Programming Assignment #3
CS 162: Introduction to Computer Science

Submit your assignment to the D2L Dropbox
Email a backup copy to karlaf@pdx.edu

LATE work will be accepted – but ONLY within a week of the original due date.
We do not accept late work beyond that

Programming. The purpose of the third program is to continue refining our use of functions and arguments in C++ and practice using **arrays of characters, structures, and external data files**. This is directly related to what was learned with Lab #5. Again, our goal is to create programs with a small functions where main delegates to a series of functions where the real work takes place. In this programming assignment, you are **not** allowed to use global variables. Limit your functions to no more than 30 statements of code (for executable statements… *not counting variable definitions, blank lines, lines with just curly brackets, or comments*).

Program Assignment:
Have you put a resume together yet? I know my daughter created her resume in high school. But, as you get experience, degrees, and employment your resume will be updated. What happens if you need to go back and use a previous version of your resume? Did you write over it when you made changes? Or, did you save it under a different file name that now has gotten lost? I've done both in my career.

Your job for program #3 is build a program to help assist you in keeping track of the vital information that is part of your resume and instead of rewriting it when there are changes, your program will track changes. You should keep track of at least the following information for each update of your resume using two different structs:

1. Your name
2. Degree and College/University
3. GPA
4. Current Employment (this should be a separate struct)
    a. Start date
    b. End date or "Current"
    c. Company
    d. Description

A large piece of this assignment is to use external data files, so that all new information to be added to your resume won't be lost. *For us, have your program create a file called "resume.txt".*

Remember with external data files, the information that you store in the files must be written in such a way that it is easy to read it back in. Also, make sure to keep all files in your "current working directory" on linux as the grader will not be able to replicate your directory structure.

IMPORTANT: Your program should allow information being tracked to be appended to the end of the existing file (or to create a file if it was empty) and allow the user to display the information from the file in a meaningful way. Let the user continue to do this using a loop until they want to quit.

Extra credit: +3 points Allow the user to search for a particular employer in your job history.

****You are always welcome to do more! Really focus on making general purpose functions that can be re-used. And, get more practice with arrays of characters!***

Things you should know...as part of your program:

1. Make sure to prompt the user for any input requested. Make sure it is clear from your prompts what the user is expected to do.
2. You may not use any global variables in this program!
3. You may **not** use the string class – instead use arrays of characters. You **are allowed** to use the cstring library.
4. Make sure to use C++'s I/O (iostream library) for your input and output.
5. After each input operation, make sure to use cin.ignore to remove the delimiters!
6. With external data files, first read before checking for end of file:
    i. Read the first item
    ii. While (!infile.eof())
        1. Process what was read
        2. Read again (prime the pump!)

To get full credit for the programming portion, you will need to:

1. Turn in an algorithm written using full English sentences (it may be provided in outline form, paragraph form, or graphical (such as a data flow diagram)). It can be supplied as part of your header comments or as a separate file.

2. Program using a consistent style of indentation, header comments for each function, inline comments for each major block of code
3. Make sure to put your name in your program
4. Submit an electronic copy of your .cpp file as an attached file to the dropbox on D2L (go to: http://d2l.pdx.edu/ to login). Make sure to hit the submit button after uploading your files (otherwise they will be lost)