

It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages. There are many approaches to the Software development process. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. 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. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Code-breaking algorithms have also existed for centuries. However, readability is more than just programming style. It is very difficult to determine what are the most popular modern 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. It affects the aspects of quality above, including portability, usability and most importantly maintainability. Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute. Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute. One approach popular for requirements analysis is Use Case analysis. Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards. Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks. There exist a lot of different approaches for each of those tasks. Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. Code-breaking algorithms have also 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. Use of a static code analysis tool can help detect some possible problems. 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. In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages. However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages. 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.