**Week1:**

**Exercise 1: Implementing the Singleton Pattern**

class Logger {

private static Logger instance;

private Logger() {

System.out.println("Logger Initialized");

}

public static Logger getInstance() {

if (instance == null) {

instance = new Logger();

}

return instance;

}

public void log(String message) {

System.out.println("LOG: " + message);

}

}

class SingletonTest {

public static void main(String[] args) {

Logger logger1 = Logger.getInstance();

Logger logger2 = Logger.getInstance();

logger1.log("First log");

System.out.println(logger1 == logger2);

}

}

