The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'..  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
  
 Following a consistent programming style often helps readability.  
There exist a lot of different approaches for each of those tasks.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
 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.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
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.  
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.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash.  
 Different programming languages support different styles of programming (called programming paradigms).  
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.