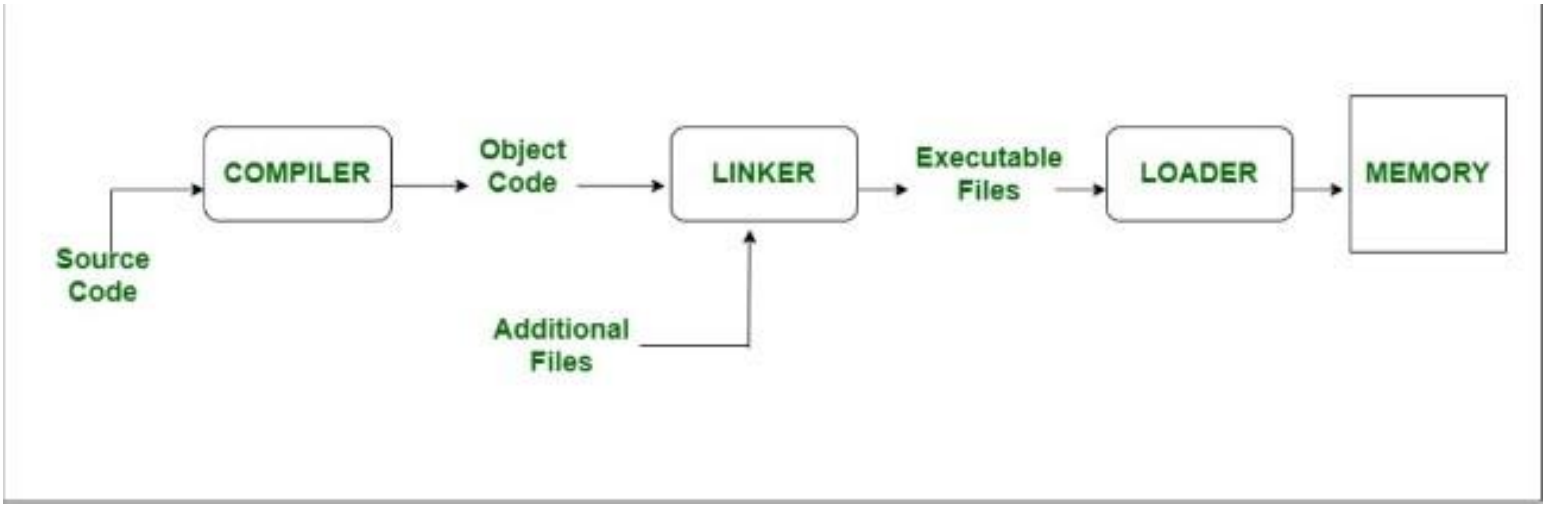
S.P Group of Institute

What is Linker?

A linker is a special program that combines the object files, generated by the compiler/assembler and other pieces of code to originate an executable file that has a .exe extension. In the object file, the linker searches and appends all libraries needed for the execution of the file. It regulates the memory space that will hold the code from each module. It also merges two or more separate object programs and establishes links among them.



What is Loader?

It is special program that takes input of executable files from linker, loads it to main memory, and prepares this code for execution by computer. Loader allocates memory space to program. Even it settles down symbolic reference between objects. It is in charge of loading programs and libraries

in operating system. The embedded computer systems don't have loaders. In them, code is executed through ROM.

Differences Between Linker and Loader

Linker	Loader
The main function of Linker is to generate executable files.	Whereas main objective of Loader is to load executable files to main memory.
The linker takes input of object code generated by compiler/assembler.	And the loader takes input of executable files generated by linker.
Linking can be defined as process of combining various pieces of codes and source code to obtain executable code.	Loading can be defined as process of loading executable codes to main memory for further execution.
Linkers are of 2 types: Linkage Editor and Dynamic Linker.	Loaders are of 4 types: Absolute, Relocating, Direct Linking, Bootstrap Loader.
Another use of linker is to combine all object modules.	It helps in allocating the address to executable codes/files.
Linker is also responsible for arranging objects in program's address space.	Loader is also responsible for adjusting references which are used within the program.
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