

There exist a lot of different approaches for each of those tasks. Many applications use a mix of several languages in their construction and use. Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process. 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. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. Whatever the approach to development may be, the final program must satisfy some fundamental properties. Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability. Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages. 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. They are the building blocks for all software, from the simplest applications to the most sophisticated ones. However, Charles Babbage had already written his first program for the Analytical Engine in 1837. Following a consistent programming style often helps readability. It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Computer programmers are those who write computer software. Many applications use a mix of several languages in their construction and use. High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware. The first computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine. Programs were mostly entered using punched cards or paper tape. Some of these factors include: The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills. The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA. 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. 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. Programs were mostly entered using punched cards or paper tape.