Exercise 2: Writing Basic JUnit Tests

**Code:**

**Calculator.java:**  
package com.example.calculator;

public class Calculator {

public int add(int a, int b) {

return a + b;

}

public int subtract(int a, int b) {

return a - b;

}

public int multiply(int a, int b) {

return a \* b;

}

public int divide(int a, int b) {

if (b == 0) throw new IllegalArgumentException("Division by zero");

return a / b;

}

}

**CalculatorTest.java:**

package com.example.calculator;

import org.junit.jupiter.api.Test;

import static org.junit.jupiter.api.Assertions.\*;

import org.junit.jupiter.api.Test;

class CalculatorTest {

Calculator calc = new Calculator();

@Test

public void testAdd() {

assertEquals(5, calc.add(2, 3));

}

@Test

public void testSubtract() {

assertEquals(1, calc.subtract(4, 3));

}

@Test

public void testMultiply() {

assertEquals(12, calc.multiply(3, 4));

}

@Test

public void testDivide() {

assertEquals(2, calc.divide(6, 3));

}

@Test

public void testDivideByZero() {

Exception exception = assertThrows(IllegalArgumentException.class, () -> {

calc.divide(5, 0);

});

assertEquals("Division by zero", exception.getMessage());

}

}