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.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
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.  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
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.  
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.  
 Different programming languages support different styles of programming (called programming paradigms).  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
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.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.