To produce machine code, the source code must either be compiled or transpiled.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
There are many approaches to the Software development process.  
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.  
Many applications use a mix of several languages in their construction and use.  
Integrated development environments (IDEs) aim to integrate all such help.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
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.  
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.  
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.  
Scripting and breakpointing is also part of this process.  
Techniques like Code refactoring can enhance readability.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
There exist a lot of different approaches for each of those tasks.