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.  
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.  
Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms (usually in a particular programming language, commonly referred to as coding).  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
Use of a static code analysis tool can help detect some possible problems.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Relatedly, software engineering combines engineering techniques and principles with software development.  
  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
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.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.