

Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). It is very difficult to determine what are the most popular modern programming languages. Many applications use a mix of several languages in their construction and use. It affects the aspects of quality above, including portability, usability and most importantly maintainability. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. Code-breaking algorithms have also existed for centuries. Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. This can be a non-trivial task, for example as with parallel processes or some unusual software bugs. FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input. There are many approaches to the Software development process. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. However, readability is more than just programming style. 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. Unreadable code often leads to bugs, inefficiencies, and duplicated code. It is usually easier to code in "high-level" languages than in "low-level" ones. 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. Normally the first step in debugging is to attempt to reproduce the problem. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). There are many approaches to the Software development process.