Assignment 3
File IO Project

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Complete the project described below. The completed project will consist of menu driven program and a data class called `InventoryItem`, of which instances will be stored in a file.

`InventoryItem`

Create an `InventoryItem` class that contains fields for:

- product number
- name
- quantity in stock
- and price each.

Include a default constructor that initializes all fields to 0 and "". Include any other functions/methods that you need to process records in the program described in the following steps.

`InventorySystem`

The `InventorySystem` is a menu driven application. The user will choose options 1-4:

1. Initialize file. Give the user a warning that this option will delete all existing data. If the user confirms then create a new empty data file with space for 100 `InventoryItem` objects. The next step will allow the user to enter and edit these items.
2. Allows the user to enter data for as many `InventoryItem`s as he or she wants. All `InventoryItem` product numbers should be between 1 and 100. If the user attempts to enter a product number less than 1 or greater than 100, force the user to reenter the number. Store each record in a file at a location for which the seek value equals the product number minus one times the size of an `InventoryItem` object (because the first item should be stored at position zero).
3. Allows a user to enter an `InventoryItem` product number and display the name, quantity on hand, and price as stored in the file. Allow the user to enter and get output for as many items as he or she wants. If a requested item does not exist, issue an appropriate message.
    - Hint: you can determine whether the item has been saved from the "default values" you will get when reading a file location that hasn't had an actual record stored to it yet.
4. Allows the user to exit the program.

Testing

Make sure that all of your code has been tested

- At least one instance of every class must be created.
- Every method in your code should be tested at least once.
- Remember when testing ranges of values to test above and below the allowable range, and exactly at the end points of the allowable range.

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Style

Write your program using separate .h and .cpp files for each class, and an additional file for the `int main()`.

Your program must be neat, well formatted, and readable (see the style guide on iLearn). Remember you can lose up to 30% for poor style. Don't forget comments that identify the programmer, the program, and the date the program was written in EVERY file.

Upload

Zip your source code file(s) only (they should end in .cpp) and then upload to the iLearn dropbox.

Reference

This assignment is adapted from Exercise 10 from Chapter 13 of Object-Oriented Programming Using C++ Fourth Edition: Joyce Farrell (Course Technology 2009)