Programming Assignment #8

Simulate a Vending Machine

CS 1428.254, Spring 2012
Instructor: Jill Seaman

Due: in class Tuesday, 4/24/2012 (upload electronic copy by 9:00am)

Problem:

Write a program that simulates a soft drink machine. The program should use a structure that stores the following data:

> Drink Name
> Drink Cost
> Number of drinks currently in the machine

The program should create an array of four structures. The elements should be initialized with the following data:

Drink Name	Cost	Number in Machine
Coke (can)	0.75	5
Coke (bottle)	1.25	5
Water	1.25	5
Full Throttle	2.00	5

Each time the program runs, it should enter a loop that performs the following steps: A list of drinks is displayed on the screen. The user should be allowed to either quit the program or pick a drink. If the user selects a drink (that has not sold out), the program should display the cost of the drink and subtract one from the number of that drink left in the machine. If the user selects a drink that has sold out, a message should be displayed. The loop then repeats. When the user chooses to quit the program it should display the total amount of money the machine earned.

NOTES:

- Use named constants for the number of drinks and the initial quantity.

- Use functions as we will discuss in class this week (or as you see fit) (or use no

functions for partial credit). Since the array is always full (not a partial array) you don't need to pass the size as a parameter.

- I recommend using integers for the drink choices.

- Don't use a switch to process the drink choices. If the choice is any one of the drinks (1-4) you will process them using the same code.

- Validate the drink choice input from the user (1-5).

- Calculate the earnings by iterating over the table after the user has chosen to quit the program (do not compute the earnings inside the main loop). [This will give you more practice with structures and arrays.]

The output from a test run of the finished program will be available on the class website (assign8output.txt).

Style:

See the Style Guidelines document on the course website. The grader will deduct points if your program violates the style guidelines.

Logistics:

Your program must be free of compiler errors.

Do you not use any features of C++ that we have not yet covered in class (use features from Chapters 1-7, 11 only).

Name your file **assign8_xxxxx.cpp** where xxxxx is your TX State NetID (your txstate.edu email id). The file name should look something like this: assign8_js236.cpp

There are two steps to the turn-in process:

1. Submit an electronic copy using the upload link on the course webpage (or go directly to https://hwupload.cs.txstate.edu)
    by 9:00am, Tuesday 4/24/2012

2. Submit a printout of the file at the **beginning of class on Tues 4/24/2012**. Please print your name on the front page, staple if there is more than one page.

See the following for details about turning in homework late:
http://www.cs.txstate.edu/~js236/cs1428/assignmentpolicy.txt