Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users..  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
Many applications use a mix of several languages in their construction and use.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
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.  
There exist a lot of different approaches for each of those tasks.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
One approach popular for requirements analysis is Use Case analysis.  
For this purpose, algorithms are classified into orders using so-called Big O notation, which expresses resource use, such as execution time or memory consumption, in terms of the size of an input.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
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.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
 Code-breaking algorithms have also existed for centuries.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
 Programmable devices have existed for centuries.