

The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems. However, readability is more than just programming style. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. 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. 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. The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging). Programming languages are essential for software development. 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. Techniques like Code refactoring can enhance readability. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams. Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation. 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. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Different programming languages support different styles of programming (called programming paradigms). In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form. There are many approaches to the Software development process. Ideally, the programming language best suited for the task at hand will be selected. Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment. Computer programmers are those who write computer software. 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. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. 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. 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.