Programmable devices have existed for centuries..  
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.  
Programming languages are essential for software development.  
One approach popular for requirements analysis is Use Case analysis.  
Techniques like Code refactoring can enhance readability.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
However, because an assembly language is little more than a different notation for a machine language, two machines with different instruction sets also have different assembly languages.  
 It is very difficult to determine what are the most popular modern programming languages.  
  
The first compiler related tool, the A-0 System, was developed in 1952 by Grace Hopper, who also coined the term 'compiler'.  
FORTRAN, the first widely used high-level language to have a functional implementation, came out in 1957, and many other languages were soon developed—in particular, COBOL aimed at commercial data processing, and Lisp for computer research.  
 Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code.  
Ideally, the programming language best suited for the task at hand will be selected.  
Use of a static code analysis tool can help detect some possible problems.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
Scripting and breakpointing is also part of this process.