Week-2 Assignment

- SWDV-610 - Data Structures
- Wyatt Castaneda

1. Give three examples of life-critical applications.

a. Pacemakers

Pacemakers are definitely a life-criticial application, and the software that runs them must be thoughly tested and designed to keep running despite varying real world conditions.

b. Ventilator systems

As we are seeing in the current COVID19 crises, ventilators are crucially needed to save lifes. Like pacemakers, the software that runs these devices must be self contained, fault tolerant, and reliable.

c. Water purifications systems

The modern world relies on so much technology to maintian our standard of living. One area in particular is water sanitization, where automatic systems are ensuring that the correct levels of chemicals are added to ensure the water leaving the plant is safe. These systems must account for unforeseen circumstances, and must be able to raise alarms when it is in an area/situation where the decision is not clear so that human oversight can effectivly be maintained.

2. Suppose you are on the design team for a new e-book reader. What are the primary classes and methods that the Python software for your reader will need? You should include an inheritance diagram for this code but you do not need to write any actual code. Your software architecture should at least include ways for customers to buy new books, view their list of purchased books, and read their purchased books. The example for a transportation program below should reflect how your visual should look.

See the attached pdf file.

3. In addition to these tasks, you must post a explaining your inheritance diagram from question #2. This allows for you to demonstrate what would theoretically be occurring and how it is organized.

See the link posted in the submission comments.