The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging)..  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
Techniques like Code refactoring can enhance readability.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
  
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.  
 Different programming languages support different styles of programming (called programming paradigms).  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
 Code-breaking algorithms have also existed for centuries.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
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.  
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.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
Ideally, the programming language best suited for the task at hand will be selected.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.