

Exercise 1: Logging Error Messages and Warning Levels

Code:

pom.xml:

```
<?xml version="1.0" encoding="UTF-8"?>

<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>com.example</groupId>

    <artifactId>mockito-demoo</artifactId>

    <version>0.0.1-SNAPSHOT</version>

    <name>mockito-demoo</name>

    <url>http://www.example.com</url>

    <properties>

        <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>

        <maven.compiler.release>17</maven.compiler.release>

    </properties>

    <dependencies>

        <!-- JUnit 5 API -->

        <dependency>

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

            <artifactId>junit-jupiter-api</artifactId>

            <version>5.9.3</version>

            <scope>test</scope>

        </dependency>

        <!-- JUnit 5 Engine -->

        <dependency>

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

            <artifactId>junit-jupiter-engine</artifactId>
```

```
<version>5.9.3</version>
<scope>test</scope>
</dependency>
```

```
<!-- Mockito for mocking -->
<dependency>
  <groupId>org.mockito</groupId>
  <artifactId>mockito-core</artifactId>
  <version>4.11.0</version>
  <scope>test</scope>
</dependency>
```

```
<!-- SLF4J API for logging -->
<dependency>
  <groupId>org.slf4j</groupId>
  <artifactId>slf4j-api</artifactId>
  <version>1.7.30</version>
</dependency>
```

```
<!-- Logback: SLF4J implementation -->
<dependency>
  <groupId>ch.qos.logback</groupId>
  <artifactId>logback-classic</artifactId>
  <version>1.2.3</version>
</dependency>
</dependencies>
```

```
<build>
  <plugins>
    <!-- Maven Compiler Plugin -->
    <plugin>
      <artifactId>maven-compiler-plugin</artifactId>
      <version>3.13.0</version>
    </plugin>
```

```
<!-- Surefire Plugin to run JUnit tests -->
<plugin>
  <groupId>org.apache.maven.plugins</groupId>
  <artifactId>maven-surefire-plugin</artifactId>
  <version>3.0.0-M7</version>
</plugin>
</plugins>
</build>
</project>
```

LoggingExample:

```
package com.example.mockito_demo;

import org.slf4j.Logger;
import org.slf4j.LoggerFactory;

public class LoggingExample {

  private static final Logger logger = LoggerFactory.getLogger(LoggingExample.class);

  public static void main(String[] args) {

    logger.error("This is an error message");

    logger.warn("This is a warning message");

    logger.info("This is an info message");

    logger.debug("This is a debug message");

  }
}
```

Output:

```
1 package com.example.mockito_demo;
2
3 import org.slf4j.Logger;
4 import org.slf4j.LoggerFactory;
5
6 public class LoggingExample {
7     private static final Logger logger = LoggerFactory.getLogger(LoggingExample.class)
8
9     public static void main(String[] args) {
10         logger.error("This is an error message");
11         logger.warn("This is a warning message");
12         logger.info("This is an info message");
13         logger.debug("This is a debug message");
14     }
15 }
```

Console × Coverage

<terminated> LoggingExample [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (02-Jul-2025, 9:01:21 am – 9:01:22 am)

09:01:22.124 [main] ERROR com.example.mockito_demo.LoggingExample - This is an error message

09:01:22.128 [main] WARN com.example.mockito_demo.LoggingExample - This is a warning message

09:01:22.128 [main] INFO com.example.mockito_demo.LoggingExample - This is an info message

09:01:22.128 [main] DEBUG com.example.mockito_demo.LoggingExample - This is a debug message