He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm..  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
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.  
They are the building blocks for all software, from the simplest applications to the most sophisticated ones.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Computer programmers are those who write computer software.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
 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.  
Some of these factors include:  
 The presentation aspects of this (such as indents, line breaks, color highlighting, and so on) are often handled by the source code editor, but the content aspects reflect the programmer's talent and skills.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
 Programmable devices have existed for centuries.  
Programmers typically use high-level programming languages that are more easily intelligible to humans than machine code, which is directly executed by the central processing unit.  
Expert programmers are familiar with a variety of well-established algorithms and their respective complexities and use this knowledge to choose algorithms that are best suited to the circumstances.