**Exercise 2: Writing Basic JUnit Tests**

**Scenario**:

You need to write basic JUnit tests for a simple Java class.

**Steps:**

Create a new Java class with some methods to test.

**MathUtils.java**

package com.example;

public class MathUtils {

    public int multiply(int a, int b) {

        return a \* b;

    }

    public boolean isEven(int number) {

        return number % 2 == 0;

    }

    public int divide(int a, int b) {

        if (b == 0) throw new IllegalArgumentException("Cannot divide by zero");

        return a / b;

    }

}

Write JUnit tests for these methods.

**MathUtilsTest.java**

package com.example;

import org.junit.Test;

import static org.junit.Assert.\*;

public class MathUtilsTest {

    @Test

    public void testMultiply() {

        MathUtils utils = new MathUtils();

        assertEquals(20, utils.multiply(4, 5));

    }

    @Test

    public void testIsEven() {

        MathUtils utils = new MathUtils();

        assertTrue(utils.isEven(4));

        assertFalse(utils.isEven(5));

    }

    @Test(expected = IllegalArgumentException.class)

    public void testDivideByZero() {

        MathUtils utils = new MathUtils();

        utils.divide(10, 0);

    }

    @Test

    public void testDivide() {

        MathUtils utils = new MathUtils();

        assertEquals(5, utils.divide(10, 2));

    }

}

**Output:**

**A screenshot of a computer program

AI-generated content may be incorrect.A screen shot of a computer screen

AI-generated content may be incorrect.A screen shot of a computer program

AI-generated content may be incorrect.**

**A screenshot of a computer

AI-generated content may be incorrect.**