**SUPERSET ID : 6375627**

**WEEK 1 DESIGN PRINCIPLES AND PATTERNS**

**Exercise 1: Implementing the Singleton Pattern**

**Java Code:**

class Logger {

private static Logger instance;

private Logger() {

System.out.println("Logger instance created."); }

public static Logger getInstance() {

if (instance == null) {

instance = new Logger();}

return instance; }

public void log(String message) {

System.out.println("Log: " + message); }}

public class Main {

public static void main(String[] args) {

Logger logger1 = Logger.getInstance();

logger1.log("First log message");

Logger logger2 = Logger.getInstance();

logger2.log("Second log message");

if (logger1 == logger2) {

System.out.println("Both logger instances are the same.");

} else {

System.out.println("Different logger instances exist."); }

}

}

**Output:**

