Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment..  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 Following a consistent programming style often helps readability.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
Programming languages are essential for software development.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
 Programs were mostly entered using punched cards or paper tape.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
 Code-breaking algorithms have also existed for centuries.  
 Various visual programming languages have also been developed with the intent to resolve readability concerns by adopting non-traditional approaches to code structure and display.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Techniques like Code refactoring can enhance readability.  
Use of a static code analysis tool can help detect some possible problems.  
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.