Techniques like Code refactoring can enhance readability.  
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.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
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One approach popular for requirements analysis is Use Case analysis.  
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It is usually easier to code in "high-level" languages than in "low-level" ones.  
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He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
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.  
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.  
 Debugging is often done with IDEs. Standalone debuggers like GDB are also used, and these often provide less of a visual environment, usually using a command line.  
Programming languages are essential for software development.