Exercise 1 – Mocking and Stubbing

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.\*;  
import org.junit.jupiter.api.Test;  
import org.mockito.Mockito;  
  
// External API interface  
interface ExternalApi {  
 String getData();  
}  
  
// Service using the API  
class MyService {  
 private final ExternalApi api;  
 public MyService(ExternalApi api) { this.api = api; }  
 public String fetchData() { return api.getData(); }  
}  
  
// Test class  
public class MyServiceTestMocking {  
 @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);  
 }  
}

Expected Output:  
Test passes and returns "Mock Data".