**Exercise 1: Mocking and Stubbing**

**ExternalApi.java**

package org.example1;  
  
*/\*\*  
 \* Interface representing an external API.  
 \*/*public interface ExternalApi {  
 String getData();  
}

**MyService.java**

package org.example1;  
  
*/\*\*  
 \* A simple service that depends on ExternalApi.  
 \*/*public class MyService {  
 private final ExternalApi externalApi;  
  
 // Constructor injection  
 public MyService(ExternalApi externalApi) {  
 this.externalApi = externalApi;  
 }  
  
 public String fetchData() {  
 return externalApi.getData();  
 }  
}

**MyServiceTest.java :-**

package org.example1;  
  
import static org.junit.Assert.*assertEquals*;  
import static org.mockito.Mockito.\*;  
  
import org.junit.jupiter.api.Assertions;  
import org.junit.jupiter.api.Test;  
  
public class MyServiceTest {  
  
 @Test  
 public void testFetchData\_ReturnsMockData() {  
 ExternalApi mockExternalApi = *mock*(ExternalApi.class);  
 *when*(mockExternalApi.getData()).thenReturn("Mock Data");  
  
 MyService service = new MyService(mockExternalApi);  
 String result = service.fetchData();  
  
 Assertions.*assertEquals*("Mock Data", result);  
 }  
}

**MyServiceTest.java**

<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
 xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">  
 <modelVersion>4.0.0</modelVersion>  
  
 <groupId>org.example1</groupId>  
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 <version>1.0-SNAPSHOT</version>  
 <packaging>jar</packaging>  
  
 <name>Mocking</name>  
 <url>http://maven.apache.org</url>  
  
 <properties>  
 <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>  
 </properties>  
  
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 <dependency>  
 <groupId>junit</groupId>  
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 <version>3.8.1</version>  
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 <dependency>  
 <groupId>org.mockito</groupId>  
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 <version>5.12.0</version>  
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 </dependency>  
 <dependency>  
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 <artifactId>junit</artifactId>  
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 <artifactId>junit</artifactId>  
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 </dependency>  
 <dependency>  
 <groupId>org.junit.jupiter</groupId>  
 <artifactId>junit-jupiter</artifactId>  
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 </dependency>  
 </dependencies>  
  
 <build>  
 <plugins>  
  
 <plugin>  
 <groupId>org.apache.maven.plugins</groupId>  
 <artifactId>maven-surefire-plugin</artifactId>  
 <version>3.1.2</version>  
 </plugin>  
 </plugins>  
 </build>  
</project>

**Output :-**

