There are many approaches to the Software development process.  
Programming languages are essential for software development.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
Proficient programming thus usually requires expertise in several different subjects, including knowledge of the application domain, specialized algorithms, and formal logic.  
This is interpreted into machine code.  
To produce machine code, the source code must either be compiled or transpiled.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
However, readability is more than just programming style.  
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.  
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.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
  
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.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.