Integrated development environments (IDEs) aim to integrate all such help..  
 In the 1880s, Herman Hollerith invented the concept of storing data in machine-readable form.  
When debugging the problem in a GUI, the programmer can try to skip some user interaction from the original problem description and check if remaining actions are sufficient for bugs to appear.  
This can be a non-trivial task, for example as with parallel processes or some unusual software bugs.  
One approach popular for requirements analysis is Use Case analysis.  
Use of a static code analysis tool can help detect some possible problems.  
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.  
 Different programming languages support different styles of programming (called programming paradigms).  
 Allen Downey, in his book How To Think Like A Computer Scientist, writes:  
 Many computer languages provide a mechanism to call functions provided by shared libraries.  
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.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
 Programs were mostly entered using punched cards or paper tape.  
Also, specific user environment and usage history can make it difficult to reproduce the problem.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.  
There exist a lot of different approaches for each of those tasks.