**WEEK-02 HANDS ON SOLUTIONS**

**J-UNIT\_BASIC TESTING EXERCISES SOLUTIONS**

**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.

Steps:

1. Write tests using the AAA pattern.

2. Use @Before and @After annotations for setup and teardown methods.

In this exercise, the test cases were structured using the Arrange-Act-Assert (AAA) pattern, which helps in writing clean and readable tests.

A simple Calculator class was created with two methods: add() and subtract().

The corresponding test class, CalculatorTest, defined test cases for both methods while clearly separating the phases:

Arrange (setting up the calculator), Act (performing the operation), and Assert (verifying the result with assertEquals()).

To demonstrate reusable test setup and cleanup, the @Before annotation was used to initialize the calculator object before each test, and @After was used to release resources or reset the environment after each test.

This ensures that each test case runs independently with a fresh setup. The tests ran successfully, as indicated by a green bar in the JUnit runner, and the console output confirmed the execution of setup and teardown methods before and after every test.







