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<mark>What is the difference between a compiler and an interpreter? What are the words that make up a high-level programming language?</mark>

The difference between a compiler and an interpreter is simply that a compiler takes the entire source code of a high-level programming language and compiles it into machine-readable code completely before the program runs. In turn, the application will run faster because all of the source code is already fully translated. Languages that are commonly compiled are C and C++. According to the (ZyBooks, 2025); "A program written in a compiled language is first converted by a tool (compiler) into machine code, which can run on a particular machine. Examples include C, C++, Java, and C#."

An interpreter acts differently because it translates the high-level code line by line into machine-readable code every time the program runs or during the runtime. This means that the code can be executed more flexibly, which has its own advantages. The disadvantages are that now the code will often run slower than the compiled code. According to (ZyBooks, 2025); "An interpreted language (aka scripting language) is a language that is run one statement at a time by another program called an interpreter. Examples include Python, JavaScript, and MATLAB."

This raises the question: what are these high-level programming languages made up of? And the answer is keywords, identifiers, operators, and literals. These words are human-readable to make the process of making algorithms easier. A good example of a Python keyword is "print," which is just a name given to a keyword to describe a specific function.

Overall, it is very interesting how all of these layer's work together to make applications and data work. I think that understanding the difference between these two processes is extremely important to any programmer.

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