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.

Steps: 1. Create a mock object for the external API.

2. Stub the methods to return predefined values.

3. Write a test case that uses the mock object.

Solution Code:

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

import org.mockito.Mockito;

public class MyServiceTest {

@Test

public void testExternalApi() {

ExternalApi mockApi = Mockito.mock(ExternalApi.class); when(mockApi.getData()).thenReturn("Mock Data");

MyService service = new MyService(mockApi);

String result = service.fetchData();

assertEquals("Mock Data", result);

}

}

Solution:

Create a ExeternalApi.java interface

public interface ExternalApi {

String getData();

}

public class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

Now main class named MyserviceTest.java

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

import static org.mockito.Mockito.\*;

import org.junit.jupiter.api.Test;

public class MyServiceTest {

@Test

public void testExternalApi() {

ExternalApi mockApi = mock(ExternalApi.class);

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

MyService service = new MyService(mockApi);

String result = service.fetchData();

assertEquals("Mock Data", result);

}

}