First semester 2021/2022
Advanced software development
Assignment # 7: Exception and logging
ETA: 1 Dec midnight.

The objective of this assignment is to allow students to understand the basic principles of Exception handling and logging. In this assignment you will work on this project: https://github.com/mkassaf/AdvancedSoftwareDevelopment/tree/main/Design%20Pattern/Factory%20Method

This assignment contains two parts:

Part 1: Exception handling

This interface **edu.najah.it.capp.asd.intf.Protocol** contains two methods: release and getInstance. You should assume these function may fail with the following errors:

1. Release method:
    a. Connection is already released
    b. Unable to release the connection because of an unknown error
    c. Connection is inuse, you can’t release now
2. getInstance method
    a. No connection is available
    b. Failed to send the data because of a timeout error.
    c. System is too busy now

You need to create exceptions for these errors and handle them based on the exception principles I taught you. **In addition, you must make sure the connection is always released after it is no longer needed.**

Part 2: Logger

I created a logger that prints the logs on the console instead of printing it on a file. The loger called **edu.najah.it.capp.logger.Logger**. This logger contains four methods based on logger level-see example in Demo class-:

```
Logger.getInstance().logInfo("This is a info message");
Logger.getInstance().logDebug("This is a debug message");
Logger.getInstance().logWarning("This is a warning message");
Logger.getInstance().logError("This is a error message");
```

In this part you need to add logs to this project based on the principles I taught you.

Requirements:

1. Add exceptions and use them based on detailed above
2. Add logs and use them based on the project above.
3. Add explactions for your solution in part 1 and 2.
4. Explain why the logger uses a singleton design pattern.