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A.5 Compliance and labeling

A.5.1 ANS Forth systems

[Section 5.1](#) defines the criteria that a system must meet in order to justify the label **ANS Forth System**. Briefly, the minimum requirement is that the system must **implement** the Core word set. There are several ways in which this requirement may be met. The most obvious is that all Core words may be in a pre-compiled kernel. This is not the only way of satisfying the requirement, however. For example, some words may be provided in source blocks or files with instructions explaining how to add them to the system if they are needed. So long as the words are provided in such a way that the user can obtain access to them with a clear and straightforward procedure, they may be considered to be present.

A Forth cross-compiler has many characteristics in common with an ANS Forth System, in that both use similar compiling tools to process a program. However, in order to fully specify an ANS Forth cross compiler it would be necessary to address complex issues dealing with compilation and execution semantics in both host and target environments as well as ROMability issues. The level of effort to do this properly has proved to be impractical at this time. As a result, although it may be possible for a Forth cross-compiler to correctly prepare an ANS Forth program for execution in a target environment, it is inappropriate for a cross-compiler to be labeled an ANS Forth System.

A.5.2 ANS Forth programs

A.5.2.2 Program labeling

Declaring an environmental dependency should not be considered undesirable, merely an acknowledgment that the author has taken advantage of some assumed architecture. For example, most computers in common use are based on two's complement binary arithmetic. By acknowledging an environmental dependency on this architecture, a programmer becomes entitled to use the number -1 to represent all bits set without significantly restricting the portability of the program.

Because all programs require space for data and instructions, and time to execute those instructions, they depend on the presence of an environment providing those resources. It is impossible to predict how little of some of these resources (e.g. stack space) might be necessary to perform some task, so this Standard does not do so.

On the other hand, as a program requires increasing levels of resources, there will probably be successively fewer systems on which it will execute successfully. An algorithm requiring an array of 109 cells might run on fewer computers than one requiring only 103.

Since there is also no way of knowing what minimum level of resources will be implemented in a system useful for at least some tasks, any program performing real work labeled simply an **ANS Forth Program** is unlikely to be labeled correctly.

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