Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
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 text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
There exist a lot of different approaches for each of those tasks.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms (usually in a particular programming language, commonly referred to as coding).  
 Computer programmers are those who write computer software.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.