The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems..  
Use of a static code analysis tool can help detect some possible problems.  
 Code-breaking algorithms have also existed for centuries.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
Ideally, the programming language best suited for the task at hand will be selected.  
There are many approaches to the Software development process.  
However, readability is more than just programming style.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
Proficient programming usually requires expertise in several different subjects, including knowledge of the application domain, details of programming languages and generic code libraries, specialized algorithms, and formal logic.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
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.