Programming languages are essential for software development.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
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.  
However, with the concept of the stored-program computer introduced in 1949, both programs and data were stored and manipulated in the same way in computer memory.  
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.  
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, those involved with software development may at times engage in reverse engineering, which is the practice of seeking to understand an existing program so as to re-implement its function in some way.  
Programming involves tasks such as analysis, generating algorithms, profiling algorithms' accuracy and resource consumption, and the implementation of algorithms (usually in a particular programming language, commonly referred to as coding).  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
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Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
Normally the first step in debugging is to attempt to reproduce the problem.  
It affects the aspects of quality above, including portability, usability and most importantly maintainability.