**SLF4J logging framework**

**Exercise 1: Logging Error Messages and Warning Levels**

**CODE:**

**//Added SLF4J and Logback Dependencies**

<dependencies>

<dependency>

<groupId>org.slf4j</groupId>

<artifactId>slf4j-api</artifactId>

<version>1.7.30</version>

</dependency>

<dependency>

<groupId>ch.qos.logback</groupId>

<artifactId>logback-classic</artifactId>

<version>1.2.3</version>

</dependency>

</dependencies>

**Created a Java Class SLF4JLoggingExample**

//Logging using SLF4J - Error and Warning Level Demonstration

import org.slf4j.Logger;

import org.slf4j.LoggerFactory;

public class SLF4JLoggingExample {

// Creating Logger instance for this class

private static final Logger logger = LoggerFactory.getLogger(SLF4JLoggingExample.class);

public static void main(String[] args) {

logger.info("Application started.");

try {

// Perform a sample operation that causes an error Arithmetic Exception

simulateDivision();

} catch (ArithmeticException ex) {

logger.error("Arithmetic error occurred: {}", ex.getMessage());

}

logger.warn("Warning: Division by zero is not allowed.");

logger.info("Application ended.");

}

// Method that generates an exception for logging demonstration

private static void simulateDivision() {

logger.debug("Simulating division...");

int numerator = 10;

int denominator = 0;

// This will cause ArithmeticException

int result = numerator / denominator;

logger.info("Result is: {}", result);

}

}

**OUTPUT:**

