**CODE:**

package com.example;

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 divide(int a, int b) {

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

return a / b;

}

}

package com.example;

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

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

public class CalculatorAaaTest {

private Calculator calculator;

// ✅ Setup method: runs before each test

@BeforeEach

void setUp() {

calculator = new Calculator(); // Arrange

System.out.println("Setup completed");

}

// ✅ Teardown method: runs after each test

@AfterEach

void tearDown() {

System.out.println("Teardown completed");

}

@Test

void testAddition() {

// Arrange done in setUp()

// Act

int result = calculator.add(10, 5);

// Assert

assertEquals(15, result);

}

@Test

void testSubtraction() {

// Act

int result = calculator.subtract(10, 5);

// Assert

assertEquals(5, result);

}

@Test

void testDivision() {

// Act

int result = calculator.divide(20, 4);

// Assert<?xml version="1.0" encoding="UTF-8"?>

<classpath>

<classpathentry kind="src" output="target/classes" path="src/main/java">

<attributes>

<attribute name="optional" value="true"/>

<attribute name="maven.pomderived" value="true"/>

</attributes>

</classpathentry>

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<classpathentry kind="con" path="org.eclipse.jdt.junit.JUNIT\_CONTAINER/5"/>

<classpathentry kind="output" path="target/classes"/>

</classpath>

assertEquals(5, result);

}

@Test

void testDivideByZeroThrowsException() {

// Act + Assert

assertThrows(IllegalArgumentException.class, () -> {

calculator.divide(10, 0);

});

}

}

**OUTPUT:**

