Mockito Hands-On Exercises

Exercise 1: Mocking and Stubbing

Scenario:

You need to test a service that depends on an external API. Use Mockito to mock the

external API and stub its methods.

Exercise 2: Verifying Interactions

Scenario:

You need to ensure that a method is called with specific arguments.

## **Source Code**

## **MathApi.java**

package com.demo;

public interface MathApi {

int sum(int a, int b);

int diff(int a, int b);

int prod(int a, int b);

int quot(int a, int b);

}

## **SimpleCalc.java**

package com.demo;

public class SimpleCalc {

private final MathApi api;

public SimpleCalc(MathApi api) {

this.api = api;

}

public int add(int x, int y) {

return api.sum(x, y);

}

public int subtract(int x, int y) {

return api.diff(x, y);

}

public int multiply(int x, int y) {

return api.prod(x, y);

}

public int divide(int x, int y) {

return api.quot(x, y);

}

}

## **SimpleCalcTest.java**

package com.demo;

import org.junit.jupiter.api.Test;

import static org.mockito.Mockito.\*;

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

class SimpleCalcTest {

@Test

void testMathApiMocking() {

MathApi mockApi = mock(MathApi.class);

// Stubbing mock methods

when(mockApi.sum(5, 3)).thenReturn(8);

when(mockApi.diff(10, 4)).thenReturn(6);

when(mockApi.prod(2, 7)).thenReturn(14);

when(mockApi.quot(20, 5)).thenReturn(4);

SimpleCalc calc = new SimpleCalc(mockApi);

int s = calc.add(5, 3);

int d = calc.subtract(10, 4);

int p = calc.multiply(2, 7);

int q = calc.divide(20, 5);

System.out.println("SimpleCalc Mock Test Output:");

System.out.println("add = " + s);

System.out.println("subtract = " + d);

System.out.println("multiply = " + p);

System.out.println("divide = " + q);

assertEquals(8, s);

assertEquals(6, d);

assertEquals(14, p);

assertEquals(4, q);

System.out.println("All mock operations passed!");

}

}

## **pom.xml**

<project xmlns="http://maven.apache.org/POM/4.0.0"

xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"

xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 https://maven.apache.org/xsd/maven-4.0.0.xsd">

<modelVersion>4.0.0</modelVersion>

<groupId>com.demo</groupId>

<artifactId>simple-calc-mock</artifactId>

<version>1.0-SNAPSHOT</version>

<properties>

<maven.compiler.source>17</maven.compiler.source>

<maven.compiler.target>17</maven.compiler.target>

</properties>

<dependencies>

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>5.12.0</version>

<scope>test</scope>

</dependency>

<dependency>

<groupId>org.junit.jupiter</groupId>

<artifactId>junit-jupiter</artifactId>

<version>5.10.0</version>

<scope>test</scope>

</dependency>

</dependencies>

<build>

<plugins>

<plugin>

<groupId>org.apache.maven.plugins</groupId>

<artifactId>maven-surefire-plugin</artifactId>

<version>3.1.2</version>

</plugin>

</plugins>

</build>

</project>

OUTPUT :

