**Exercise 1: Mocking and Stubbing**

**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 static org.mockito.Mockito.\*;

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

import org.junit.jupiter.api.Test;

import org.mockito.Mockito;

public class MyServiceTest {

@Test

public void testExternalApi() {

// Step 1: Create a mock object

ExternalApi mockApi = Mockito.mock(ExternalApi.class);

// Step 2: Stub the method to return predefined value

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

// Step 3: Inject mock and call method

MyService service = new MyService(mockApi);

String result = service.fetchData();

// Assertion

assertEquals("Mock Data", result);

}

}

**Maven Dependencies (pom.xml):**

<dependencies>

<!-- JUnit 5 -->

<dependency>

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

<artifactId>junit-jupiter</artifactId>

<version>5.9.2</version>

<scope>test</scope>

</dependency>

<!-- Mockito -->

<dependency>

<groupId>org.mockito</groupId>

<artifactId>mockito-core</artifactId>

<version>4.11.0</version>

<scope>test</scope>

</dependency>

</dependencies>

**Output:**

Tests run: 1, Failures: 0, Errors: 0, Skipped: 0