For example, when a bug in a compiler can make it crash when parsing some large source file, a simplification of the test case that results in only few lines from the original source file can be sufficient to reproduce the same crash..  
  
 Computer programming or coding is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.  
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.  
 Implementation techniques include imperative languages (object-oriented or procedural), functional languages, and logic languages.  
Normally the first step in debugging is to attempt to reproduce the problem.  
 After the bug is reproduced, the input of the program may need to be simplified to make it easier to debug.  
While these are sometimes considered programming, often the term software development is used for this larger overall process – with the terms programming, implementation, and coding reserved for the writing and editing of code per se.  
 Popular modeling techniques include Object-Oriented Analysis and Design (OOAD) and Model-Driven Architecture (MDA).  
There are many approaches to the Software development process.  
One approach popular for requirements analysis is Use Case analysis.  
 Some languages are very popular for particular kinds of applications, while some languages are regularly used to write many different kinds of applications.  
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).  
 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.  
  
Later a control panel (plug board) added to his 1906 Type I Tabulator allowed it to be programmed for different jobs, and by the late 1940s, unit record equipment such as the IBM 602 and IBM 604, were programmed by control panels in a similar way, as were the first electronic computers.