Unreadable code often leads to bugs, inefficiencies, and duplicated code..  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
 Different programming languages support different styles of programming (called programming paradigms).  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
The Unified Modeling Language (UML) is a notation used for both the OOAD and MDA.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
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.  
Their jobs usually involve:  
 Although programming has been presented in the media as a somewhat mathematical subject, some research shows that good programmers have strong skills in natural human languages, and that learning to code is similar to learning a foreign language.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.