**JUnit Testing Exercises**

**Exercise 4: Arrange-Act-Assert (AAA) Pattern, Test Fixtures, Setup and Teardown Methods in Junit**

**Code**

**Calculator.java**

package org.example;  
  
public class Calculator {  
 public int add(int a, int b) {  
 return a + b;  
 }  
}

**CalculatorTest.java**

package org.example;  
  
import org.junit.After;  
import org.junit.Before;  
import org.junit.Test;  
  
import static org.junit.Assert.*assertEquals*;  
  
public class CalculatorTest {  
  
 private Calculator calculator;  
  
 @Before  
 public void setUp() {  
 calculator = new Calculator();  
 System.*out*.println("Setup complete.");  
 }  
  
  
 @After  
 public void tearDown() {  
 calculator = null;  
 System.*out*.println("Teardown complete.");  
 }  
  
 @Test  
 public void testAdd() {  
  
 int a = 5;  
 int b = 7;  
 int result = calculator.add(a, b);  
 *assertEquals*(12, result);  
 }  
  
 @Test  
 public void testAddWithNegativeNumbers() {  
 int a = -3;  
 int b = -2;  
 int result = calculator.add(a, b);  
 *assertEquals*(-5, result);  
 }  
}

**Output**

