**Junit Testing Exercise:**

**Calculator.java:**

package com.mycompany.mavenproject1;

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 ArithmeticException("Cannot divide by zero");

return a / b;

}

}

**CalculatorTests.java:**

package com.mycompany.mavenproject1;

import org.junit.After;

import org.junit.Before;

import org.junit.Test;

import static org.junit.Assert.\*;

public class CalculatorTests {

private Calculator calc;

@Before

public void setUp() {

calc = new Calculator(); // Setup before each test

}

@After

public void tearDown() {

calc = null; // Clean up after each test

}

@Test

public void testAdd() {

int a = 2, b = 3;

int result = calc.add(a, b);

assertEquals(5, result);

assertNotEquals(6, result);

}

@Test

public void testSubtract() {

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

}

@Test

public void testMultiply() {

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

}

@Test

public void testDivide() {

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

}

@Test(expected = ArithmeticException.class)

public void testDivideByZero() {

calc.divide(10, 0);

}

@Test

public void testAssertions() {

assertTrue(5 > 3);

assertFalse(2 > 5);

assertNull(null);

assertNotNull(new Object());

}

}

**Output:**



