

Whatever the approach to development may be, the final program must satisfy some fundamental properties. New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation). Programming languages are essential for software development. 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. Following a consistent programming style often helps readability. Techniques like Code refactoring can enhance readability. It is very difficult to determine what are the most popular modern programming languages. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Code-breaking algorithms have also existed for centuries. In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them. After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug. Code-breaking algorithms have also existed for centuries. However, readability is more than just programming style. For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software. New languages are generally designed around the syntax of a prior language with new functionality added, (for example C++ adds object-orientation to C, and Java adds memory management and bytecode to C++, but as a result, loses efficiency and the ability for low-level manipulation). Computer programmers are those who write computer software. Programmable devices have existed for centuries. These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics. Techniques like Code refactoring can enhance readability. One approach popular for requirements analysis is Use Case analysis. Many applications use a mix of several languages in their construction and use. Programs were mostly entered using punched cards or paper tape. Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers. 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. 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.