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.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Programming languages are essential for software development.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
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.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
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.  
Ideally, the programming language best suited for the task at hand will be selected.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
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.  
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.  
  
 Computer programming is the process of performing particular computations (or more generally, accomplishing specific computing results), usually by designing and building executable computer programs.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.