**Exercise 1: Implementing the Singleton Pattern**

**Logger.java**

public class Logger {

    private static Logger instance;

    private Logger() {

    }

    public static Logger getInstance(String userName) {

        if (instance == null) {

            instance = new Logger();

        }

        return instance;

    }

    public void logDetails(String msg) {

        System.out.println("Log: " + msg);

    }

}

**Test.java**

public class Test {

    public static void main(String[] args) {

        Logger log1 = Logger.getInstance("Alice");

        Logger log2 = Logger.getInstance("Bob");

        if (log1.hashCode() == log2.hashCode()) {

            log1.logDetails("Hello");

            log2.logDetails("World");

        }

    }

}

**Output:**

