Programming languages are essential for software development..  
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.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
One approach popular for requirements analysis is Use Case analysis.  
 Code-breaking algorithms have also existed for centuries.  
Use of a static code analysis tool can help detect some possible problems.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
 Following a consistent programming style often helps readability.  
Trade-offs from this ideal involve finding enough programmers who know the language to build a team, the availability of compilers for that language, and the efficiency with which programs written in a given language execute.  
Ideally, the programming language best suited for the task at hand will be selected.  
There exist a lot of different approaches for each of those tasks.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
A study found that a few simple readability transformations made code shorter and drastically reduced the time to understand it.  
 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.