**Arrange-Act-Assert (AAA) Pattern, Test Fixtures, Setup and Teardown Methods in JUnit**

**CODE :**

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.After;

import org.junit.Before;

import org.junit.Test;

import static org.junit.Assert.\*;

public class CalculatorTest {

private Calculator calculator;

// Setup method – runs before each test

@Before

public void setUp() {

calculator = new Calculator();

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

}

// Teardown method – runs after each test

@After

public void tearDown() {

calculator = null;

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

}

@Test

public void testAddition() {

// Arrange

int a = 10, b = 5;

// Act

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

// Assert

assertEquals(15, result);

}

@Test

public void testSubtraction() {

// Arrange

int a = 10, b = 3;

// Act

int result = calculator.subtract(a, b);

// Assert

assertEquals(7, result);

}

}

**OUTPUT :**

