In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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.  
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.  
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.  
To produce machine code, the source code must either be compiled or transpiled.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
There are many approaches to the Software development process.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
The source code of a program is written in one or more languages that are intelligible to programmers, rather than machine code, which is directly executed by the central processing unit.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Techniques like Code refactoring can enhance readability.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.