Linkers and Loaders Encyclopedia Article

Linkers and Loaders

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Linkers and Loaders

Linkers and loaders are utilities that function in the execution, or running, of programs.

A linker, which can also be called a link editor or a binder, is a program that combines **object** modules together to form a program that can then be executed. Modules are parts of programs. Until modules are combined, or linked, the program will not function. An individual module can contain one or several routines, and so can be linked with other modules to support programs of differing functionality.

A linker performs an important function. Without it, programs would have to be written completely. The presence of the linker allows a large program to be broken into small, more manageable pieces. In addition to the combining function, a linker can replace a so-called symbolic address with a real address. Even a program consisting entirely of one module may need to be linked, if address replacement is done.

A loader is a utility of an operating system. It copies programs from a storage device to a computer's main **memory**, where the program can then be executed. Like linkers, loaders can also replace virtual addresses with real addresses. Most loaders function without user involvement. They are invisible to the user, but are a recognizable utility to the operating system.