Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly..  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
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.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
There are many approaches to the Software development process.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.