**Exercise 1: Mocking and Stubbing:**

**Solution:**

External API Interface:

**package** com.example.mockitodemo;

**public** **interface** ExternalApi {

String getData();

}

MyService Class:

**package** com.example.mockitodemo;

**public** **class** MyService {

**private** ExternalApi api;

**public** MyService(ExternalApi api) {

**this**.api = api;

}

**public** String fetchData() {

**return** api.getData();

}

}

MyServiceTest Class:

(Test Class Using the mock object):

**package** com.example.mockitodemo;

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

**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);

}

}

**Exercise 2: Verifying Interactions:**

**Solution:**

External API Interface:

**package** com.example.mockitodemo;

**public** **interface** ExternalApi {

String getData();

}

MyService Class:

**package** com.example.mockitodemo;

**public** **class** MyService {

**private** ExternalApi api;

**public** MyService(ExternalApi api) {

**this**.api = api;

}

**public** String fetchData() {

**return** api.getData();

}

}

MySeviceTest Class:

(for creating mock objects, calling methods and verifying interactions):

**package** com.example.mockitodemo;

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

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

**import** org.junit.jupiter.api.Test;

**import** org.mockito.Mockito;

**public** **class** MyServiceTest {

@Test

**public** **void** testVerifyInteraction() {

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

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

MyService service = **new** MyService(mockApi);

service.fetchData();

verify(mockApi).getData();

}

}