

Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference. By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages. Programs were mostly entered using punched cards or paper tape. Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances. Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years. Code-breaking algorithms have also existed for centuries. However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages. Integrated development environments (IDEs) aim to integrate all such help. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. Also, specific user environment and usage history can make it difficult to reproduce the problem. Allen Downey, in his book *How To Think Like A Computer Scientist*, writes: Many computer languages provide a mechanism to call functions provided by shared libraries. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. The following properties are among the most important: In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code. There exist a lot of different approaches for each of those tasks. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language. Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code. Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line. Allen Downey, in his book *How To Think Like A Computer Scientist*, writes: Many computer languages provide a mechanism to call functions provided by shared libraries. Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line. Also, specific user environment and usage history can make it difficult to reproduce the problem. Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.