

Using Apple Computers to complete Dev-C++ programming lessons

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November 24, 2015

As an introduction to programming in C language, a series of tutorials created by Parallax.com were edited to be compatible with the Dev-C++ IDE software. This IDE is available only for computers running Windows. However, if you have an Apple computer, there is alternative software that you can use to complete the Dev-C++ lessons. Some of the instructions in the Dev-C++ lessons are specifically for the Dev-C++ software. However, the portions of the lessons that deal with writing the C language code are applicable to both the Windows and Apple computers. Follow the directions below to install the necessary alternative software for Apple computers. The instructions also cover how to compile the code after it is written. If you have any problems with using an Apple computer with these lessons you should ask for help.

1. Check your OS version: click the apple in upper left corner of screen and select "About this Mac" A box will open providing the name of the OS, for example, OSX Yosemite and the version number. Write down the complete version number and OS name.

2. Go to this address: <https://developer.apple.com/downloads/>

If the link does not work for you, do a Google search for this: **Command Line Tools for Xcode**
The first item found in the search will probably be the Apple developer web site

3. You will need to log in with your Apple ID number and the password associated with that number. If you have an iTunes account, I think that may also work as your ID number and password.

4. After you successfully log in, a Downloads for Apple Developers web page should appear. This will contain a list of software. The one you want to download is named **Command Line Tools**. There will be different versions of **Command Line Tools** depending on your OS version. Make sure you don't download a version that is listed to work with an OS version higher than the one you have on your Mac. For example, my Mac is running OSX Yosemite, version 10.10..... By error, on my first try to install, I selected the Command Line Tools for OSX 10.11, but it would not install on my computer. I had to go back and download the version for OSX 10.10. If you have an older OS on your Mac, you may need to scroll the page down quite a bit to find a version that will work for you. I think you will need OSX Lion, Mountain Lion, Mavericks or Yosemite or more current.

5. After you download the Command Line Tools, install it on your Mac

6. You will need a special text editor to write the C language code (the text editors that come with the computer won't work). I tried one named TextMate and it worked well for me. You can download it from here: <https://macromates.com>

7. Write your code with TextMate and be sure to save the file with the extension .c For example, if you wanted to save a file with the name hello, then name it hello.c

8. After you have finished writing your code and have saved the file, you will use the Command Line Tools to compile the program. Compiling is the process of converting your code into an "executable" program. There is no program named Command Line Tools that you should open, so don't go looking for it. Instead, you need to open the "Terminal" program. You can find that using the Finder. Open

Applications, then open Utilities. Inside the Utilities folder you should find the Terminal program. So open the Terminal.

9. A small terminal window will open. You will probably wonder what you should do next since this program does not look like any other you have probably used. In the terminal you must enter commands. There are no menus to select functions. It works like an old fashioned computer. The terminal uses commands of the Unix structure. So there are a few commands you need to know.

If you type `ls` (that is lower case `ls`) and then press Enter, a list of files and folders will be displayed on the screen. The terminal always starts at the top of the file structure. I think you will find the folder named **Documents** listed. That is probably where you saved your code file. Assuming that is the case, then your next command to do in the terminal is this:

```
cd Documents
```

The command `cd` means "change directory" and since you typed in the name `Documents` after the `cd`, the terminal now changes to the `Documents` directory (directory is the same thing as a folder). You need to be set to the directory where your file is stored before you can compile it. Just to make sure you are in the correct directory, type this command again: `ls`

That will list the files inside the `Documents` folder. Make sure your code file is listed. If it is, then you are ready to compile your code. Suppose your file is named `hello.c`. Then do this command:

```
cc -o hello hello.c
```

Let's break that command down.

`cc` means compile the file

`-o` (not a zero but `o`) is a switch, which means the compiled file will have the name following the switch `hello` will be the name of the executable file

`hello.c` is the name of the code file which you wish to compile.

I realize this is a lot to digest. Please let me know if you get stuck somewhere in the process.