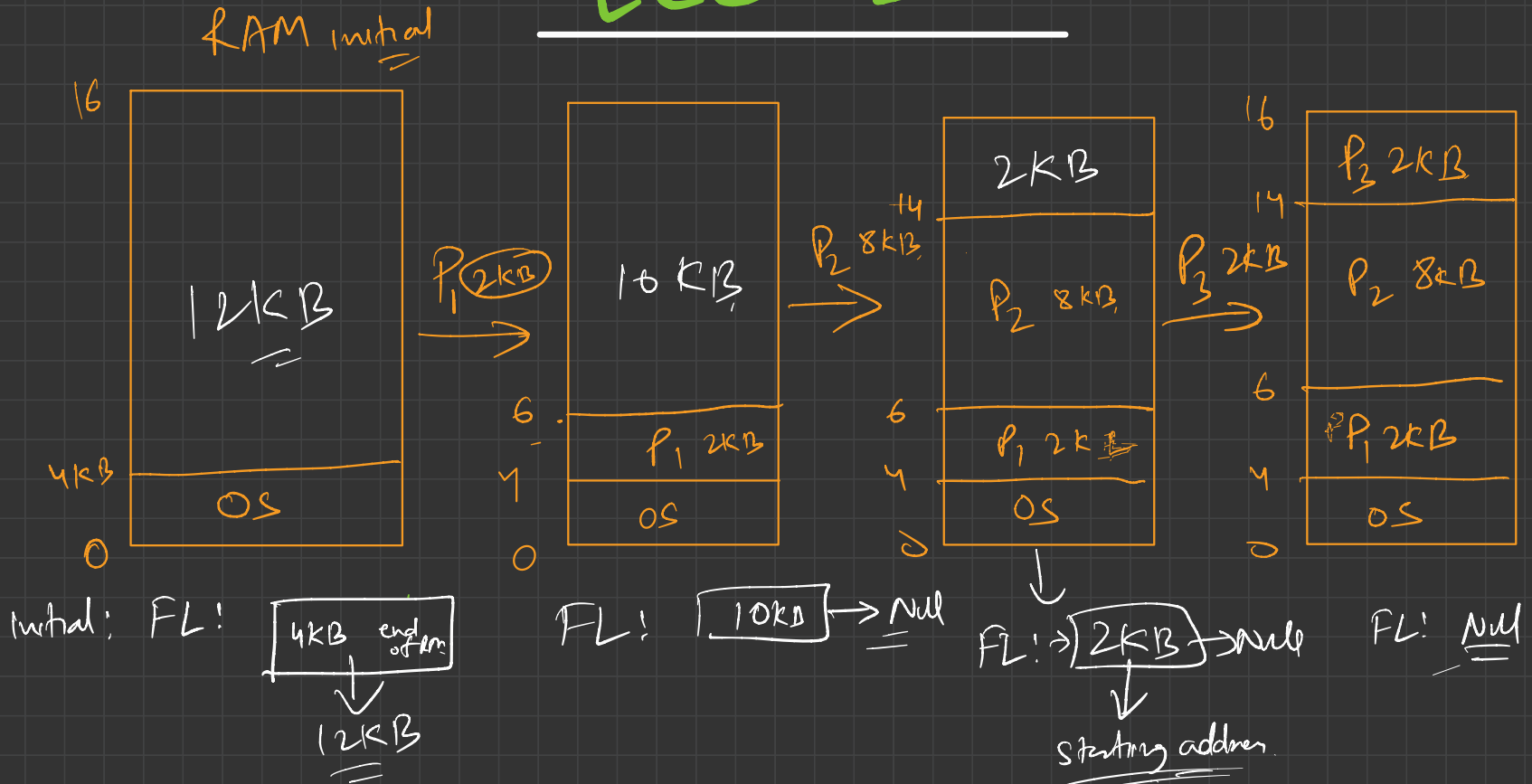
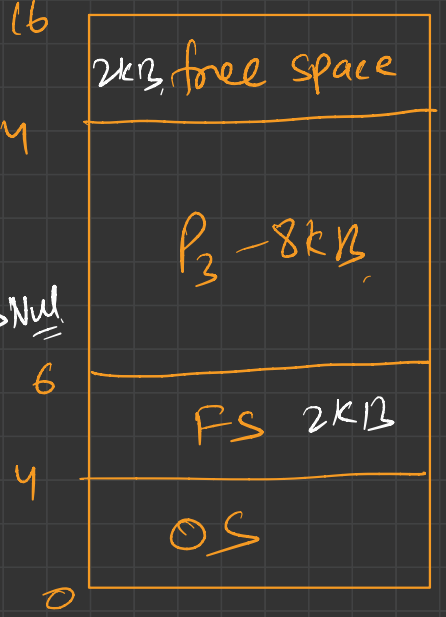
Lec-25


RAM initial
16
12KB
4KB
OS
0
P1 2KB
10KB
6
P1 2KB
4
OS
0
P2 8KB
2KB
14
P2 8KB
6
P1 2KB
4
OS
0
P3 2KB
16
P3 2KB
14
P2 8KB
6
P1 2KB
4
OS
0
Initial: FL: 4KB end of RAM
12KB
FL: 10KB → Null
FL: → 2KB → Null
starting address
FL: Null

After P_1 & P_2 exit



FL: 2KB → 2KB → Null

OS

F.S

free List

↓

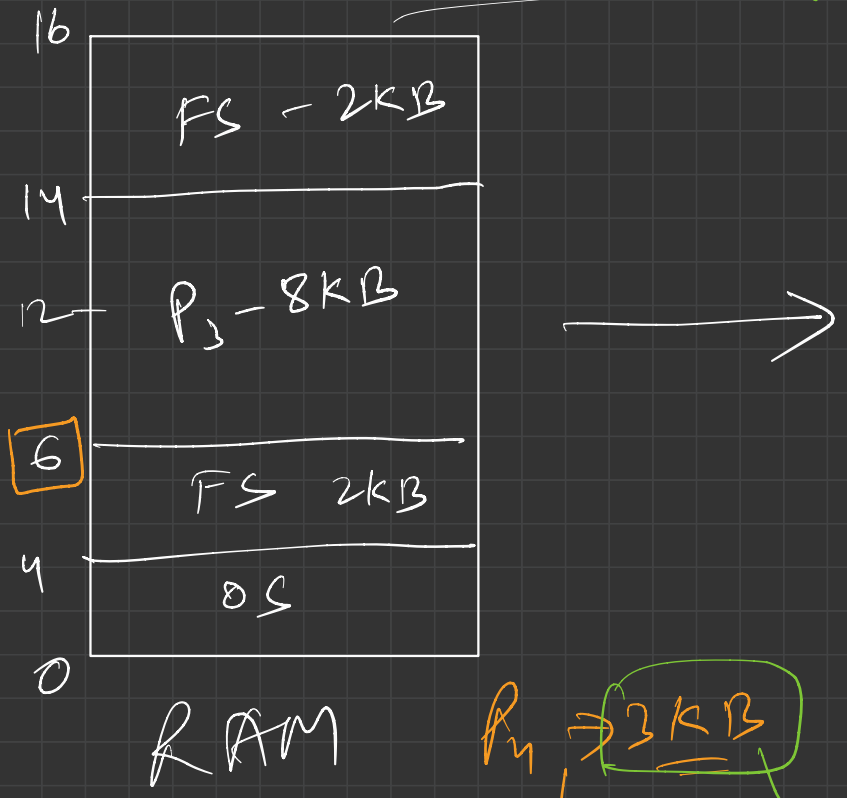
Linked list

Problem → P_4 → 3KB

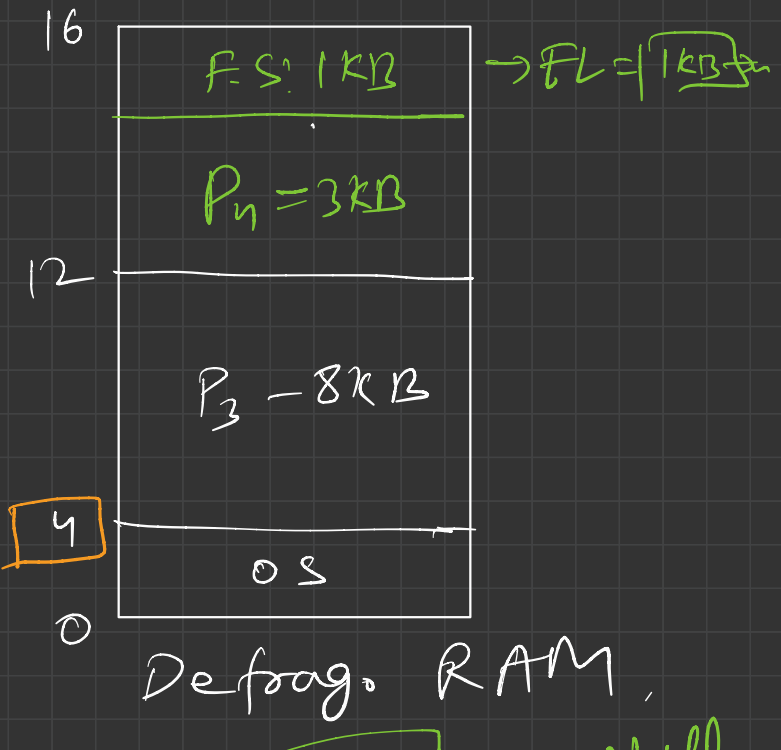
↳ Total free mem RAM ⇒ 4KB

Req → 3KB →

* Defragmentation / Compaction



RAM



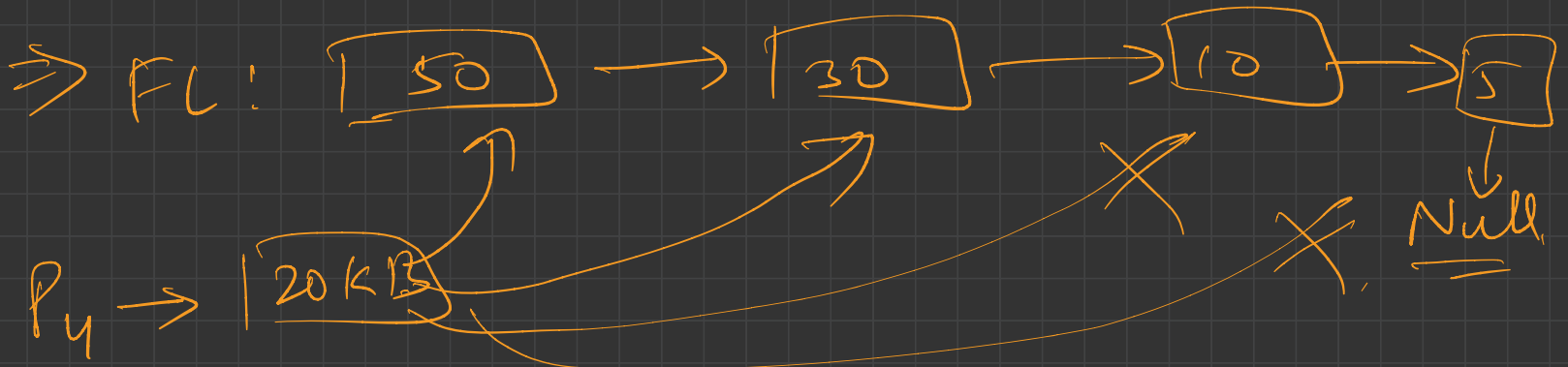
Defrag. RAM.

P4 → 3KB

OS? →

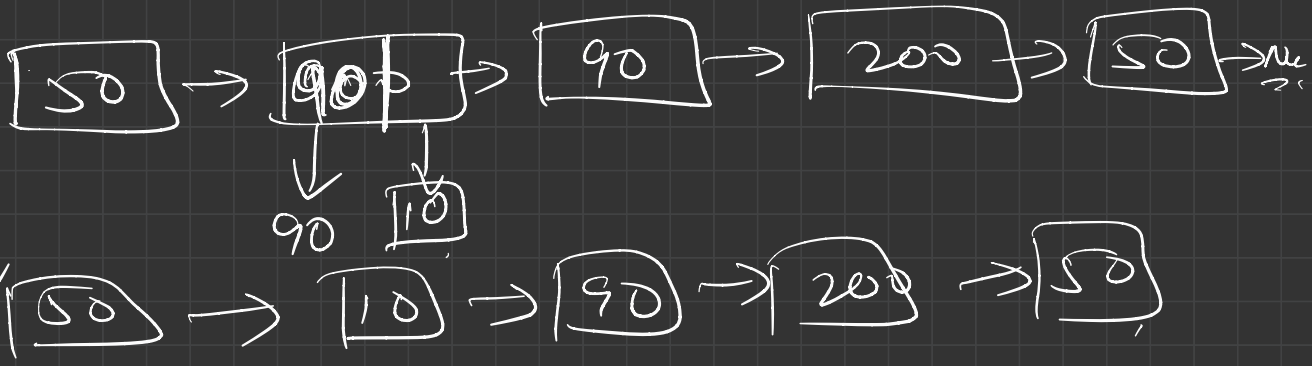
FL: 4K → Null.

Yes →


FL:
50
30
10
5
Null
P4
20KB

① First fit :- Req: 90 KB → P1

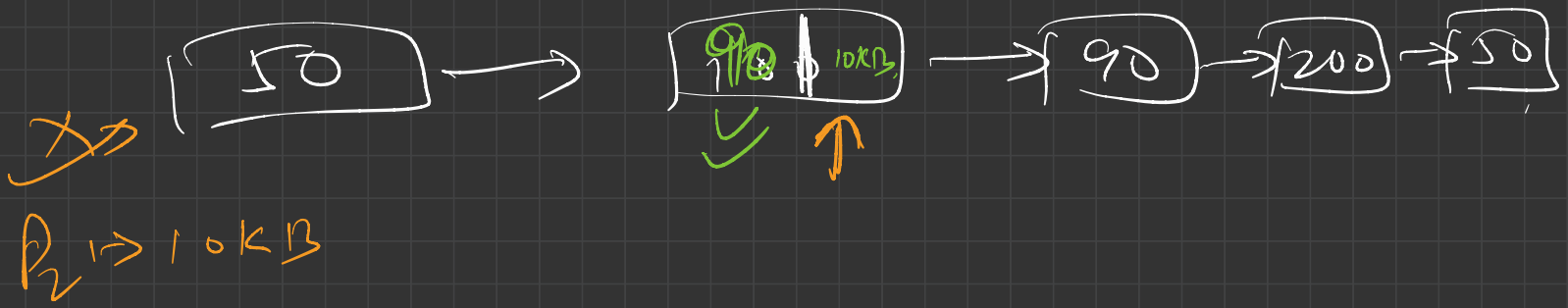
FL:



⇒ fast !

⇒ Simple / easy to implement

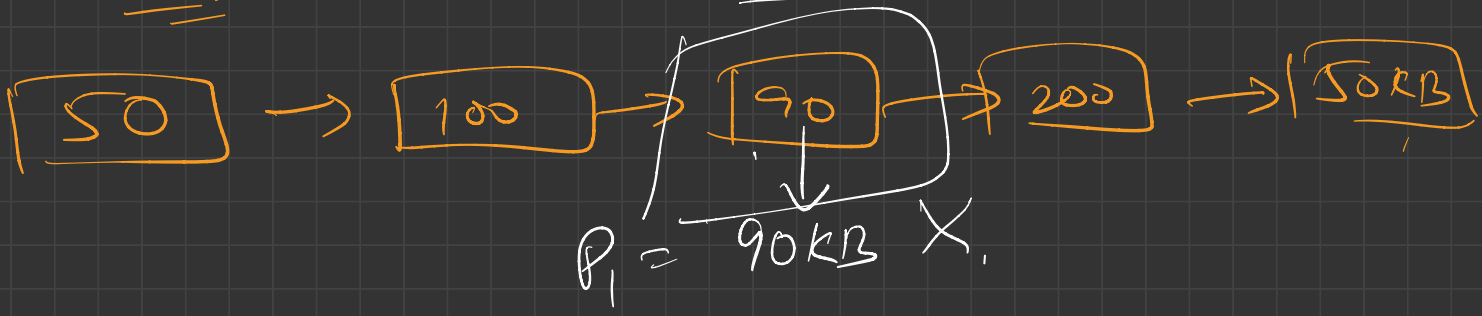
② Next fit 90KB



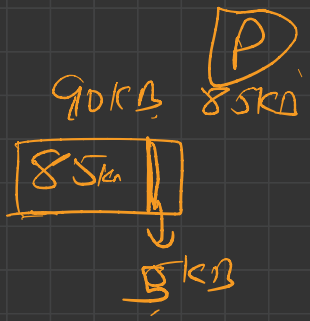
P_2 => 10KB

② enhancement/tweak Firstfit

③ Best fit $P_1 \rightarrow$ 90 KB

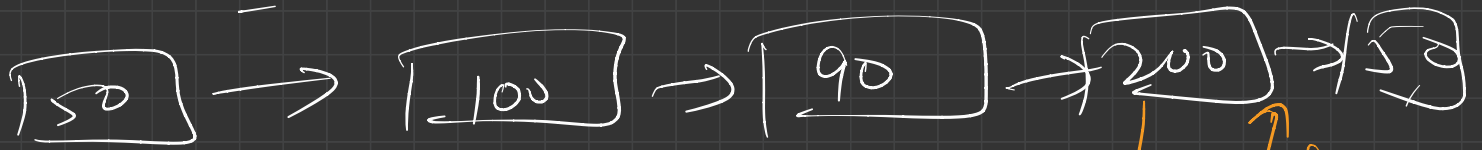


⇒ Lesser internal frag.
⇒ slow
⇒ major external frag.

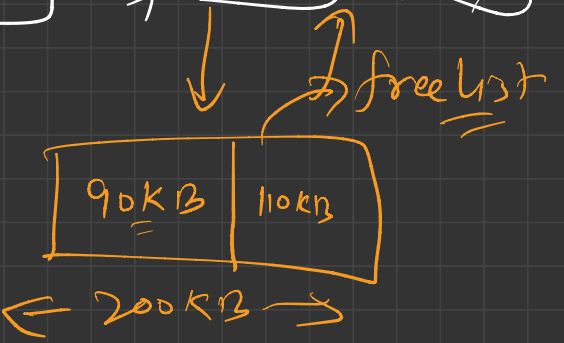


P_1; 2KB → 3KB
→ 5KB → 1KB

(4) Worst fit → allocate largest hole.



Req → 90KB



⇒ Less external fragmentation

⇒ Slow.