Design Principles and Patterns:

Question-1

public class Q1 {

    static 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 static void main(String[] args) {

            Logger logger1 = Logger.getInstance();

            Logger logger2 = Logger.getInstance();

            logger1.log("This is a log message.");

            if (logger1 == logger2) {

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

            }

        }

    }

Output:

