**Exercise 3:** Argument Matching

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

**Ex3ArguementMatchApi.java**

package demo;

public interface Ex3ArguementMatchApi {

    String getData(String key);

}

**Ex3ArguementMatch.java**

package demo;

public class Ex3ArguementMatch {

    private Ex3ArguementMatchApi externalApi;

    public Ex3ArguementMatch(Ex3ArguementMatchApi mockApi) {

        this.externalApi = mockApi;

    }

    public String fetchData(String key) {

        return externalApi.getData(key);

    }

}

**Ex3ArguementMatchTest.java**

package demo;

import org.junit.jupiter.api.Test;

import static org.mockito.Mockito.\*;

public class Ex3ArguementMatchTest {

    @Test

    public void testArgumentMatching() {

        Ex3ArguementMatchApi mockApi = mock(Ex3ArguementMatchApi.class);

        when(mockApi.getData(anyString())).thenReturn("Mocked Response");

        Ex3ArguementMatch service = new Ex3ArguementMatch(mockApi);

        String result = service.fetchData("test-key");

        assert result.equals("Mocked Response");

        verify(mockApi).getData(eq("test-key"));

    }

}

**pom.xml**

<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 https://maven.apache.org/xsd/maven-4.0.0.xsd">

  <modelVersion>4.0.0</modelVersion>

  <groupId>com.example</groupId>

  <artifactId>demo</artifactId>

  <version>0.0.1-SNAPSHOT</version>

  <name>Ex1\_Mocking\_Stubbing</name>

  <properties>

        <maven.compiler.source>17</maven.compiler.source> <!-- Java version -->

        <maven.compiler.target>17</maven.compiler.target>

        <junit.jupiter.version>5.10.0</junit.jupiter.version>

        <mockito.version>5.8.0</mockito.version>

        <bytebuddy.version>1.14.14</bytebuddy.version>

    </properties>

    <dependencies>

        <!-- JUnit 5 -->

        <dependency>

            <groupId>org.junit.jupiter</groupId>

            <artifactId>junit-jupiter</artifactId>

            <version>${junit.jupiter.version}</version>

            <scope>test</scope>

        </dependency>

        <!-- Mockito Core -->

        <dependency>

            <groupId>org.mockito</groupId>

            <artifactId>mockito-core</artifactId>

            <version>${mockito.version}</version>

            <scope>test</scope>

        </dependency>

        <!-- Mockito JUnit Jupiter Integration -->

        <dependency>

            <groupId>org.mockito</groupId>

            <artifactId>mockito-junit-jupiter</artifactId>

            <version>${mockito.version}</version>

            <scope>test</scope>

        </dependency>

        <!-- Byte Buddy -->

        <dependency>

            <groupId>net.bytebuddy</groupId>

            <artifactId>byte-buddy</artifactId>

            <version>${bytebuddy.version}</version>

            <scope>test</scope>

        </dependency>

        <!-- Byte Buddy Agent -->

        <dependency>

            <groupId>net.bytebuddy</groupId>

            <artifactId>byte-buddy-agent</artifactId>

            <version>${bytebuddy.version}</version>

            <scope>test</scope>

        </dependency>

        <!-- AssertJ for fluent assertions -->

        <dependency>

            <groupId>org.assertj</groupId>

            <artifactId>assertj-core</artifactId>

            <version>3.24.2</version>

            <scope>test</scope>

        </dependency>

        <!-- Hamcrest for matchers -->

        <dependency>

            <groupId>org.hamcrest</groupId>

            <artifactId>hamcrest-library</artifactId>

            <version>2.2</version>

            <scope>test</scope>

        </dependency>

    </dependencies>

    <build>

        <plugins>

            <!-- Maven Surefire Plugin for running tests -->

            <plugin>

                <groupId>org.apache.maven.plugins</groupId>

                <artifactId>maven-surefire-plugin</artifactId>

                <version>3.1.2</version>

                <configuration>

                <argLine>-Dnet.bytebuddy.experimental=true</argLine>

            </configuration>

            </plugin>

        </plugins>

    </build>

</project>

**Output:**

