

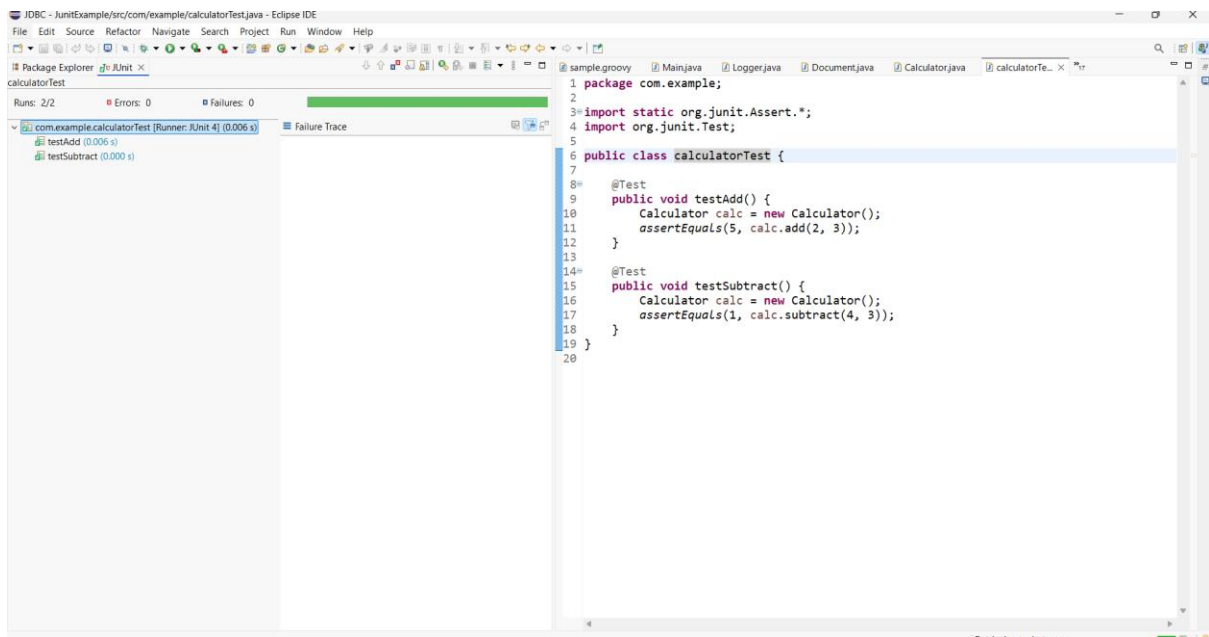
WEEK 2

JUnit Testing Exercises

Output snapshot:

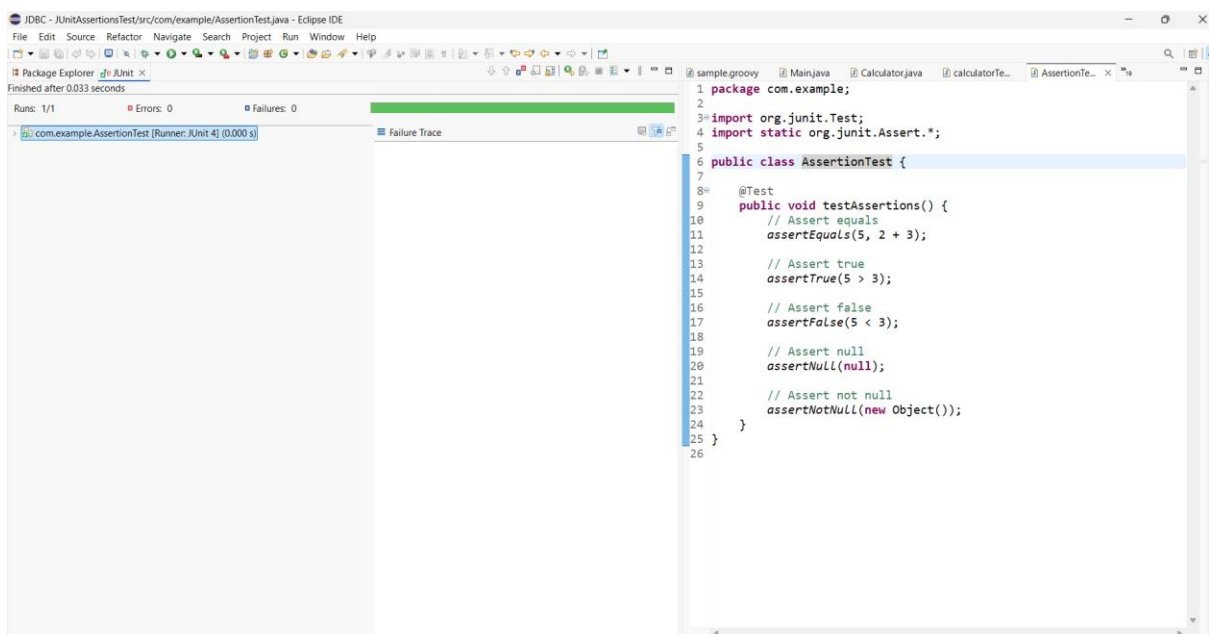
Exercise 1: Setting Up JUnit

Scenario: You need to set up JUnit in your Java project to start writing unit tests. Loan table values:



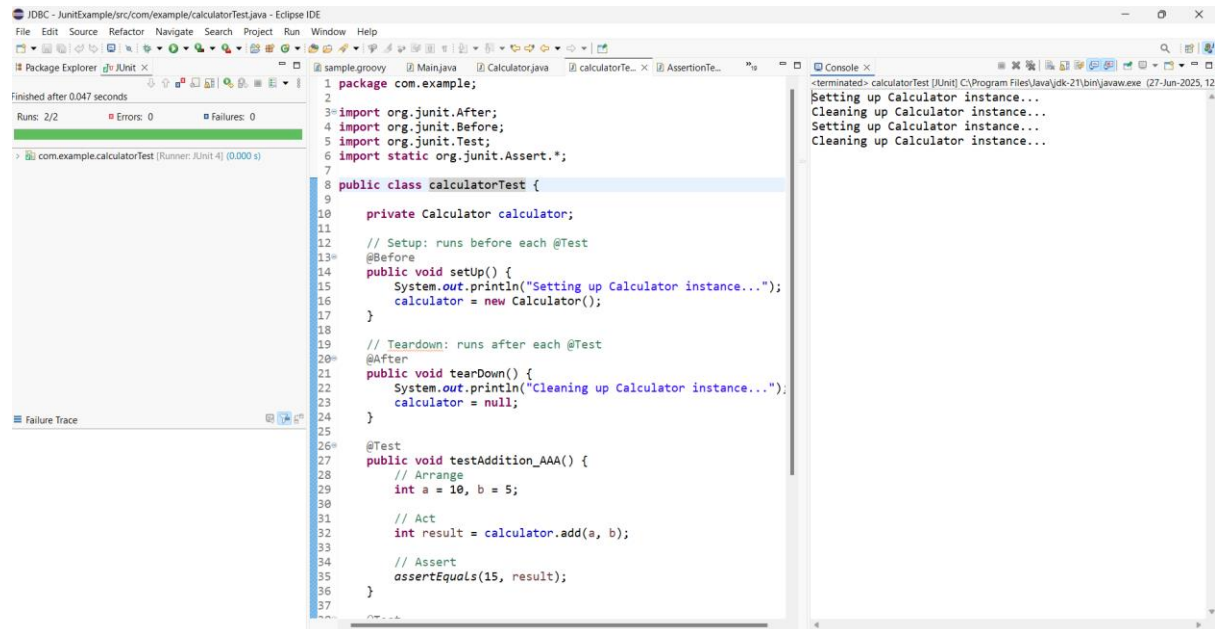
Exercise 3: Assertions in JUnit Scenario:

You need to use different assertions in JUnit to validate your test results.



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.



The screenshot shows the Eclipse IDE with a JUnit test class named `calculatorTest` in the `com.example` package. The code implements the Arrange-Act-Assert (AAA) pattern and uses `@Before` and `@After` methods for setup and teardown.

```
1 package com.example;
2
3 import org.junit.After;
4 import org.junit.Before;
5 import org.junit.Test;
6 import static org.junit.Assert.*;
7
8 public class calculatorTest {
9
10     private Calculator calculator;
11
12     // Setup: runs before each @Test
13     @Before
14     public void setUp() {
15         System.out.println("Setting up Calculator instance...");
16         calculator = new Calculator();
17     }
18
19     // Teardown: runs after each @Test
20     @After
21     public void tearDown() {
22         System.out.println("Cleaning up Calculator instance...");
23         calculator = null;
24     }
25
26     @Test
27     public void testAddition_AAA() {
28         // Arrange
29         int a = 10, b = 5;
30
31         // Act
32         int result = calculator.add(a, b);
33
34         // Assert
35         assertEquals(15, result);
36     }
37 }
```

The console output shows the execution of the test, including the setup and teardown messages:

```
<terminated> calculatorTest [JUnit] C:\Program Files\Java\jdk-21\bin\java.exe (27-Jun-2025, 12:
Setting up Calculator instance...
Cleaning up Calculator instance...
Setting up Calculator instance...
Cleaning up Calculator instance...
```