LINKER, AND LOADER SOFTWARE

LINKER

1. A utility program that connects a compiled or assembled program to a particular environment.
2. Also known as a "link editor," the linker unites references between program modules and libraries of subroutines.
3. Its output is a load module, which is executable code ready to run in the computer.

The following are the responsibilities of a Linker:

1. Combine all the pieces of a program.
2. Figure out a new memory organization so that all the pieces fit together (combine like sections).
3. Touch up addresses so that the program can run under the new memory organization.

TYPES OF LINKER

1. Linkage Editor

2. Dynamic Linker

LODER

1. A loader is a major component of an operating system that ensures all necessary programs and libraries are loaded, which is essential during the startup phase of running a program.
2. It places the libraries and programs into the main memory in order to prepare them for execution.
3. Loading involves reading the contents of the executable file that contains the instructions of the program and then doing other preparatory tasks that are required in order to prepare the executable for running, all of which takes anywhere from a few seconds to minutes depending on the size of the program that needs to run.

TYPES OF LODER

1. Absolute Loaders
2. Relocating Loaders
3. Direct Linking Loaders
4. Bootstrap Loaders

The following are the responsibilities of a loader:

1. Validate the program for memory requirements, permissions, etc.
2. Copy necessary files, such as the program image or required libraries, from the disk into the memory
3. Copy required command-line arguments into the stack
4. Link the starting point of the program and link any other required library
5. Initialize the registers
6. Jump to the program starting point in memory