CS 1428 Honors
Lab 5

Jared Wallace

Questions

1. (5 pts) What is the name of the compiler usually installed by default on Linux distros? (For 2 bonus points per compiler, name some alternatives)

2. (5 pts) What's the difference between a text editor and a program like Code::Blocks?

3. (15 pts) Describe the process used to write, compile and execute C++ programs on the command line.

4. (5 pts) Name one benefit and one drawback to using an IDE (Integrated Development Environment)

5. (20 pts) Debug the following code. There are 3 syntax errors, 2 things missing, and 2 logic errors. You may use the computer to debug, but you must do so by using a text editor and compiling/running on the command line.

```
#include <iostream>

int main()
{

    const double WEIGHT;
    WEIGHT = .3;

    cout << "Enter in three grades to average "<< endl;

    int grades[3];

    for( int x = 0; x <= 3; x++ )
        cin >> grades[x];

    int total = 0;

    for( int x = 0; x < 3; x++ );
```

```
        {
            total += grades[x];
        }
        double average = grades / 3;

        if( average > 69.4 )
            cout << "Your grade is " << average << endl;
            cout << "You passed!" << endl;
        else
            cout << "You failed :(";

    }
```

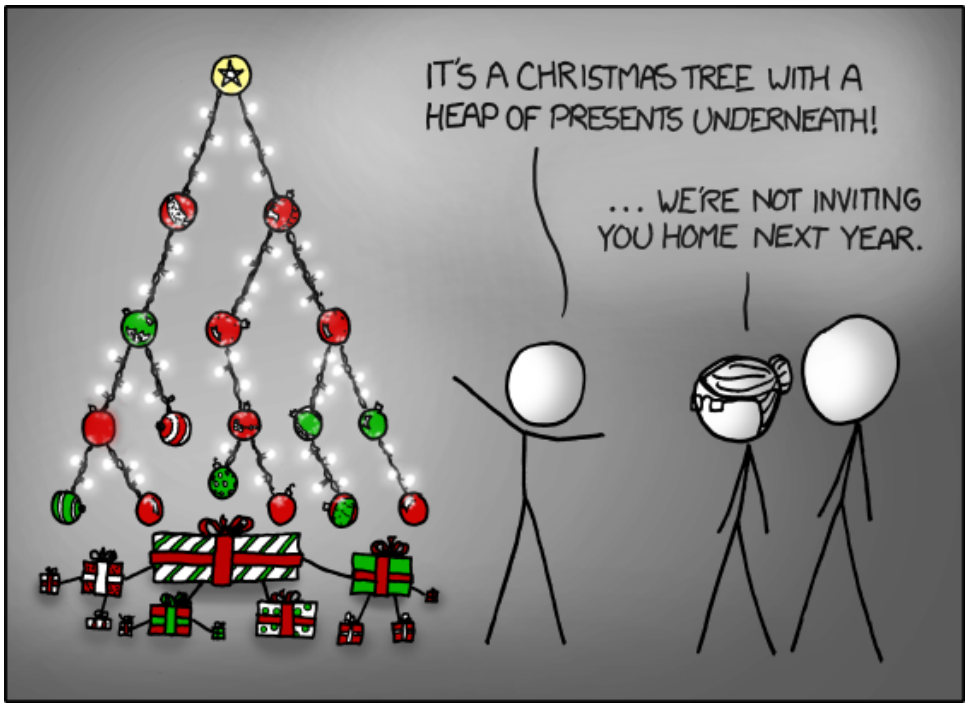
6. (50 pts) Go to `http://hwupload.cs.txstate.edu` and download the project you did last week. Today you are tasked with converting 2 simple programs (supplied) to run on your homebuilt assembler. You are allowed and encouraged to work together; collaboration will make this much easier. If you choose to work on the command line, I will give 5 bonus points. (You will need to let me know, and show me the compilation process) The two programs are described below, and sample versions written in C++ have been provided. (Note: the conversion will not be cookbook, it will require some ingenuity.) As always, I will give partial credit.

    - Write a program for your assembler that calculates the tip that you would owe on a meal. The program will need to read in from stdin(the console) the price of the meal and the amount of tip you wish to leave (integers *only*). The program should then print out the tip that you owe in dollars. Our assembler is dumb and can't handle floating point arithmetic, so truncation is perfectly acceptable here.
    - Write a program for your assembler that accepts the values of exactly 3 daily grades and exactly 2 test grades. The program should then weight them accordingly (daily grades are worth 40 percent, tests are worth 60 percent) and print out the average. Our assembler is still unable to handle floating point arithmetic, so truncation is still acceptable. Hint: First, try to figure out how to find a weighted average without the help of floating point calculations.

Deliverables

Hard copy of the source code you wrote (tip.txt and test.txt) and the answers to the questions. Soft copy (upload to homework upload) of all your source code files. *Don't forget to make a commit!*

```
git add tip.txt test.txt
git commit -m 'Insert witty commit message here'
git push
```



Not only is that terrible in general, but you just KNOW Billy's going to open the root present first, and then everyone will have to wait while the heap is rebuilt.