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.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
Transpiling on the other hand, takes the source-code from a high-level programming language and converts it into bytecode.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
This is interpreted into machine code.  
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.  
Ideally, the programming language best suited for the task at hand will be selected.  
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Normally the first step in debugging is to attempt to reproduce the problem.  
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The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.