**JUnit Testing Exercises**

**Exercise 1: Setting Up Junit**

**Exercise 2: Writing Basic JUnit Tests**

Calculator.java

package junittest;

public class Calculator {

public int add(int a, int b) {

return a+b;

}

public int sub(int a,int b) {

return a-b;

}

}

CalculatorTest.java

import static org.junit.jupiter.api.Assertions.assertEquals;

import org.junit.jupiter.api.Test;

import junittest.Calculator;

public class CalculatorTest {

Calculator calculator=new Calculator();

@Test

public void testAdd() {

int res=calculator.add(10,20);

assertEquals(30, res);

}

@Test

public void testAdd1() {

int res=calculator.add(1,20);

assertEquals(21, res);

}

@Test

public void testSub() {

int res=calculator.sub(10,5);

assertEquals(5, res);

}

}

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

**Calculator.java**

package junittest;

public class Calculator {

public int add(int a, int b) {

return a+b;

}

public int multiply(int a,int b) {

return a\*b;

}

}

**CalculatorTest.java**

import static org.junit.jupiter.api.Assertions.*assertEquals*;

import org.junit.jupiter.api.AfterEach;

import org.junit.jupiter.api.BeforeEach;

import org.junit.jupiter.api.Test;

import junittest.Calculator;

public class CalculatorTest {

Calculator calculator;

*@BeforeEach*

public void setUp() {

System.***out***.println("Setting up Calculator Object...");

calculator=new Calculator();

}

*@AfterEach*

public void tearDown() {

System.***out***.println("Cleaning up after test");

calculator=null;

}

*@Test*

public void testAddition(){

int a=10;

int b=5;

int res=calculator.add(a, b);

*assertEquals*(15,res,"10+5 should equal 15");

}

*@Test*

public void testMul(){

int a=10;

int b=5;

int res=calculator.multiply(a,b);

*assertEquals*(50,res,"10\*5 should equal 50");

}

}