Basic Cpp(C++) and Cmd/Terminal Usage Crash Course

Downloads

Mac's include a cpp compiler in their operating system however for a windows computer you will need to download one.
I have found this version to work rather well.
http://tdm-gcc.tdragon.net/download

Cmd(Windows)

Basic Commands

help

This will display all possible/available commands

dir

This will display all files and folders in the current folder

cd

open/enter a folder

Ex: opens "Documents"
cd Documents

Ex: opens preceding folder
cd ..

mkdir

This will create a folder in the current folder

Ex: Creates a folder named "Test
mkdir Test

del

delete a folder or file

Ex: deletes "Test
del Test

Terminal(mac)

Basic Commands

man (manual)

This will display all possible/available options for a command

Ex: opens the manual on the command “man”
man man

ls

This will display all files and folders in the current folder

cd

open/enter a folder

Ex: opens “Documents”
cd Documents

Ex: opens preceding folder
cd ..

mkdir

This will create a folder in the current foder

Ex: Creates a folder named “Test
mkdir Test

rm

remove a folder or file

Ex: removes “Test
rm Test

1. Create a text document

Start by using the **cd** command to navigate to the desired folder (the one that will contain your project)
use **dir**/**ls** to help locate yourself in your file tree.
use **mkdir** to create a new folder.
create a new text document.
windows: **notepad “filename.cpp”** //creates and then opens a file named with

notepad “filename”
*make sure that you end the file with .c so that when we compile the program the compiler recognizes it as a c++ code document

mac: **touch “filename.cpp”** //creates a blank file named “filename”
open -a textEdit “filename.cpp” //opens the file names “filename” with textEdit
*make sure that you end the file with .cpp so that when we compile the program the compiler recognizes it as a c++ code document

2. Hello World

Now that we have a basic text editor open and a file has been created lets write our first program in c++.

```
// my hello world program                    //“//” are deliminators, they can be used to create a comment and not interfere with the actual code. When compiling the compiler will ignore everything past the deliminators
#include <iostream>                          // this is here to include a library that the computer uses to print out outputs.

main()                                       // this is our main function upon execution the code starts here
{                                            // this signifies the start of the function
        std::cout << “Hello World!”;         // this is the main operation of the main function. it prints out the string “Hello World!”
        return 0;                            // while not explicitly necessary this tells us that the program ran and exited properly thus returning a “0”
}                                            // this signifies the start of the function
```

3. Compile

We are now ready to compile the text document into something that the computer can understand.

Windows

In Cmd, inside the folder that contains our “main.c” document execute the following command.
g++ filename.cpp //this will use the program (a compiler) named g++ to output a file named “a.exe” (a.exe is the default name) that is compiled from the code located in the file called “filename.cpp”

Mac

In terminal/Cmd, inside the folder that contains our “filename.cpp” document execute the following command.
g++ -o main.c filename.cpp //this will use the program (a compiler) named g++ to output (-o) a file named “main.c” that is compiled from the code located in the file called “filename.cpp”

4. Run

Now lets run the program!

Windows

In Cmd, inside the folder that contains our “main.c” document execute the following command.
a.exe //this will run our compiled program and hopefully print out “**Hello World!**”

Mac

In terminal, inside the folder that contains our “main.c” document execute the following command.
./main.c //this will run our compiled program and hopefully print out “**Hello World!**”

5. Complexity++

Now that we know the very basics of creating, compiling, and running a program lets make a program that is more complex.

a.

create a new .cpp file, in a new folder and open it in a text editor. (the same thing we did to create the hello world program)

b. For-Loop!

```
#include <iostream>
using namespace std;                                    //This is here so that we do not need to write “std::” before printing anything new, and can instead just use “cout”

int main ()
 {
        for( int a = 10; a < 20; a = a + 1 )            //Starting at a=10 we iterate a once every time through the loop and keep doing that as long as a < 20
        {
                cout << “value of a: “ << a << endl; //The same print statement as last time however this time we will print out a changing variable “a” and at the end
                                                        //we will terminate the print line (endl) same as hitting the “enter key” in a text document
        }
   return 0;
}
```

c. Compile, run, and see what you get

create a new .cpp file, in a new folder and open it in a text editor. (the same thing we did to create the hello world program)

-Lolomolo