He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm..  
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.  
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.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
 Programmable devices have existed for centuries.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
By the late 1960s, data storage devices and computer terminals became inexpensive enough that programs could be created by typing directly into the computers.  
Assembly languages were soon developed that let the programmer specify instruction in a text format (e.g., ADD X, TOTAL), with abbreviations for each operation code and meaningful names for specifying addresses.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
It is usually easier to code in "high-level" languages than in "low-level" ones.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
 Programs were mostly entered using punched cards or paper tape.  
 The academic field and the engineering practice of computer programming are both largely concerned with discovering and implementing the most efficient algorithms for a given class of problems.