

Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Normally the first step in debugging is to attempt to reproduce the problem. 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. Use of a static code analysis tool can help detect some possible problems. 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. Programmable devices have existed for centuries. 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. Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. Normally the first step in debugging is to attempt to reproduce the problem. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. 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. However, readability is more than just programming style. Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation. Normally the first step in debugging is to attempt to reproduce the problem. Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications. There exist a lot of different approaches for each of those tasks. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. 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. 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.