Normally the first step in debugging is to attempt to reproduce the problem..  
 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.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.  
For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash.  
Techniques like Code refactoring can enhance readability.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
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.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 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 computer program is generally dated to 1843, when mathematician Ada Lovelace published an algorithm to calculate a sequence of Bernoulli numbers, intended to be carried out by Charles Babbage's Analytical Engine.