

Software

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Introduction to Software

- **Software:** A collection of programs to fulfill a particular requirement.
If **hardware** is the physical stuff that you can pick up and hold, **software** is the intangible instructions that tell the hardware what to do.
- **Coding:** Translating one language to another.
- **Scripting:** Coding in a scripting language.
- **Scripts:** Mainly used to perform a single or limited range task.
- **Programming:** Coding in a programming language.
- **Programming languages:** Special languages that software developers use to write instructions for computers to execute.
- **Copyright:** Used when creating original work.
- **TYPES OF SOFTWARE:**
 - **Application software:** Any software created to fulfill a specific need, like a text editor, web browser, or graphic editor.
 - **System software:** Software used to keep our core system running, like operating system tools and utilities.
- **Firmware:** Software that's permanently store on a computer component.
- Binary code instructions would be translated to this:
 - Grab some input data from this location in memory.
 - Using the input data, do some math.
 - Then put some output data into this location in memory.
- **Assembly language:** Allowed computer scientists to use human readable instructions, assembled into code that the machines could understand.
- Program using machine instructions:
 - Take integer from register 1.
 - Take integer from register 2.
 - Add integer from register1, and register 2, and output to register 4.
- **Compiled programming languages:** Uses human readable instructions and then send them through a compiler.
- The **script** is run by an interpreter, which interprets the code into CPU instructions just in time to run them.
- **Software bug:** An error in software that cause unexpected results.
- **Git:** A version control system that helps keep track of changes made to files and directories.
- **.exe:** A file extension found in Windows for an executable file.
- **Automation:** Makes processes work automatically.