**Part C**

Task 3 required implantation of a class structure and a human readable input file. The class, Product, was designed such that all member functions were public and all member variables were private. The reasoning behind this was that there has to be diverse functionality available to all, but we did want the ability for anyone to change variables on their own. By keeping the variables private like this, there is greater data integrity, and we can prevent invalid data.

As for the human readable file, this was designed such that it is very straightforward for the user to read, but also very easy to use for the programmer. With labeling the ID, Units, and Price of each product, followed by a blank line between products, it is intuitive to know where one product begins and another ends. The way it was made easy to use from a programming perspective was to use a colon after the name of the member and before the number. This made for an easy delimiter to split up strings and store the data into an object.

**Part D**

The testing of part 3 was a little more complex than expected. Seeing the requirements, while I was initially coding, I put in a flag to detect when the input file had less products than expected. I also initially set up the code such that the loop that reads the file only runs for the product count. These methods very nearly made the program work perfectly on the first time. However, my preemptive fix for having less products than expected was a bit shortsighted. When the code ran in these cases, it was displaying the default Product instance of all 0’s. This made it very identifiable in the code where the problem was. What this experience taught me is that its not necessarily important to make perfect code on the first try. If you plan around the requirements, you can fulfil most of them with no issue, or at least make them easy to identify. Setting default contructors to something easily identifiable or using some descriptive print statements can make the debugging process much easier.