Final Project

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Your Final Project: your personal Stock Portfolio Management System

An Equity is a stock or share of a company that is traded in Equity Markets such as the NY Stock Exchange. Typically, the stocks of a company is assigned a symbol (e.g. Apple Inc.'s stocks have the Symbol AAPL). When someone buys stocks, they buy certain number of stocks (called volume) at a certain price as dictated by the
stock market. Everyday, when the stock market is open, stocks start at an opening price and at the end of the day, the
stocks have a closing price.

Design a Stock class that has data members for the following:

- Symbol
- Volume
- Opening Price
- Closing Price
- Buy Price

The class should be appropriately designed and be properly encapsulated.
- It should have meaningful names and accessibility for the data members
- It should have a well designed Constructor(s)
- It should have appropriate accessors for all data members
- It should have appropriate mutators for all data members

- It should have an appropriate member function that computes current holding (H)
    - H = volume * buy price

- It should have an appropriate member function that computes holding at market open (OH)
    - HMO = volume * opening price

- It should have an appropriate member function that computes holding at market close (CH)
    - HMC = volume * closing price

In your main program:

1. Create an array of 5 Stock objects.

- You can pick the top 5 stocks from here:
- https://finance.yahoo.com/most-active
- you can find out some sample opening price by clicking on a symbol:
- https://finance.yahoo.com/quote/AMD?p=AMD
- Otherwise, you can always make up your own fictitious dummy data.

2. In a loop ask the user to enter the data for 5 stock objects in your array:
    - Symbol, Volume, Buy Price, Opening Price, and Close Price.
    - Use the mutators of your class to set the data

3. In another loop call the appropriate object methods to compute H, HMO, and HMC for the 5 stocks in your stock array,
and display the results. The Display can be like this (assuming user entered these symbols):

SYM=AAPL, H="amount", HMO="amount", HMC="amount"

SYM=IBM, H="amount", HMO="amount", HMC="amount"
SYM=CFO, H="amount", HMO="amount", HMC="amount"
SYM=TOY, H="amount", HMO="amount", HMC="amount"
SYM=TAR, H="amount", HMO="amount", HMC="amount"
("amount" should be replaced with the actual dollar figure, without the double quotes)

4. Finally show the Total Holding of all stocks in the portfolio (i.e your collection of 5 stocks), along with the Total Holding
at market open and the Total holding at market close. The Display should be like this:

SYMS = AAPL, IBM, CFO, TOY, TAR
Total H: "amount"
Total HMO: "amount"
Total HMC: "amount"
("amount" should be replaced with the actual dollar figure, without the double quotes)

Error Validation:
The following should result in an error and prompt user to correct data:
- Symbol is not allowed to be blank and should not be more than 5 characters long
- volume must be greater than 0.
- all prices must be greater than 0.

What to submit:
1. Submit a print out of your program.
2. Attach some output displaying the results of one of your runs.
3. **Submit this assignment by Dec 12**
4. Earlier submission is most welcome.

How you will be graded:
1. Indenting, Coding Style: 3 points
2. Comments: 3 points
3. Appropriate use of constants: 3 points
4. Class Design: 3 points
5. Accuracy of your program: 3 points.

Email/Talk to me if you need any clarification.