

Definitions

“Introduction to programming”
27 April 1999

branch	A sort of decision point in a program, usually of the form IF-THEN-ELSE. If some condition is true, then the program will perform one action; else, the program will perform some other action.
bug	A mistake in a program.
compiler	A type of program that translates source code (written in some programming language) into sequences of ones and zeros (object code) that a computer can understand.
debugging	The process of searching for and fixing mistakes in a program.
Java	A programming language designed by Sun Microsystems that can be used to produce animation and interactivity in Web pages. Java programs (called “applets”) are cross-platform—that is, they can be run on Macs, PCs, and Unix computers alike (provided the computer’s operating system or browser supports Java). More technically, after writing Java source code, a programmer compiles that source code into “bytecodes,” which can then be executed (run) by any platform’s Java “virtual machine” (VM), a program unto itself which is usually built into a computer’s operating system or browser. That is, there exist programs called Java VMs for the Mac, PC, and Unix platforms; the job of these programs is to run Java applets. Java applets are “embedded” in HTML documents with the <code>APPLET</code> tag.
JavaScript	A programming language designed by Netscape Communications that can be used to produce animation and interactivity in Web pages. JavaScript programs (called “scripts” or “JavaScripts”) are cross-platform—that is, they can be run on Macs, PCs, and Unix machines alike (provided the computer’s operating system or browser supports JavaScript). JavaScripts are easier to write than Java applets, insofar as JavaScript is simpler and easier to learn. JavaScripts are “embedded” in HTML documents with the <code>SCRIPT</code> tag. However, JavaScripts are not compiled; their source code appears in human-readable form in HTML documents.
loop	A set of instructions that repeat until some condition is met.
object code	A.k.a. machine code. A series of instructions encoded as sequences of ones and zeros that a computer can understand. Compilers produce object code out of source code. Computers can read and understand object code, whereas human beings cannot; human beings can, for the most part, only understand source code.
programmer	Someone who writes software.
programming	A.k.a. coding. A.k.a. software development. The act of writing software. More technically, the writing of instructions for a computer in a programming language that the computer can translate (“compile”) into its own language and execute.

programming language	A set of rules and symbols with which software can be written. That is, using a programming language, a programmer can write a series of instructions (source code) that “tells” a computer to do things (<i>e.g.</i> , “calculate some values,” “display an error message,” <i>etc.</i>). Before the computer can do the programmer’s bidding, however, the source code must be compiled (translated) into object code with a type of program called a “compiler.” Examples of programming languages include BASIC, C, C++, COBOL, FORTRAN, Java, JavaScript, LISP, Perl, VBScript.
source code	A.k.a. code. A series of instructions written in some programming language that, once compiled into sequences of ones and zeros (object code), will constitute a piece of software. Human beings can read and understand source code, whereas computers cannot; computers can only understand object code.
virus	A virus is a piece of software designed and written to adversely affect your computer by altering the way it works without your knowledge or permission. More technically, a virus is a fragment of code that attaches itself to one of your executable files and spreads systematically from one file (or computer) to another. Computer viruses do not spontaneously generate—they must be written and have a specific purpose. Usually, a virus has two distinct functions. (1) A virus spreads itself from one file to another without your input or knowledge; this activity is known as “self-replication and propagation.” (2) A virus implements the symptom or damage planned by the perpetrator (writer of the virus); this damage could include erasing a disk, corrupting your programs, or just creating havoc on your computer; this damage is known as the virus’s “payload” and can be benign or malignant at the whim of the virus creator.