**Arrange-Act-Assert (AAA) Pattern, Test Fixtures, Setup and**

**Teardown Methods in Junit**

**Calculator.java**

public class Calculator {

public int add(int a, int b) {

return a + b;

}

public int subtract(int a, int b) {

return a - b;

}

}

**CalculatorTest.java:**

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

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

public class CalculatorTest {

Calculator calc;

@BeforeEach

void setUp() {

// Arrange: Initialize before each test

calc = new Calculator();

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

}

@AfterEach

void tearDown() {

// Cleanup after each test

System.out.println("Test completed.\n");

}

@Test

void testAddition() {

// Act

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

// Assert

assertEquals(15, result);

System.out.println("Addition complete.");

}

@Test

void testSubtraction() {

// Act

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

// Assert

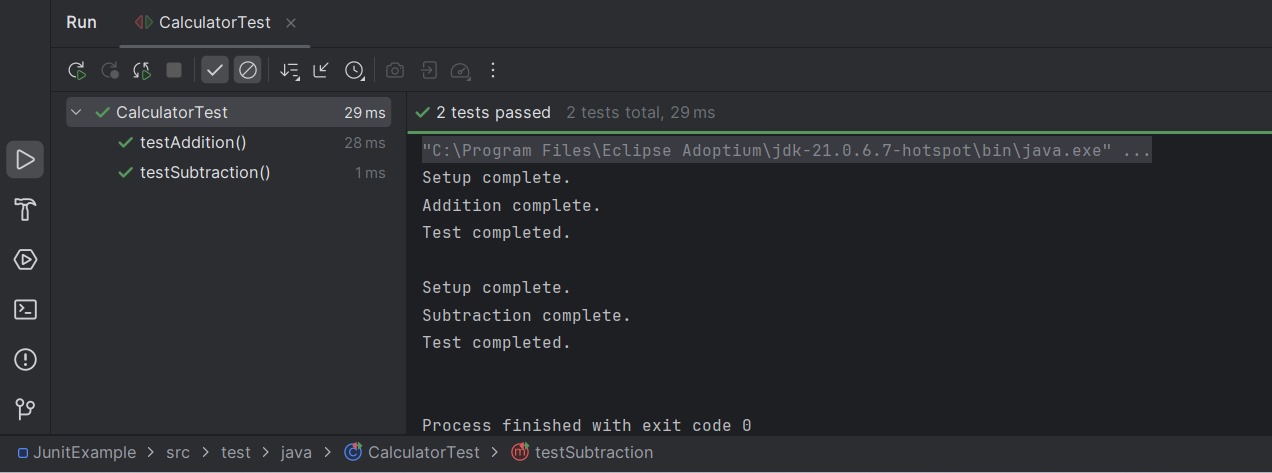
assertEquals(5, result);

System.out.println("Subtraction complete.");

}

}

**OUTPUT:**

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