By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Many applications use a mix of several languages in their construction and use.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.  
To produce machine code, the source code must either be compiled or transpiled.  
As early as the 9th century, a programmable music sequencer was invented by the Persian Banu Musa brothers, who described an automated mechanical flute player in the Book of Ingenious Devices.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
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To produce machine code, the source code must either be compiled or transpiled.  
Ideally, the programming language best suited for the task at hand will be selected.  
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It affects the aspects of quality above, including portability, usability and most importantly maintainability.  
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.