Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit..  
Use of a static code analysis tool can help detect some possible problems.  
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.  
  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
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.  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Ideally, the programming language best suited for the task at hand will be selected.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.