Problem Statements:

1. **Number Guessing Game**:
    - ○ Write a Java program where the user thinks of a number between 1 and 100, and the computer tries to guess the number by generating random guesses.
    - ○ The user provides feedback by indicating whether the guess is **high**, **low**, or **correct**. The program should be modular, with different functions for generating guesses, receiving user feedback, and determining the next guess.
2. **Maximum of Three Numbers**:
    - ○ Write a program that takes three integer inputs from the user and finds the maximum of the three numbers.
    - ○ Ensure your program follows best practices for organizing code into modular functions, such as separate functions for taking input and calculating the maximum value.
3. **Prime Number Checker**:
    - ○ Create a program that checks whether a given number is a prime number. ○ The program should use a separate function to perform the prime check and return the result.

Additional Problem Statements:

4. **Fibonacci Sequence Generator**:
    - ○ Write a program that generates the Fibonacci sequence up to a specified number of terms entered by the user.
    - ○ Organize the code by creating a function that calculates and prints the Fibonacci sequence.
5. **Palindrome Checker**:
    - ○ Write a program that checks if a given string is a palindrome (a word, phrase, or sequence that reads the same backward as forward).
    - ○ Break the program into functions for input, checking the palindrome condition, and displaying the result.
6. **Factorial Using Recursion**:
    - ○ Write a program that calculates the factorial of a number using a recursive function.
    - ○ Include modular code to separate input, calculation, and output processes.
7. **GCD and LCM Calculator**:
    - ○ Create a program that calculates the Greatest Common Divisor (GCD) and Least Common Multiple (LCM) of two numbers using functions.
    - ○ Use separate functions for GCD and LCM calculations, showcasing how modular code works.

8. **Temperature Converter**:
    - ○ Write a program that converts temperatures between Fahrenheit and Celsius. ○ The program should have separate functions for converting from Fahrenheit to Celsius and from Celsius to Fahrenheit.
9. **Basic Calculator**:
    - ○ Write a program that performs basic mathematical operations (addition, subtraction, multiplication, division) based on user input.
    - ○ Each operation should be performed in its own function, and the program should prompt the user to choose which operation to perform.