

Lesson: theory
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Basic Programming Theory

Ok, so if this is your first time programming there are a few things you need to know what they are.

There are many different programming languages (BASIC, C, C++, Java, Assembly, Python... and many more) All programming languages however have some similarities

First off, when you are programming you need 2 things at minimum, a text editor and a compiler. The text editor is where you will be typing up your programs and the compiler is where the computer will take the code that you have typed and converts it into the correct machine language. Usually you can find free compilers; however companies like Microsoft will market compilers that do other things, like allow you to create whole projects or debug your code, or random things like that.

When programming anything except for very low level programming languages, you use what's called a library when you are coding. A library is just a group of functions (a list of commands that are all executed when it is called) that would normally take a lot of commands, and make it very simple. For example, in C++ the library `iostream` is a collection of basic commands such as printing text and things like that. So instead of the massive amount of code it would take to say `print` (it doesn't sound like it, but it is a lot) you could just type `cout` and it would do the same thing. When you are coding you will, 99.99%, of the time be using some library so that you have the right commands.

Below is a list of just general terms, you can use as a reference is you do not understand a word that I am saying. If I forget to add something, just ask me what it means.

Function: defined above, it is a bunch of commands that are already written out for you so that it is much easier for the programmer.

Method: java for of a function (really just saying, incase people that take comp sci talk about programming)

Compiler: what converts the text to a machine readable code

When I refer to a language as a high level language or a low level; language, it is talking about how advance you can get. For example BASIC is a high level language, because it is easy to learn, but you cannot do much with it. C++ would be a mid to low level programming language, because of the complexity of it, but it is not impossible. Assembly would be a very low level programming language because of the fact that it is very complicated, but it can do absolutely anything.

So yeah, what do you think, this is a first draft. What's bad what's good? I think it's kind of confusing for those that don't know what I'm talking about, but leave posts with what you think