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

Scenario:  
You need to organize your tests using the Arrange-Act-Assert (AAA) pattern and use setup and teardown methods.

1. Steps:

* Write tests using the AAA pattern.
* Use @Before and @After annotations for setup and teardown methods.

## Solution Code:

import static org.junit.jupiter.api.Assertions.\*;  
import org.junit.jupiter.api.\*;  
  
public class CalculatorTest {  
  
 private Calculator calculator;  
  
 @BeforeEach  
 public void setUp() {  
 // Arrange - Setup code  
 calculator = new Calculator();  
 System.out.println("Setup completed.");  
 }  
  
 @AfterEach  
 public void tearDown() {  
 // Cleanup code  
 calculator = null;  
 System.out.println("Teardown completed.");  
 }  
  
 @Test  
 public void testAddition() {  
 // Act  
 int result = calculator.add(2, 3);  
  
 // Assert  
 assertEquals(5, result);  
 }  
  
 @Test  
 public void testSubtraction() {  
 // Act  
 int result = calculator.subtract(5, 3);  
  
 // Assert  
 assertEquals(2, result);  
 }  
}  
  
class Calculator {  
 public int add(int a, int b) {  
 return a + b;  
 }  
  
 public int subtract(int a, int b) {  
 return a - b;  
 }  
}