In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them..  
 Computer programmers are those who write computer software.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
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.  
Use of a static code analysis tool can help detect some possible problems.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
Many applications use a mix of several languages in their construction and use.  
Integrated development environments (IDEs) aim to integrate all such help.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.