Programming Style and Errors

9-12-2001

Opening Discussion

- What did we talk about last class?
- Do you have any analysis type questions on the homework problem?
- vi and Linux are not on the tests, but you do need to know them to complete the assignments.
- enld vs. \n
- #include statements (to .h or not)
- Exponents in C++ use pow function.

FTP for Linux

- The general way to move files to and from a Linux machine is with a program called FTP. FTP comes with every Unix and Windows OS. You can also get nice graphical versions of FTP for Windows.
  - "open machine-name" opens a connection
  - "close" closes a connection
  - "cd" to change directory on remote machine
  - "lcd" changes your local directory
  - "get" and "put" move a specified file. "mget" and "mput" allow wildcards.
  - "quit" to exit

Type Casting

- One topic that we didn't cover on Monday was that of type casting. C++ does not like it when you try to assign a double value to an integer variable. If you really want to do this you have to "cast" the double to an integer type.

```
int i;
double x=2.5;
i=2*x;   // Generates warning
i=(int)2*x;  // No warning.
```

Solving a Simple Problem

- We are going to go through the solution of creating a program to calculate grades for this class...almost.
- We will start off by doing the analysis of the problem. What elements are involved in your grade for this class and how?
- Now we can do the design. Is there something we will have to leave out because we don't know enough about C++ to do it yet? Does this alter our analysis?

Style in the Code

- Page 69 in the text has a list of recommended things you can should do to make your code both readable and understandable. I expect you to follow all of them.
- When we talk about loop and if-else structures we will talk more about how to arrange curly braces and indent the code for better readability.

Errors

- Syntax errors - These are the easy errors because the compiler finds them for you and tells you about them. The way it tells you can be cryptic at times though.
- Runtime errors - This is where the code compiles properly but when it executes it crashes. Something like divide by zero.
- Logic errors - These are the real difficult ones to locate. Often originate in design.

Minute Essay

- What did we talk about today? Do you now feel confident to write a simple program in C++ (such as the one you have been assigned)?
- Read chapter 3 for Friday. You should certainly get through 3.2 to help you understand what will be discussed.