Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process..  
Normally the first step in debugging is to attempt to reproduce the problem.  
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.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages.  
 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.  
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.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
In 1206, the Arab engineer Al-Jazari invented a programmable drum machine where a musical mechanical automaton could be made to play different rhythms and drum patterns, via pegs and cams.  
 These compiled languages allow the programmer to write programs in terms that are syntactically richer, and more capable of abstracting the code, making it easy to target varying machine instruction sets via compilation declarations and heuristics.  
There exist a lot of different approaches for each of those tasks.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Languages form an approximate spectrum from "low-level" to "high-level"; "low-level" languages are typically more machine-oriented and faster to execute, whereas "high-level" languages are more abstract and easier to use but execute less quickly.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
There are many approaches to the Software development process.