Dynamic Link Library / Class Library

There are two types of executables on Windows platform as

1.Self executable - .exe

2.Dependable executable - .dll

On windows platform dependable executables are also called as Class Library.

There are two types of libraries as

Static linking library -

Which gets attached with executable at link time and remains with the executable throughout the execution.

Dynamic linking library -

Which gets attached with executable at run time and gets detached after use gets completed.

Class Library / Dynamic Link Library

- In object-oriented programming , a class library is a collection of prewritten classes or coded templates, any of which can be specified and used by a programmer when developing an application program.
- The programmer specifies which classes are being used and furnishes data that instantiate s each class as an object that can be called when the program is executed.
- Access to and use of a class library greatly simplifies the job of the programmer since standard, pretested code is available that the programmer doesn't have to write.

Advantages of Dynamic Link Library

- Dynamic linking saves memory and reduces swapping. Many processes can use a DLL simultaneously, sharing a single copy of the read-only parts of a DLL in memory. In contrast, every application that is built by using a statically linked library has a complete copy of the library code that Windows must load into memory.

- Dynamic linking saves disk space and bandwidth. Many applications can share a single copy of the DLL on disk. In contrast, each application built by using a static link library has the library code linked into its executable image, which uses more disk space and takes more bandwidth to transfer.

- If there is any update in Dynamic Link Library then there is no need to rebuild whole application.

- Dynamic linking makes it easier to support applications written in different programming languages. Programs written in different programming languages can call the same DLL function as long as the programs follow the function's calling convention. The programs and the DLL function must be compatible in the following ways: the order in which the function expects its arguments to be pushed onto the stack, whether the function or the application is responsible for cleaning up the stack, and whether any arguments are passed in registers.

- Dynamic linking makes creation of international versions of your application easier. By placing locale-specific resources in a DLL, it is much easier to create international versions of an application. Instead of shipping many localized versions of your application, you can place the strings and images for each language in a separate resource DLL, and then your application can load the appropriate resources for that locale at runtime.