
Machine-language programs

The main reason to program in machine language is to get more speed. A program in machine language can run much faster than the same program written in high-level languages such as BASIC or Pascal, but the machine-language version usually takes a lot longer to write. There are other reasons to use machine language: you might want your program to do something that isn't included in your high-level language, or you might just enjoy the challenge of using machine language to work directly on the bits and bytes.

❖ *Boning up on machine language:* If you have never used machine language before, you'll need to learn the 65C02 instructions listed in Appendix A. To become proficient at programming in machine language, you'll have to spend some time at it and study at least one of the books on 6502 programming listed in the bibliography. With the books and Appendix A, you'll have the needed information to program the 65C02.

You can get a hexadecimal dump of your program, move it around in memory, or save it on tape and recall it using the commands described in the previous sections. The Monitor commands in this section are intended specifically for you to use in creating, writing, and debugging machine-language programs.

Running a program

The Monitor command you use to start execution of your machine-language program is the GO command. When you type an address and the letter G, the Apple IIe starts executing machine language instructions starting at the specified location. If you just type G, execution starts at the last opened location. The Monitor treats this program as a subroutine: it should end with an RTS (return from subroutine) instruction to transfer control back to the Monitor.