Programming languages are essential for software development..  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
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.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
Some of these factors include:  
 The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills.  
Integrated development environments (IDEs) aim to integrate all such help.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 Programs were mostly entered using punched cards or paper tape.  
 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.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.