**Experiment 10: Unit Testing with JUnit**

**🔹 Aim:**

To perform unit testing of a Java class using the JUnit framework.

**🔹 Objective:**

* Understand how JUnit helps in testing individual units of code.
* Learn to write and run basic test cases using JUnit.

**🔹 Tool Used:**

* Java
* Eclipse or IntelliJ IDE
* JUnit Library

**🔹 Procedure:**

1. **Open your IDE** (Eclipse/IntelliJ).
2. **Create a Java class** named Calculator.java with the following code:

public class Calculator {

public int add(int a, int b) {

return a + b;

}

public int subtract(int a, int b) {

return a - b;

}

}

1. **Create a JUnit Test Class** named CalculatorTest.java:

import org.junit.Test;

import static org.junit.Assert.\*;

public class CalculatorTest {

Calculator calc = new Calculator();

@Test

public void testAdd() {

assertEquals(5, calc.add(2, 3));

}

@Test

public void testSubtract() {

assertEquals(2, calc.subtract(5, 3));

}

}

1. **Run the test**:
   * Right-click on the test class → Run As → JUnit Test.
   * View the result in the JUnit pane (green = pass, red = fail).

**🔹 Result:**

All unit test cases passed successfully, confirming the logic of the Calculator class.

**🔹 Conclusion:**

JUnit helps test individual methods in isolation and ensures that the program behaves as expected. It is simple, fast, and effective for unit testing in Java projects.