

Java Recruitment Task: Mini Calculator

Task: Implement a simple calculator in Java that can perform up to 6 different calculations.

The calculator should support the following operations:

- Addition ($a + b$)
- Subtraction ($a - b$)
- Multiplication ($a * b$)
- Division (a / b) – handle division by zero safely
- Exponentiation ($a ^ b$)
- Modulus ($a \% b$)

Requirements:

- Implement a class Calculator with a method: public double calculate(double a, double b, String operator)
- The operator parameter should accept +, -, *, /, ^, %
- Handle invalid operators gracefully (e.g., throw an exception or return an error message)
- Write at least 3 unit tests for your solution

Example:

```
Calculator calc = new Calculator(); System.out.println(calc.calculate(5, 3, "+"));
// 8.0 System.out.println(calc.calculate(5, 3, "/")); // 1.666...
System.out.println(calc.calculate(5, 3, "^")); // 125.0
```