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..  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
The following properties are among the most important:  
  
 In computer programming, readability refers to the ease with which a human reader can comprehend the purpose, control flow, and operation of source code.  
Integrated development environments (IDEs) aim to integrate all such help.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
One approach popular for requirements analysis is Use Case analysis.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
Scripting and breakpointing is also part of this process.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
 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.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
Many programmers use forms of Agile software development where the various stages of formal software development are more integrated together into short cycles that take a few weeks rather than years.