

Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. Following a consistent programming style often helps readability. Computer programmers are those who write computer software. 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. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. Ideally, the programming language best suited for the task at hand will be selected. Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it. Programmable devices have existed for centuries. 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. Whatever the approach to development may be, the final program must satisfy some fundamental properties. The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'. 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. Ideally, the programming language best suited for the task at hand will be selected. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in *A Manuscript on Deciphering Cryptographic Messages*. A similar technique used for database design is Entity-Relationship Modeling (ER Modeling). Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. 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. Programming languages are essential for software development. Different programming languages support different styles of programming (called programming paradigms).