Object Oriented Programming Software Development

Assignment 2

The hospital system that we implemented in the previous assignment violated several SOLID principles. We can see that clearly after trying to add a new type of patient to our program. Your goal in this assignment is to redesign the system to adhere to the SOLID principles.

After you are done with the design, you will need to add a new type of patient to your design. Disease X is a new pandemic that is spreading in an unpresented manner and can only be detected using an antigen test. Your system should be able to process Disease X patients. Just like Covid19, Disease X is an airborne virus attacking the upper respiratory tract (RTI) causing fever, elevated temperatures, and shortness in breath in infected patients. While there are no known cures yet for the virus, doctors are treating patients with REGEN-COV antibody cocktail. Nonpregnant patients are also receiving a therapeutic dose of heparin. Same discharge protocol is being followed for Disease X patients.

- Design requirements:
    - Follow all the coding conventions including but not limited to: naming conventions, comments, …etc.
    - Follow SOLID principles in your design.
    - You can add as many classes, interfaces, methods as necessary to follow the SOLID principles.
    - The program should consider all the expected input scenarios including user errors.
    - Your output could be formatted in any style as long as it has all the expected values.
- Grading criteria:
    - Redesigned UML Diagram (20%)
    - Following SOLID principles in the design (30%)
    - New classes implementation including Disease X patient (50%)
    - Deductions
        - (-40) Syntax Errors
        - (-30) Runtime Errors
        - (-10) Style and Organization
- Submission:
    - Submit a zipped folder that will contain only the 4 java files of the classes you created to D2L.
    - Email submissions will not be accepted.
    - Corrupt files, empty files, invalid format files will result a zero.