By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
To produce machine code, the source code must either be compiled or transpiled.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
Normally the first step in debugging is to attempt to reproduce the problem.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
They are the building blocks for all software, from the simplest applications to the most sophisticated 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.  
The choice of language used is subject to many considerations, such as company policy, suitability to task, availability of third-party packages, or individual preference.  
Techniques like Code refactoring can enhance readability.  
There are many approaches to the Software development process.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.