CSCI5308 – Fall 2022 – Assignment 2

S.O.L.I.D. Principles of Object-Oriented Programming

Assessment Objective

The purpose of this assignment is to assess your understanding of the concepts taught in the S.O.L.I.D. Principles of Object-Oriented Programming learning modules and lectures.

We can assess your knowledge of S.O.L.I.D. easily by:
- Asking you to design and program classes that **violate** a S.O.L.I.D. principle.
- Having you design and program some classes that **correct** the S.O.L.I.D. violation

Instructions

Please do the following:

1. In your CSCI5308 individual git repository on your local computer create a folder labeled **A2**
2. Create a subfolder labeled **bad**
3. In your **bad** folder design and program multiple Java classes that **INTENTIONALLY violate** <u>THREE (3)</u> S.O.L.I.D. principles, these classes must be original, designed and created **by you** only, not code from examples from our class or other sources. Use different classes for each principle.
4. In your project, create a subfolder labeled **good**
5. In your **good** package design, and program classes that **fix** each of the S.O.L.I.D. principles violated by your bad classes.
6. Push your code to the **main** branch of your individual assignment repository.
7. Create a document that includes the following:
    a. Your name, CSID and Banner #
    b. A link to your individual assignment repository on Gitlab
    c. A description of the classes and code in the **bad** package. Which principles do the classes violate? **Explain why** the code violates each principle.
    d. A description of the classes and code in the **good** package. How did you correct the principle violations?
8. Submit your document in **PDF** format to Brightspace in the Assignment 2 drop box. This PDF document and your individual assignment repository commit times must be submitted before the due date defined in the syllabus for assignment 2.

NOTE – REGARDING ACADEMIC INTEGRITY:
All code you write for this assignment should be original, designed from your brain, and written by you. Do not discuss your concepts or ideas for your good and bad classes with other students.

All code submitted to Gitlab for CSCI5308 is automatically processed by MOSS and other plagiarism detection software. Do not plagiarize from any other students (current or previous) from this course or any other 3rd party source.

Marking Rubric

Your TAs will examine your code and written response and rate you on the following scale:

Exceptional (A+)
The criteria for an **A**, and in addition, you took on a more challenging principle such as **Liskov's Substitution Principle** or **Dependency Inversion Principle**.

Very Good (A)
You have no issues or incorrect code in your **bad** or **good** examples. Your written document properly describes why your **bad** code violates each S.O.L.I.D. principle and how your **good** code fixes the problems.

Good (B to A-)
One of your **bad** or your **good** examples has small issues or is incorrect. Your written document properly describes why your **bad** code violates each S.O.L.I.D. principle and how your **good** code fixes the problems.

Minimal (B-)
There are multiple issues in your **bad** and **good** code examples. There may be issues in your written document that make your **bad** or **good** explanations confusing.

Unacceptable (F)
Your **bad** examples were incorrect (or are missing), **and** your **good** examples do not correct the problems (or are missing), **and/or** your written document does not sufficiently describe the S.O.L.I.D. aspects of your **bad** or **good** code.