DAY-1 TASK

1)Print all even numbers between 1 and 100

```java
public class EvenNumbers {
    public static void main(String[] args) {
        System.out.println("Even numbers from 1 to 100:");
        for (int i = 1; i <= 100; i++) {
            if (i % 2 == 0) {
                System.out.print(i + " ");
            }
        }
    }
}
```

Output:

Even numbers from 1 to 100:
2 4 6 8 10 12 ... 98 100

2) Simple interest calculator using if

```java
public class SimpleInterest {
    public static void main(String[] args) {
        double principal = 10000;
        double rate = 5;
        double time = 2;

        if (principal > 0 && rate > 0 && time > 0) {
            double interest = (principal * rate * time) / 100;
            System.out.println("Simple Interest = " + interest);
        }
    }
}
```

Output:

Simple Interest = 1000.0

3)check for leap year using the method

```java
import java.util.Scanner;

public class LeapYearCheck {
```

```java
    // Method to check leap year
    static boolean isLeapYear(int year) {
        // Leap year if divisible by 4 and not 100, or divisible by 400
        return (year % 4 == 0 && year % 100 != 0) || (year % 400 == 0);
    }

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

        System.out.print("Enter a year: ");
        int year = scanner.nextInt();

        if (isLeapYear(year)) {
            System.out.println(year + " is a Leap Year.");
        } else {
            System.out.println(year + " is NOT a Leap Year.");
        }

        scanner.close();
    }
}
```

Output:

Enter a year: 2024
2024 is a Leap Year.

Or

Enter a year: 1900
1900 is NOT a Leap Year.

4)MAIN PROGRAM : Menu-driven calculator using switch and method(add,sub,mul,div)


```java
:
import java.util.Scanner;

public class Calculator {

    // Method to add two numbers
    static double add(double a, double b) {
        return a + b;
    }

    // Method to subtract two numbers
    static double sub(double a, double b) {
```

```java
        return a - b;
    }

    // Method to multiply two numbers
    static double mul(double a, double b) {
        return a * b;
    }

    // Method to divide two numbers
    static double div(double a, double b) {
        if (b == 0) {
            System.out.println("Error: Division by zero!");
            return 0;
        }
        return a / b;
    }

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

        System.out.println("----- Simple Calculator -----");
        System.out.println("1. Addition");
        System.out.println("2. Subtraction");
        System.out.println("3. Multiplication");
        System.out.println("4. Division");
        System.out.print("Choose an operation (1-4): ");
        int choice = sc.nextInt();

        System.out.print("Enter first number: ");
        double num1 = sc.nextDouble();
        System.out.print("Enter second number: ");
        double num2 = sc.nextDouble();

        double result = 0;

        switch (choice) {
            case 1:
                result = add(num1, num2);
                System.out.println("Result: " + result);
                break;
            case 2:
                result = sub(num1, num2);
                System.out.println("Result: " + result);
                break;
            case 3:
                result = mul(num1, num2);
                System.out.println("Result: " + result);
                break;
```

```java
            case 4:
                result = div(num1, num2);
                System.out.println("Result: " + result);
                break;
            default:
                System.out.println("Invalid choice!");
        }

        sc.close();
    }
}
```

Output:

----- Simple Calculator -----
1. Addition
2. Subtraction
3. Multiplication
4. Division
Choose an operation (1-4): 1
Enter first number: 10
Enter second number: 5
Result: 15.0