Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards..  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
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.  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Integrated development environments (IDEs) aim to integrate all such help.  
There are many approaches to the Software development process.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
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.  
 It is very difficult to determine what are the most popular modern programming languages.  
Use of a static code analysis tool can help detect some possible problems.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.