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.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
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.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
Integrated development environments (IDEs) aim to integrate all such help.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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.  
Also, those involved with software development may at times engage in reverse engineering, which is the practice of seeking to understand an existing program so as to re-implement its function in some way.  
This is interpreted into machine code.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.