In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
To produce machine code, the source code must either be compiled or transpiled.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
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.  
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.  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.  
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.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
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.  
Relatedly, software engineering combines engineering techniques and principles with software development.