In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages..  
 Different programming languages support different styles of programming (called programming paradigms).  
One approach popular for requirements analysis is Use Case analysis.  
 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.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
However, readability is more than just programming style.  
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.  
 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.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
 It is very difficult to determine what are the most popular modern programming languages.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.