Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation..  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
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.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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.  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
Normally the first step in debugging is to attempt to reproduce the problem.  
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.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
Techniques like Code refactoring can enhance readability.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.