Introduction and Setup

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January 15, 2025

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3.1 Tools Required

3.1.1 Text Editor

- What is a text editor? A tool that edits text. `// duh`

- **Text Editor vs. IDE**: A text editor is a basic tool for writing plain text. An IDE (Integrated Development Environment) is a more comprehensive tool that includes debug software, build automation, and autocompletion.

- Some popular text editors include:

  - **Visual Studio Code**: A very popular and free IDE with support for C++ through extensions.
  - **CLion**: An IDE built specifically for C and C++ with many advanced features.
  - **Vim**: My personal choice. Incredibly powerful with a steep learning curve. Requires more setup and configuration.

3.1.2 Compiler

- **Definition**: The compiler converts your C++ source code into machine-readable instructions.

- Common C++ compilers include:

  - **clang**: My personal favorite, known for diagnostics.
  - **gcc**: The GNU Compiler Collection, a very popular compiler.
  - **MSVC**: An increasingly irrelevant piece of garbage.

- Throughout the lecture series, I will be using **clang**. If a certain clang flag or directive does not work for your compiler, simply look up its equivalent.

3.2   Install Instructions

The following links direct you to the best VSCode for C++ installation articles I could find. Choose the tutorial that corresponds to your operating system, if wanting to use VSCode:

- MacOS

- Windows

- Linux

3.3   `"Hello, World!"` Example