**Module 4 - Test driven development and Logging framework**

**Exercise 1: Mocking and Stubbing**

**Question:**

**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**.**

**CODE:**

import static org.mockito.Mockito.\*;

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

import org.junit.jupiter.api.Test;

import org.mockito.Mockito;

// Assume this is an external dependency

interface ExternalApi {

String getData();

}

// Service that depends on ExternalApi

class MyService {

private ExternalApi api;

public MyService(ExternalApi api) {

this.api = api;

}

public String fetchData() {

return api.getData();

}

}

public class MyServiceTest {

@Test

public void testExternalApi() {

// Step 1: Create mock

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

// Step 2: Stub method

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

// Step 3: Use mock in service

MyService service = new MyService(mockApi);

String result = service.fetchData();

// Assert expected output

assertEquals("Mock Data", result);

}

}

**OUTPUT:**

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

**BUILD SUCCESS**