Assignment 2

<u>Challenge yourself daily. The more coding problems you solve, the stronger your problem-solving skills become.</u>

Control Structures:

1. **If-Else Statements:**
    - Write a Java program to check if a number is positive, negative, or zero.
    - Implement a program to determine whether a year is a leap year.
2. **Switch Statements:**
    - Create a Java program using a switch statement to display the day of the week based on a user-input number (1 for Sunday, 2 for Monday, etc.).

Loops:

3. **For Loops:**
    - Write a Java program to print the multiplication table of a given number using a for loop.
    - Implement a program to calculate the factorial of a number using a for loop.
4. **While Loops:**
    - Create a Java program to find the sum of digits of a number using a while loop.
    - Write a program to print Fibonacci series up to a given limit using a while loop.

Methods:

5. **Simple Methods with parameter:**
    - Define a method in Java to find the maximum of two numbers.
    - Write a program that calls a method to check if a number is prime.
6. **Method Overloading:**
    - Create a Java program that demonstrates method overloading by having multiple methods with the same name but different parameter types.

Arrays:

7. **Array Initialization:**
    - Write a Java program to initialize an array and display its elements.
    - Implement a program to find the sum and average of elements in an array.
8. **Array Manipulation:**
    - Create a program to reverse the elements of an array in Java.
    - Write a Java program to find the largest element in an array.