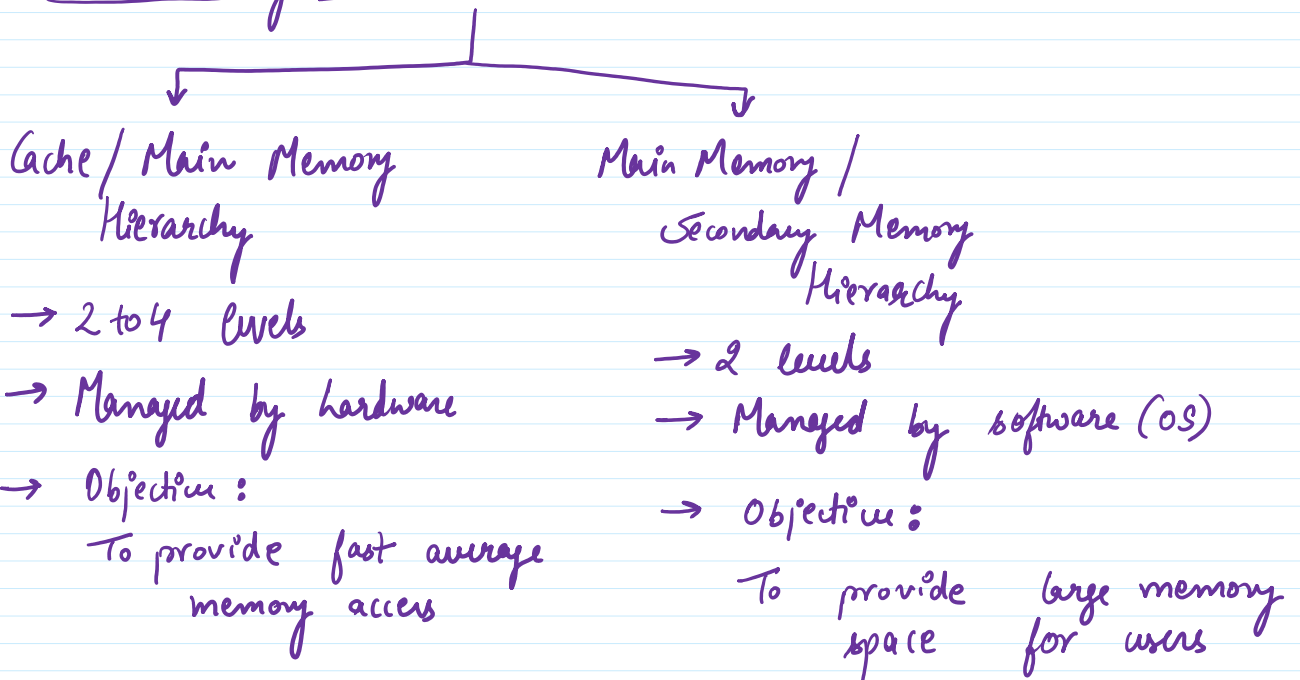


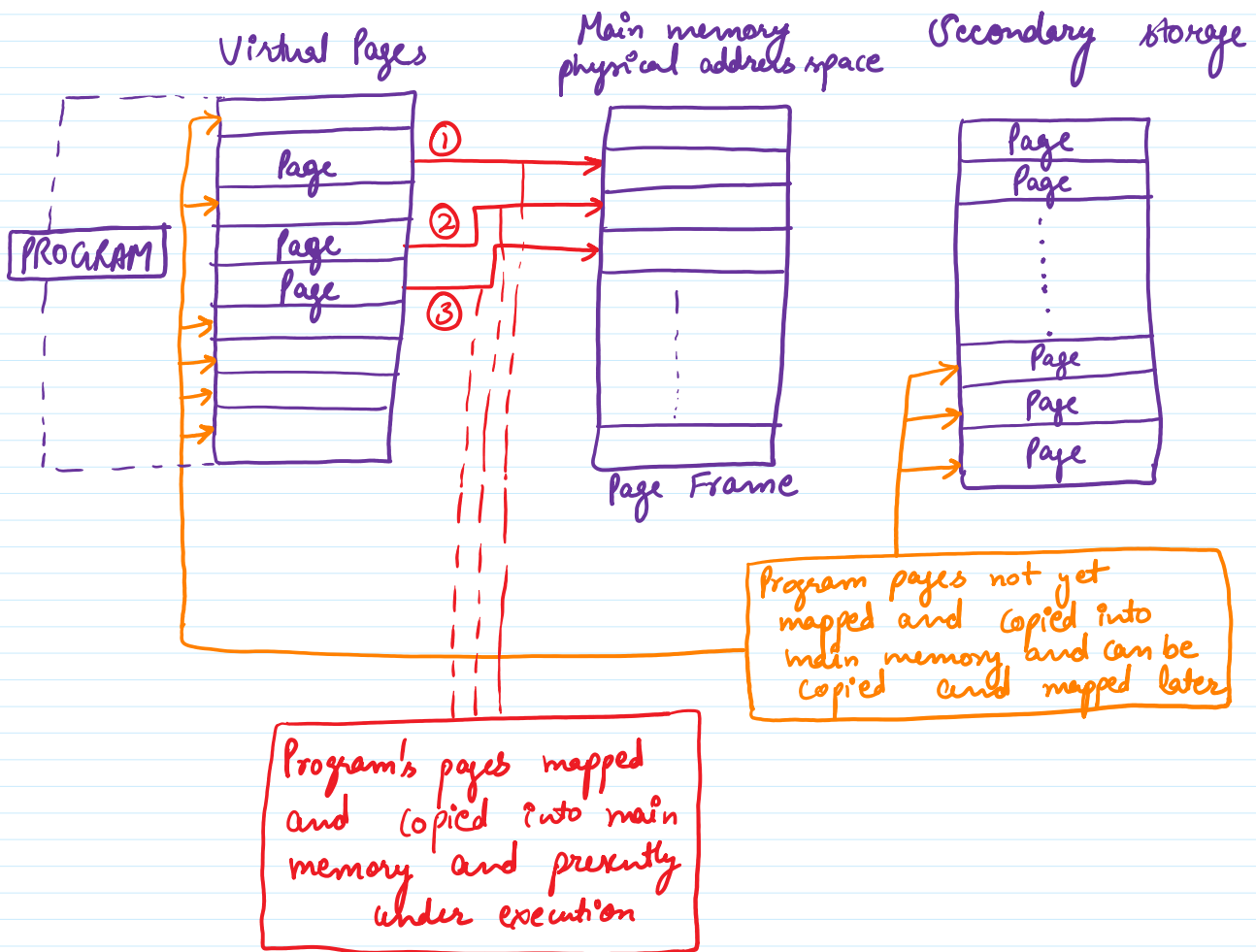
Common Memory Hierarchies :-



VIRTUAL MEMORY :-

Main Memory is used as a cache for the secondary storage.

Virtual Memory allows active processes to be concurrently reside in the main memory. So, simultaneously executing programs can efficiently share main memory.



VIRTUAL MEMORY ORGANIZATION

① Each Program has its own virtual address space.

set of addresses programs use for load and store operations.

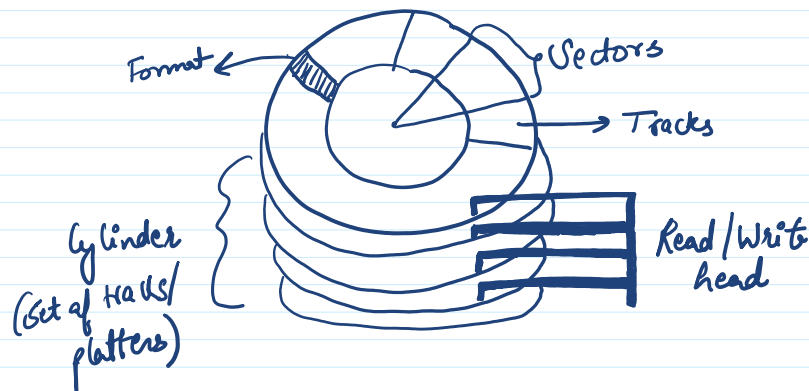
② The physical address space is the set of addresses used to reference locations in the main memory

⇒ Virtual address

⇒ Physical address

Secondary Memory :-

Hard disk Organization :-

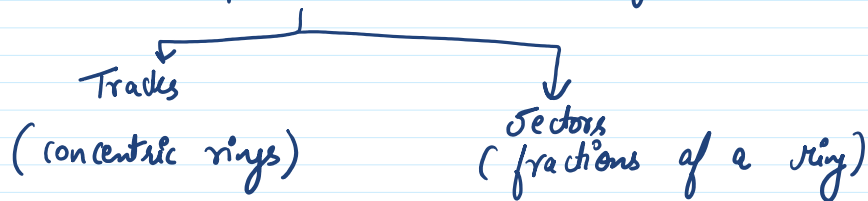


HARD DISK

⇒ Hard disk is made up of platters (flat plates that stores the data)

⇒ Each plate has its own read/write head.

⇒ Within each platter data is organized into



Each sector standard size is 512 Bytes.

- ⇒ Constant no. of sectors per track.
- ⇒ Capacity of all sectors is same.

Average Access Time =

Seek time + rotational latency +
 (T_{seek}) $(T_{rot.})$

data transfer time + Controlling time
 T_{trans} $T_{control}$

T_{seek} → Time taken by read/write head of disk to move from one part of disk to another.

T_{rot} → Time taken by a sector of a disk to rotate under the read-write heads of disk drive.

by default ($T_{seek} \neq T_{rot}$ are zero).