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

Step 1: create Calculator.java

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

Step 2: CalculatorTest.java (JUnit Test using AAA + Setup/Teardown) code :

package org.example;  
  
import org.junit.jupiter.api.\*;  
  
import static org.junit.jupiter.api.Assertions.\*;  
  
public class CalculatorTest {  
  
 private Calculator calculator;  
  
 @BeforeEach  
 void setUp() {  
 calculator = new Calculator();  
 System.*out*.println("Setup complete.");  
 }  
  
 @AfterEach  
 void tearDown() {  
 System.*out*.println("Teardown complete.");  
 }  
  
 @Test  
 void testAddition() {  
 int a = 2, b = 3;  
  
 int result = calculator.add(a, b);  
  
 *assertEquals*(5, result);  
 }  
  
 @Test  
 void testMultiplication() {  
 int a = 4, b = 5;  
  
 int result = calculator.multiply(a, b);  
  
 *assertEquals*(20, result);  
 }  
}

step 3: Output :

