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## Difference between static linking and dynamic linking?

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**Author:** vaishali bhatia (<? $URL_AUTH ?>/user/vaishali%20bhatia/practice/)

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**Static Linking:-**

1) Static linking is the process of copying all library modules used in the program into the final executable image. This is performed by the linker and it is done as the last step of the compilation process

2) Static linking is performed by programs called linkers as the last step in compiling a program. Linkers are also called link editors.

3) In static linking if any of the external programs has changed then they have to be recompiled and re-linked again else the changes won't reflect in existing executable file

4) Statically linked program takes constant load time every time it is loaded into the memory for execution.

5) Programs that use statically-linked libraries are usually faster than those that use shared libraries.

**Dynamic Linking:-**

1) In dynamic linking the names of the external libraries (shared libraries) are placed in the final executable file while the actual linking takes place at run time when both executable file and libraries are placed in the memory. Dynamic linking lets several programs use a single copy of an executable module.

2) Dynamic linking is performed at run time by the operating system.

3) In dynamic linking only one copy of shared library is kept in memory. This significantly reduces the size of executable programs, thereby saving memory and disk space.

4) In dynamic linking this is not the case and individual shared modules can be updated and recompiled. This is one of the greatest advantages dynamic linking offers.

5) In dynamic linking load time might be reduced if the shared library code is already present in memory.

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vaishali bhatia (https://auth.geeksforgeeks.org/user/vaishali%20bhatia/practice/) on 2017-06-02 08:31:01

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