSTITUTE OF TECHNOLOGY

# (GOVT. ENGINEERING COLLEGE)

# KOTTAYAM - 686501

**20MCA132**

**OBJECT ORIENTED PROGRAMMING LAB**

**Name: JOEL S RAPHAEL**

**Branch: Master of Computer Applications**

**Semester: 2**

**Roll No: 30**

**CERTIFIED BONAFIDE RECORD WORK DONE BY**

**Reg No.** .....

**STAFF IN CHARGE**

**INTERNAL EXAMINER** **EXTERNAL EXAMINER**

# Contents

**Experiment No: 1** **Date: 11/02/2025**

# Even-Odd Classification

## Aim

Write a Java program to check whether an input number is even or odd.

## Algorithm

1. Start
2. Read the input.
3. Use an if-else statement to check if the number is even or odd.
4. Print the result.
5. Stop

## Source Code

```java
import java.util.Scanner;

public class EvenOdd{
        public static  void main(String[] args){
                Scanner scanner = new Scanner(System.in);
                System.out.print("Enter a number: ");
                int number = scanner.nextInt();

                if(number % 2 == 0){
                        System.out.println(number + " is even.");
                }else{
                        System.out.println(number + " is odd.");
                }
}
}
```

## Result

The program was executed successfully.
When the input ”5” was provided, the output was: ”5 is odd”

```
Enter a number: 5
5 is odd.
```

**Experiment No: 2** **Date: 11/02/2025**

# Sum of First n Natural Numbers

## Aim

Write a Java program to compute the sum of the first n natural numbers.

## Algorithm

1.Start
2.Declare an integer variable n and sum initialized to 0.
3.Display the message "Enter n:" to prompt the user to enter a number.
4.Read the integer value n from the user input.
    For i = 1 to i = n:

    Add i to sum (i.e., sum = sum + i).

5.After the loop ends, display the value of sum as the result.
6.End

## Source Code

```
import java.util.Scanner;
public class naturalnos
{
        public static void main(String arg[]){
                Scanner s=new Scanner(System.in);
                System.out.print("Enter n:");
                int n=s.nextInt();
    int sum=0;
                for(int i=1;i<=n;i++)
                        sum=sum+i;
                System.out.print("Sum="+sum);
        }
}
```

## Result

The program was executed successfully.
When the input ”5” was provided, the output was: ”15”

```
Enter n:5
Sum=15
```

**Experiment No: 3** **Date: 11/02/2025**

# Factorial of a Number

## Aim

Write a Java program to compute the factorial of a given number.

## Algorithm

1. Start
2. Take an integer as input from the user.
3. Compute the factorial using either a for loop or a while loop.
4. Print the result.
5. Stop

## Source Code

```
import java.util.Scanner;
public class factorial
{
        public static void main(String arg[]){
                Scanner s=new Scanner(System.in);
                System.out.print("Enter the number:");
                int n=s.nextInt();
                int fact=1;
                for(int i=1;i<=n;i++)
                        fact=fact*i;
                System.out.print("Factorial="+fact);
        }
}
```

## Result

The program was executed successfully.
When the input ”5” was provided, the output was: ”120”

```
Enter the number:5
Factorial=120
```

**Experiment No: 4** **Date: 11/02/2025**

# Assigning Grades Based on Numeric Score

## Aim

Write a Java program that assigns a grade based on a numeric score.

## Algorithm

1. Start
2. Take a numeric score (0{100) as input from the user.
3. Use either an if-else if-else structure or a switch-case statement to assign a grade:
    - 90{100 → A
    - 80{89 → B
    - 70{79 → C
    - 60{69 → D
    - Below 60 → F
4. Print the assigned grade.
5. Stop

## Source Code

```
import java.util.Scanner;
public class grade{
        public static void main(String arg[]){
                Scanner s=new Scanner(System.in);
                System.out.print("Enter the mark:");
                int m=s.nextInt();
                if(m>=90){
                        System.out.print("Grade A");
                }
                else if(m>=80){
                        System.out.print("Grade B");
                }
    else if(m>=70){
                        System.out.print("Grade C");
                }
    else if(m>=60){
                        System.out.print("Grade D");
                }
    else{
                        System.out.print("Grade F");
                }
        }
}
```

## Result

The program was executed successfully.
When the input ”67” was provided, the output was: ”Grade D”

```
Enter the mark:67
Grade D
```