He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm..  
Normally the first step in debugging is to attempt to reproduce the problem.  
Trial-and-error/divide-and-conquer is needed: the programmer will try to remove some parts of the original test case and check if the problem still exists.  
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.  
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.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
 High-level languages made the process of developing a program simpler and more understandable, and less bound to the underlying hardware.  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
Integrated development environments (IDEs) aim to integrate all such help.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
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.  
  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
 A similar technique used for database design is Entity-Relationship Modeling (ER Modeling).