Some languages are more prone to some kinds of faults because their specification does not require compilers to perform as much checking as other languages..  
Integrated development environments (IDEs) aim to integrate all such help.  
Sometimes software development is known as software engineering, especially when it employs formal methods or follows an engineering design process.  
 Whatever the approach to development may be, the final program must satisfy some fundamental properties.  
 Machine code was the language of early programs, written in the instruction set of the particular machine, often in binary notation.  
However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
Some text editors such as Emacs allow GDB to be invoked through them, to provide a visual environment.  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
Methods of measuring programming language popularity include: counting the number of job advertisements that mention the language, the number of books sold and courses teaching the language (this overestimates the importance of newer languages), and estimates of the number of existing lines of code written in the language (this underestimates the number of users of business languages such as COBOL).  
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.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
 The first step in most formal software development processes is requirements analysis, followed by testing to determine value modeling, implementation, and failure elimination (debugging).  
Many factors, having little or nothing to do with the ability of the computer to efficiently compile and execute the code, contribute to readability.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.  
He gave the first description of cryptanalysis by frequency analysis, the earliest code-breaking algorithm.