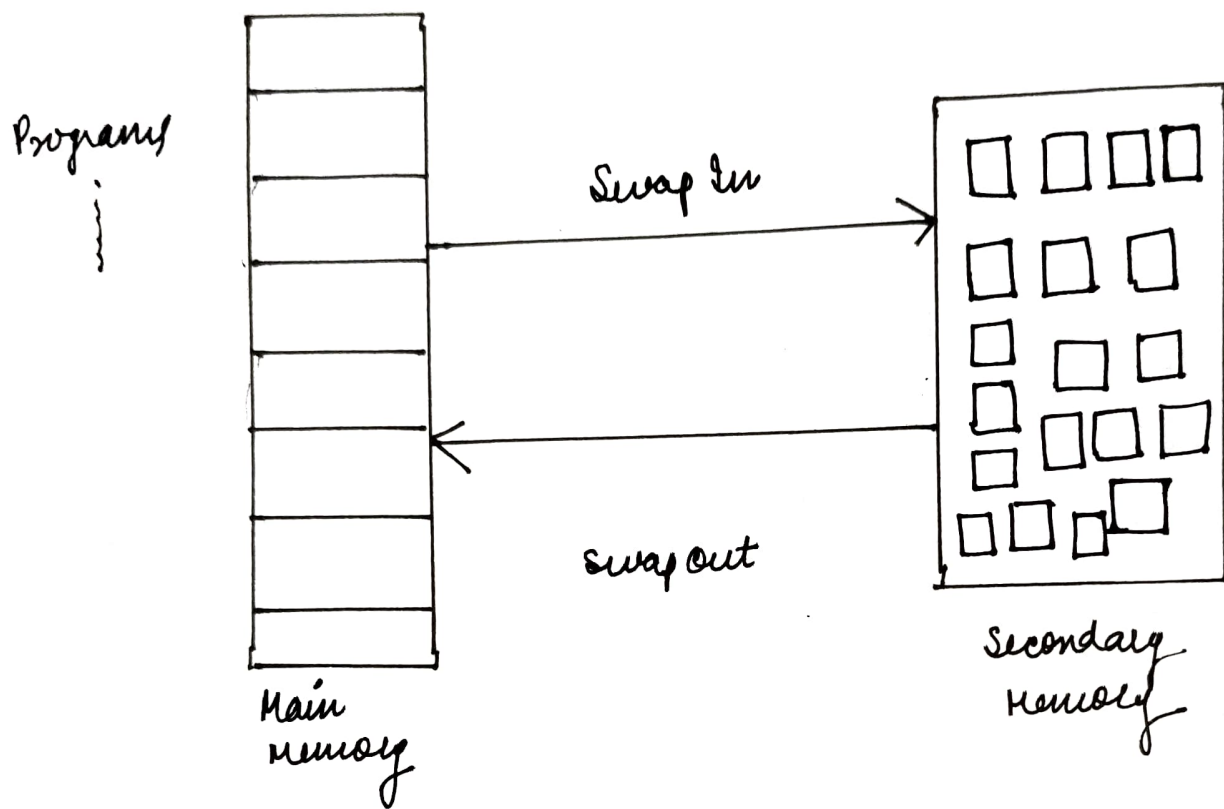


Sec-4 Demand paging is a concept used in operating system to implement virtual memory.
Ans-2 Demand paging does not require all process (all pages) to be in the memory before the program execution begins.



In order to execute some process, only a part of process needs to be present in the main memory which means that only few pages will only be present in the main memory at any time. However, deciding which pages needs to be kept in the main memory and which need to be kept in secondary memory is very difficult because we can't say in advance that a process will require a particular page at particular time.

Hence, to overcome this problem, a concept named demand paging is introduced. It suggests keeping all pages of frames in the secondary

memory until they are required.

In other words, it says that do not load any page in the main memory until it is required.

Swapping :-

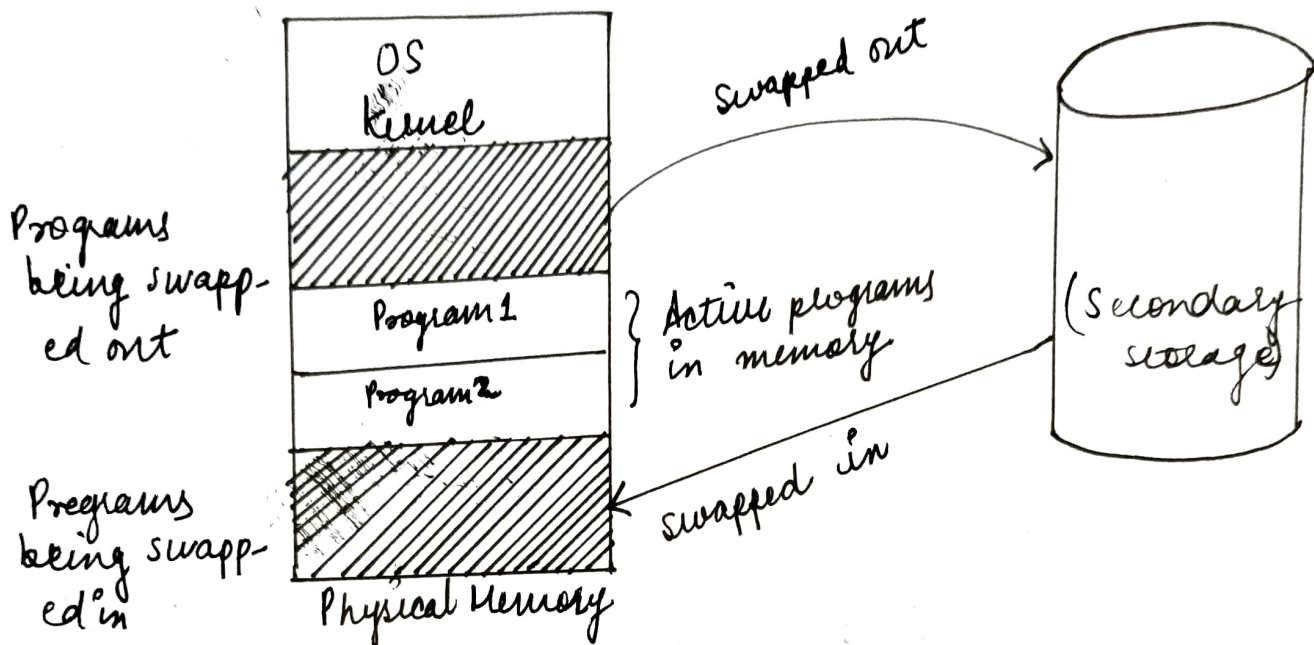


Fig: Swapping in practice.

Swapping is a mechanism in which a process can be swapped temporarily out of the main memory (or more) to secondary storage (disk) and make that memory available to other processes.

At some later time, the system swaps back the process from secondary memory to main memory. For eg. this happens in the case of round robin scheduling.

This can also happen when it is denied to place a high priority process in the memory. A lower priority process may be swapped out so that the higher priority process may be loaded & executed.

DOS does not perform swapping but most of the other OS, including OS/2, Windows & UNIX perform swapping.

Fragmentation :-

The term fragmentation refers to "a state of being fragmented".

It is derived from the word 'frangere' which means detached / isolated or incomplete.

Fragmentation refers to a condition of disk in which files are divided into pieces scattered around the disk.

Fragmentation occurs naturally when we use a disk frequently, creating, deleting or modifying files. At some point, O.S. needs to store parts of a file in non contiguous cluster.