

# 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
```