High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware..  
 Following a consistent programming style often helps readability.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
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 step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
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.  
Ideally, the programming language best suited for the task at hand will be selected.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
There exist a lot of different approaches for each of those tasks.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.