

Savings Dividends

In this assignment you will develop a program to process a file containing information for one stock. The output will include the company ID, stock purchase price, stock selling price, number of shares, broker fee, dividend, tax and final gain or loss.

The input file:

The input file for this program is named "StockFile.txt". A sample input file is given below. The input file begins with one header line, which is meaningful to a human reader but must be ignored by the program. The **second** line starts the data. First a label (only useful to a human reader), for example "Company" followed by a "|" then the company's name. The rest of the data follows in a similar manner. No input line will be more than 255 characters.

Current Dividend data for:	
Company	CSC
Purchase Price	10.00
Selling Price	30.00
# Of Shares	100
Brokerage Fee	25.00
Dividend	0.10
Tax Rate	0.20

What must be calculated:

The company name, number of shares, purchase price, selling price and broker fee are given to you. You must calculate the dividend, tax and net gain or loss. The Dividend will equal the Number of shares times the dividend amount. The tax will be the TaxRate times the quantity of the selling price minus Purchase price times number of shares. The net gain/loss is the value of the Selling Price minus the Purchase price; that value times the number of shares plus the calculated dividend **minus twice the brokerage fee, (once for the stock purchase and once for the sale of the stock).**

The output file:

The output file is named "Stockdata.txt". An output file, which corresponds to the given input file, is shown below. The first two lines specify the programmer and the assignment, and the third is blank. The fourth and fifth lines specify column headers for the stock data. The sixth line is dashes. The seventh line will contain the data about the stock.

When a decimal number is written, the number of digits displayed after the decimal point is called the precision of the displayed value. The dividend, tax and Gain/Loss must be written with precision of two (as shown in the output sample).

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CS 1044 Project 3 Spring 2001
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Company Name	Number of shares	Purchase Price	Selling Price	Fee	Dividend	Tax	Gain/Loss

CSC	100	\$10.00	\$30.00	\$25.00	\$10.00	\$400.00	\$1960.00

If you have read the description of how the Curator scores your program in the *Student Guide*, you know that is important that you use the same spelling and capitalization for all the labels shown above. The horizontal spacing does not effect scoring unless you combine things that should be separate or separate things that should be combined.

Documentation and other requirements:

You must meet the following requirements (in addition to designing and implementing a program that merely produces correct output):

- write a header comment with your identification information, the required pledge statement (below), and a brief description of what the program does.
- write a comment explaining the purpose of every variable and named constant you use.
- write comments describing what most of the statements in your program do.
- use descriptive identifiers for variables and for constants.
- use named constants instead of “magic numbers” whenever it is appropriate.

Submitting your program:

You will submit this assignment to the Curator System (read the *Student Guide*), and it will be graded automatically. Instructions for submitting, and a description of how the grading is done, are contained in the *Student Guide*.

You will be allowed up to five submissions for this assignment. Use them wisely. Test your program thoroughly before submitting it. Make sure that your program produces correct results for every sample input file posted on the course website. If you do not get a perfect score, analyze the problem carefully and test your fix with the input file returned as part of the Curator e-mail message, before submitting again. The highest, earliest score you achieve will be counted.

The *Student Guide* can be found at: <http://ei.cs.vt.edu/~eags/Curator.html>

The submission client can be found at: <http://spasm.cs.vt.edu:8080/curator/>

Evaluation:

Your submitted program will be assigned a score based upon the runtime testing performed by the Curator System. We will be evaluating your submission of this program for documentation style.

Pledge:

Each of your program submissions must be pledged to conform to the Honor Code requirements for this course. Specifically, you **must** include the following pledge statement in the header comment for your program:

```
// On my honor:
//
// - I have not discussed the C++ language code in my program with
//   anyone other than my instructor or the teaching assistants
//   assigned to this course.
//
// - I have not used C++ language code obtained from another student,
//   or any other unauthorized source, either modified or unmodified.
//
// - If any C++ language code or documentation used in my program
//   was obtained from another source, such as a text book or course
//   notes, that has been clearly noted with a proper citation in
//   the comments of my program.
//
// - I have not designed this program in such a way as to defeat or
//   interfere with the normal operation of the Curator System.
//
// <Student Name>
```

Failure to include this pledge in a submission is a violation of the Honor Code.