Executable Statement Encyclopedia Article

Executable Statement

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Contents

Executable Statement Encyclopedia Article.....1

Contents.....2

Executable Statement.....3

Executable Statement

Program statements are grouped into two general classes, executable, and nonexecutable. An executable statement is one that can be used only in the context of a **function** statement--one that specifies a task to be performed. When compiled, an executable statement is translated into **object code**. The object code specifies the task that will be carried out when the program is running.

Executable statements are **action** statements. Nonexecutable statements, in contrast, are not part of the sequence of **commands** that specifies an action. Examples of nonexecutable statements are characteristics, arrangements, and the initial **value** of **data**.

The type of execution statement can vary, depending on the program. In the **FORTRAN** operating language, executable statements are translated by the **compiler** into a set of **machine code** instructions. In the **C++** operating language, there are three categories of executable statement: assignment statements (the assigning of a value to a identified **memory** location), expressions (which specify computational actions on data), and input/output statements. Other languages have their own unique executable statements.

The following are a few of the dozens of statements that are executable in the FORTRAN operating language:

- Arithmetic, logical statement label (ASSIGN), and character assignment statements
- GO TO statements (unconditional, assigned and computed)
- Block IF, ELSE IF, ELSE, and END IF statements
- CONTINUE statement
- STOP and PAUSE statements
- DO statement
- READ, WRITE, and PRINT statements
- REWIND, BACKSPACE, ENDFILE, OPEN, CLOSE, and INQUIRE statements
- CALL and RETURN statements
- END statement

Because of their importance in the **operation** of programs, executable files can sometimes become the target of malicious activity. A virus, called the W32.Winux proof of concept, was the first known virus capable of infecting **Windows** and **Linux** operating systems. The virus infected PE files, which are Windows executable files, and ELF files, which are Linux executable files.