Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation..  
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.  
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.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Use of a static code analysis tool can help detect some possible problems.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Normally the first step in debugging is to attempt to reproduce the problem.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
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.  
 Programs were mostly entered using punched cards or paper tape.