Exercise 1: Singleton Pattern Implementation

public 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 logInfo(String message) {

System.out.println("[INFO] " + message);

}

public void logError(String message) {

System.out.println("[ERROR] " + message);

}

public void logWarning(String message) {

System.out.println("[WARNING] " + message);

}

}

public class SingletonTest {

public static void main(String[] args) {

Logger logger1 = Logger.getInstance();

Logger logger2 = Logger.getInstance();

logger1.logInfo("First log message");

logger2.logError("Second log message");

System.out.println("Same instance? " + (logger1 == logger2));

}

}