**Superset ID:**  6125132  
**Name:** Podugu Vinay Kumar

**Week-1:**

**Exercise 1: Implementing the Singleton Pattern**

**Input Code:**

**Logger Class:-**

package singleton;

import java.time.LocalDateTime;

import java.time.format.DateTimeFormatter;

public class Logger {

    private static Logger instance;

    private Logger() {

        System.out.println("Logger is up and running...");

    }

    public static Logger getInstance() {

        if (instance == null) {

            instance = new Logger();

        }

        return instance;

    }

    public void log(String level, String message) {

        String timestamp = LocalDateTime.now().format(DateTimeFormatter.ofPattern("yyyy-MM-dd HH:mm:ss"));

        System.out.println("[" + timestamp + "] [" + level.toUpperCase() + "] " + message);

    }

}

**Logger Test Class:**

package singleton;

public class LoggerTest {

    public static void main(String[] args) {

        Logger logger1 = Logger.getInstance();

        logger1.log("info", "Application started");

        Logger logger2 = Logger.getInstance();

        logger2.log("warning", "Low memory warning");

        if (logger1 == logger2) {

            System.out.println("Same Logger instance used (Singleton confirmed).");

        } else {

            System.out.println("Different instances found (Singleton failed).");

        }

    }

}  
  
**Output :-**

