**Exercise 1: Mocking and Stubbing using Mockito**

**Scenario:**

* You need to test a service that depends on an external API.
* To avoid calling the real API, you’ll **mock** the API and **stub** its behavior using **Mockito**.

**//ExternalApi.java**

public interface ExternalApi {

String getData();

}

**MyService.java**

public class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

**MyServiceTest.java**

import org.junit.jupiter.api.Test;

import static org.mockito.Mockito.\*;

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

public class MyServiceTest {

@Test

public void testExternalApi() {

// Step 1: Create a mock object

ExternalApi mockApi = mock(ExternalApi.class);

// Step 2: Stub the method

when(mockApi.getData()).thenReturn("Mock Data");

// Step 3: Use the mock in service

MyService service = new MyService(mockApi);

String result = service.fetchData();

// Assert the stubbed result

assertEquals("Mock Data", result);

}

}

**Maven Dependency for Mockito**

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>5.12.0</version>

<scope>test</scope>

</dependency>