Compiling takes the source code from a low-level programming language and converts it into machine code.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
Integrated development environments (IDEs) aim to integrate all such help.  
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.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
To produce machine code, the source code must either be compiled or transpiled.  
There exist a lot of different approaches for each of those tasks.  
The purpose of programming is to find a sequence of instructions that will automate the performance of a task (which can be as complex as an operating system) on a computer, often for solving a given problem.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
 Code-breaking algorithms have also existed for centuries.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
  
 Computer programming is the process of performing particular computations (or more generally, accomplishing specific computing results), usually by designing and building executable computer programs.