

CS 210 - Fundamentals of Programming I

Spring 2006 - Programming Project 1, Part B

70 points

Out: February 23, 2006

Due: March 14, 2006 (Tuesday after spring break)

Part B of this programming project is to implement the program you designed in Part A. The work must be entirely your own except for any help you may receive from the instructor. Name your source file `project1.cpp`. Submit your source file by emailing it as an attachment to `cs210@csserver.evansville.edu` by 5pm on the due date. (**Make sure you send it to csserver. If you send to just evansville.edu, it will not be delivered.**) Also submit a hardcopy of your program to the instructor by 5pm on the due date.

There are a few new implementation criteria:

- The implementation must incorporate any design comments given on your analysis and design. Graded analyses and designs will be available on Monday, February 27, after 3pm during the instructor's office hours. In any case, they will be returned in class on Tuesday, February 28.
- The program should gracefully handle as many cases of invalid input as is practical. The grader will try to "break" your program by entering invalid input. For example, if the user makes an invalid menu choice, the program should print a message saying so and ask again. It should not terminate the program. Other examples of invalid input include entering a negative value for the number of cases to be purchased or sold. **One thing the grader will not test is entering a character where a number is expected.**
- Make sure your program is user-friendly. The prompts should be informative. Any output should be explained and inventory lists should be table formatted. It should be apparent to the grader what he is suppose to do.

Other notes:

- Your program **must** compile for it to be graded. Programs that do not compile will be returned for resubmission for half credit. Programs that substantially do not produce correct results also will be returned. Therefore, it is better to hand in a program late and working than to hand it in on-time and not working.
- Follow the guidelines in the Programming Style Guideline handout. As stated in the syllabus, part of the grade on a project depends on how well you document your program and adhere to the guidelines. The grader will look at your code listing and grade it according to the guidelines.

Example program run

Welcome to the Evansville Distributorship Inventory Program.

This program keeps track of soft drink inventories.
Please enter the beginning inventory for the following brands:

Coca-Cola: 20
Pepsi: 30
Canada Dry: 10
7Up: 10
A&W: 5

The initial inventory is:

Soda	Cases

Coca-Cola	20
Pepsi	30
Canada Dry	10
7Up	10
A&W	5

You may choose from the following menu:

P: Purchase soda
S: Sell soda
D: Display inventory

What is your selection?: P

You may choose from the following soda brands:

1: Coca-Cola
2: Pepsi
3: Canada Dry
4: 7Up
5: A&W

Please enter the code for the soda you are purchasing: 1

Please enter the number of cases purchased: 10

10 cases of Coca-Cola have been added into the inventory

Do you want to do another action? (y/n): n

The final inventory is:

Soda	Cases

Coca-Cola	30
Pepsi	30
Canada Dry	10
7Up	10
A&W	5

Have a good day!

Extra Credit (5 points)

For extra credit you may have your program read in the initial soda inventory from a file named `week1.dat` (rather than entered interactively from the keyboard). This file should consist of 5 integers representing the initial inventories of the 5 brands of soda in the order given in Part A. You may assume that the file contains valid initial inventories (i.e., the integers will be greater than or equal to zero.) When the user chooses to quit, in addition to being displayed on the screen, the current inventory should be written out to a file named `week2.dat`. It also should consist of 5 integers representing the final inventories of the 5 brands of soda in the order given in Part A.

For example, if `week1.dat` has the following data:

```
20
30
10
10
5
```

Then an example run of this version might look like:

```
Welcome to the Evansville Distributorship Inventory Program.
```

```
This program keeps track of soft drink inventories.
The initial inventory has been read from file week1.dat.
```

```
The initial inventory is:
```

Soda	Cases

Coca-Cola	20
Pepsi	30
Canada Dry	10
7Up	10
A&W	5

You may choose from the following menu:

P: Purchase soda
S: Sell soda
D: Display inventory

What is your selection?: P

You may choose from the following soda brands:

1: Coca-Cola
2: Pepsi
3: Canada Dry
4: 7Up
5: A&W

Please enter the code for the soda you are purchasing: 1

Please enter the number of cases purchased: 10

10 cases of Coca-Cola have been added into the inventory

Do you want to do another action? (y/n): n

The final inventory is:

Soda	Cases

Coca-Cola	30
Pepsi	30
Canada Dry	10
7Up	10
A&W	5

This data has been written to file week2.dat.

Have a good day!

Note: In KC-267, when a program is run using Start Without Debugging, the default folder is set to C:\WINDOWS (because the .NET system doesn't trust a program coming from a network drive that it's not debugging), so all input and output files must be in this folder. On the other hand when a program is run using Start Debugging, the input and output files are expected to be in the project folder. If you develop this program on your own machine with the project folder on the local drive, then the output file will be written to the project folder in both cases.