Relatedly, software engineering combines engineering techniques and principles with software development.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Normally the first step in debugging is to attempt to reproduce the problem.  
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.  
Normally the first step in debugging is to attempt to reproduce the problem.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
Programming languages are essential for software development.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
 Computer programmers are those who write computer software.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
There exist a lot of different approaches for each of those tasks.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.