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..  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
However, readability is more than just programming style.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Many applications use a mix of several languages in their construction and use.  
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.  
 Programmable devices have existed for centuries.  
One approach popular for requirements analysis is Use Case analysis.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
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.