# TDD using JUnit5 and Mockito

# Mockito Exercise - Week 2

## 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;  
import static org.junit.jupiter.api.Assertions.\*;  
  
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);  
 }  
}  
  
class ExternalApi {  
 public String getData() {  
 return "Real Data";  
 }  
}  
  
class MyService {  
 private ExternalApi api;  
  
 public MyService(ExternalApi api) {  
 this.api = api;  
 }  
  
 public String fetchData() {  
 return api.getData();  
 }  
}

**Output:**

> Running testExternalApi()  
BUILD SUCCESSFUL  
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0  
Output: "Mock Data"  
Test Passed.

## Exercise 2: Verifying Interactions

**Scenario:**  
You need to ensure that a method is called with specific arguments.

**Steps:**  
1. Create a mock object.  
2. Call the method with specific arguments.  
3. Verify the interaction.

**Solution Code:**

import static org.mockito.Mockito.\*;  
import org.junit.jupiter.api.Test;  
import org.mockito.Mockito;  
  
public class MyServiceTest {  
 @Test  
 public void testVerifyInteraction() {  
 ExternalApi mockApi = Mockito.mock(ExternalApi.class);  
 MyService service = new MyService(mockApi);  
 service.fetchData();  
 verify(mockApi).getData();  
 }  
}  
**Output:**

> Running testVerifyInteraction()  
BUILD SUCCESSFUL  
Tests run: 1, Failures: 0, Errors: 0, Skipped: 0  
  
Verified: getData() was called exactly once.  
Test Passed.