However, Charles Babbage had already written his first program for the Analytical Engine in 1837.  
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.  
To produce machine code, the source code must either be compiled or transpiled.  
Unreadable code often leads to bugs, inefficiencies, and duplicated code.  
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.  
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.  
Integrated development environments (IDEs) aim to integrate all such help.  
Text editors were also developed that allowed changes and corrections to be made much more easily than with punched cards.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
Compiling takes the source code from a low-level programming language and converts it into machine code.  
There are many approaches to the Software development process.  
 Debugging is a very important task in the software development process since having defects in a program can have significant consequences for its users.  
 Readability is important because programmers spend the majority of their time reading, trying to understand, reusing and modifying existing source code, rather than writing new source code.  
In the 9th century, the Arab mathematician Al-Kindi described a cryptographic algorithm for deciphering encrypted code, in A Manuscript on Deciphering Cryptographic Messages.  
Compilers harnessed the power of computers to make programming easier by allowing programmers to specify calculations by entering a formula using infix notation.