**1. Fahrenheit to Celsius Converter**

* **Objective**: Practice basic mathematical operations and user input.
* **Problem**: Write a Java program to convert a temperature from Fahrenheit to Celsius using the formula:  
  Celsius=(Fahrenheit−32)×59\text{Celsius} = (\text{Fahrenheit} - 32) \times \frac{5}{9}Celsius=(Fahrenheit−32)×95​

**2. Simple Interest Calculator**

* **Objective**: Perform basic arithmetic calculations.
* **Problem**: Write a Java program to calculate simple interest using the formula:  
  SI=P×R×T100\text{SI} = \frac{P \times R \times T}{100}SI=100P×R×T​  
  where P is the principal amount, R is the rate of interest, and T is the time in years.

**3. Check Leap Year**

* **Objective**: Use conditional statements.
* **Problem**: Write a program to check whether a given year is a leap year.

**4. Sum of Digits**

* **Objective**: Practice loops and digit manipulation.
* **Problem**: Write a program to calculate the sum of the digits of a given number.

#### 5. Factorial of a Number

* **Objective**: Use loops for repetitive calculations.
* **Problem**: Write a program to calculate the factorial of a given number.

**6. Prime Number Checker**

* **Objective**: Use loops and conditional statements.
* **Problem**: Write a program to check whether a given number is prime.

**7. Fibonacci Sequence**

* **Objective**: Practice loops and sequence generation.
* **Problem**: Write a program to display the first n terms of the Fibonacci sequence.

**8. Palindrome Checker**

* **Objective**: Use loops and string manipulation.
* **Problem**: Write a program to check whether a given string is a palindrome.

**9. Armstrong Number Checker**

* **Objective**: Use loops and digit manipulation.
* **Problem**: Write a program to check whether a given number is an Armstrong number (e.g., 153 = 13+53+331^3 + 5^3 + 3^313+53+33).

**10. Grade Calculator**

* **Objective**: Practice conditional statements and user input.
* **Problem**: Write a program to take a student's marks as input and display the corresponding grade based on the following scale:
  + Marks >= 90: Grade A
  + Marks >= 80: Grade B
  + Marks >= 70: Grade C
  + Marks >= 60: Grade D
  + Marks < 60: Grade F