19/4/22

O.S.

Basics of Memory Management

MM
Conti. MM
Non-cont. –
Paging
Segmentatio

CPU + Memory → computer

Program execution → need some Space.

what we Require ?

Size (↑) High

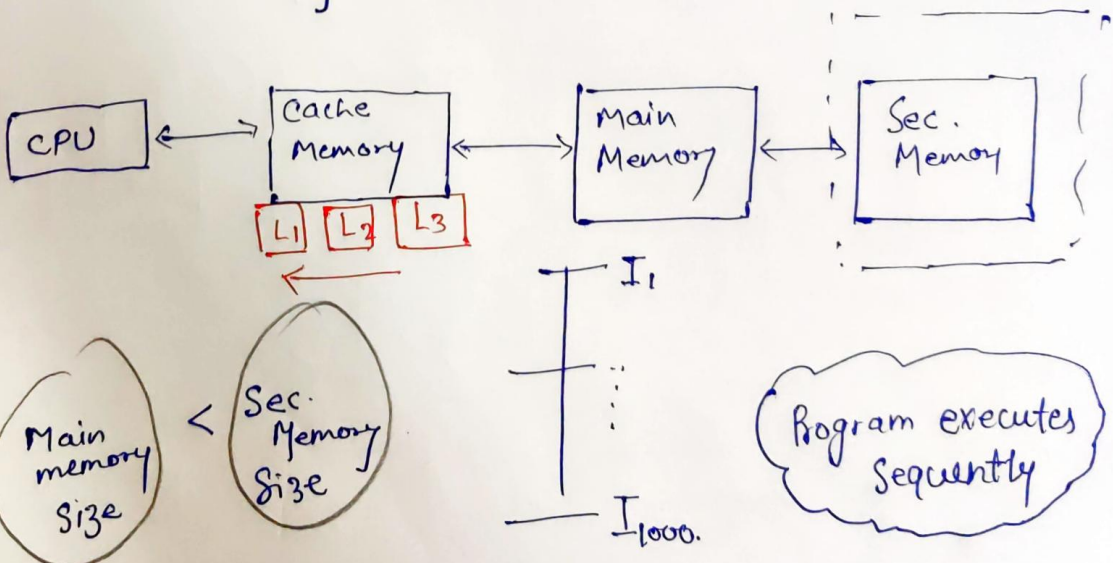
Access Time (↓) low

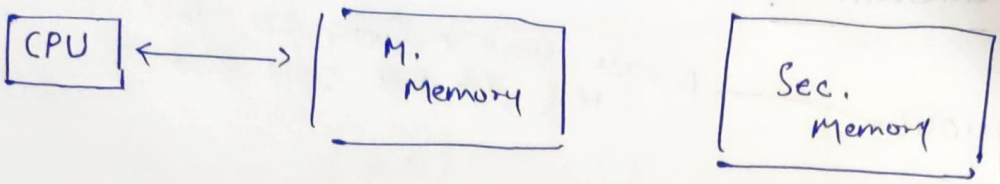
Per Unit Cost (↓) low

Basic Concept.

Seach Space जितना बड़ा होगा, Element को seach करने में (access करने में) time उतना ही ज्यादा लगेगा।

i.e why we are not having single memory.





accen Time = 10ms

accen Time = 100 ms

hit % = 90%

10%

100 out of 90 Time we'll get data in memory

$$= .9(10) + .1(10 + 100)$$

parality

$$9 + 11$$

$$= 20 \text{ ms}$$

if We use only Sec. mem: the hit% will be 100ms

but now we have main memory too, so the hit% will be 20ms

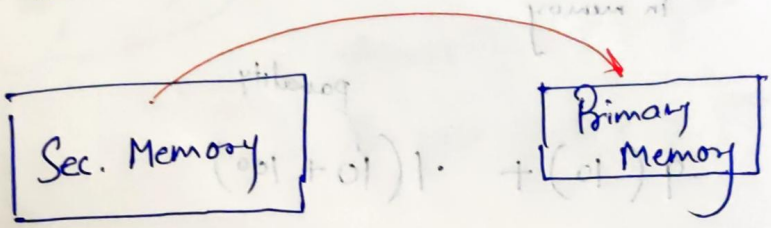
* Cache memory mapping is done under Computer Architecture.

Space allocation.

process i.e (store in Contiguous fashion ~~एक साथ~~ store करना)

1. Contiguous
2. Non Contiguous

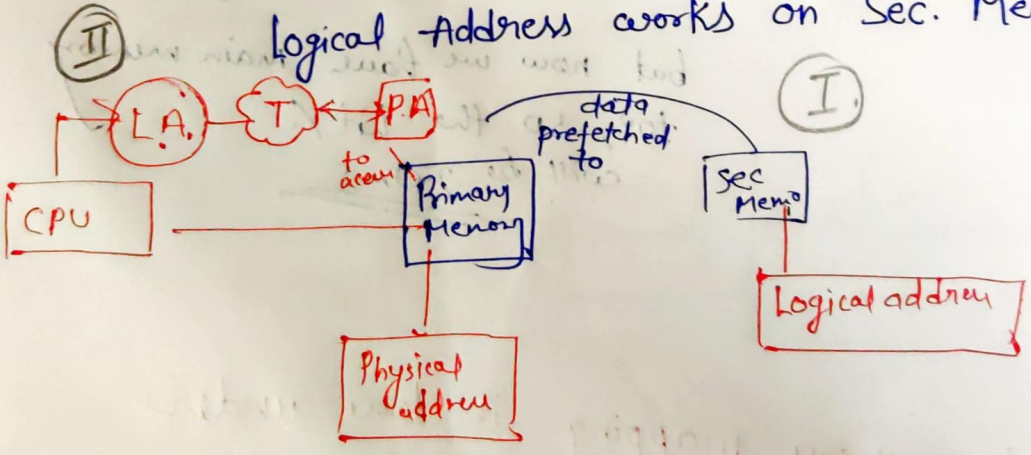
How the process comes from Sec. Memory to primary memory



Address Translation (Virtual Memory)

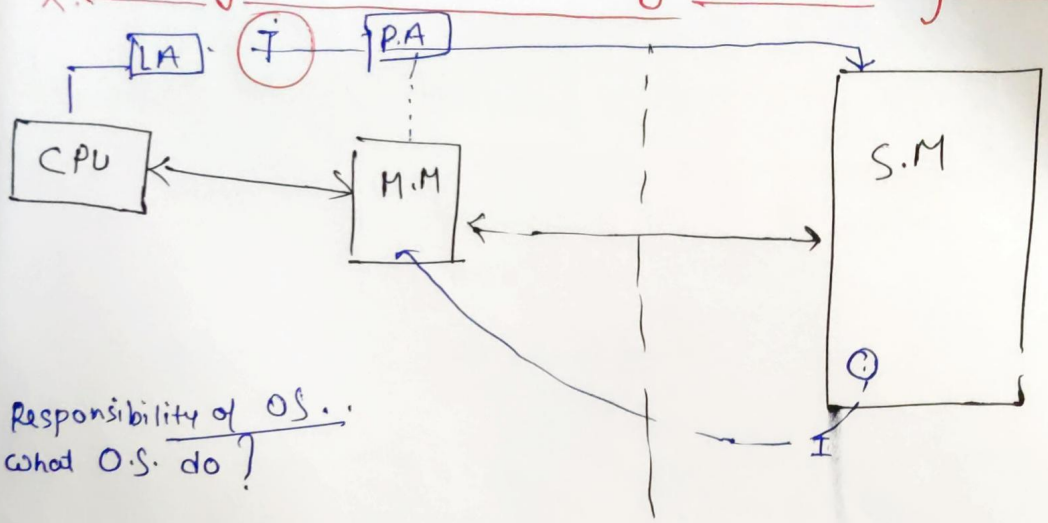
CPU generate logical address.

Logical Address works on Sec. Memory.



Translation of Logical address to Physical address.

Contagious Vs Non Contagious Memory Allocation



Responsibility of OS.:
what O.S. do?

Space allocation i.e.
O.S. decides will decide which process of the Sec. memory will get which area in main memory.

Address Translation :
O.S. will translate logical address to physical address.

Memory allocation Policies —

① C.M.A. — हमें जो space allocate कराना है main memory में, उसको एक साथ रखना होगा।

② Non-CMA. → Break the process into pieces, & bring them pieces