Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems), implementation of build systems, and management of derived artifacts, such as programs' machine code..  
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.  
Provided the functions in a library follow the appropriate run-time conventions (e.g., method of passing arguments), then these functions may be written in any other language.  
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.  
For example, COBOL is still strong in corporate data centers often on large mainframe computers, Fortran in engineering applications, scripting languages in Web development, and C in embedded software.  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
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.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 Programs were mostly entered using punched cards or paper tape.  
In 1801, the Jacquard loom could produce entirely different weaves by changing the "program" – a series of pasteboard cards with holes punched in them.  
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.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).