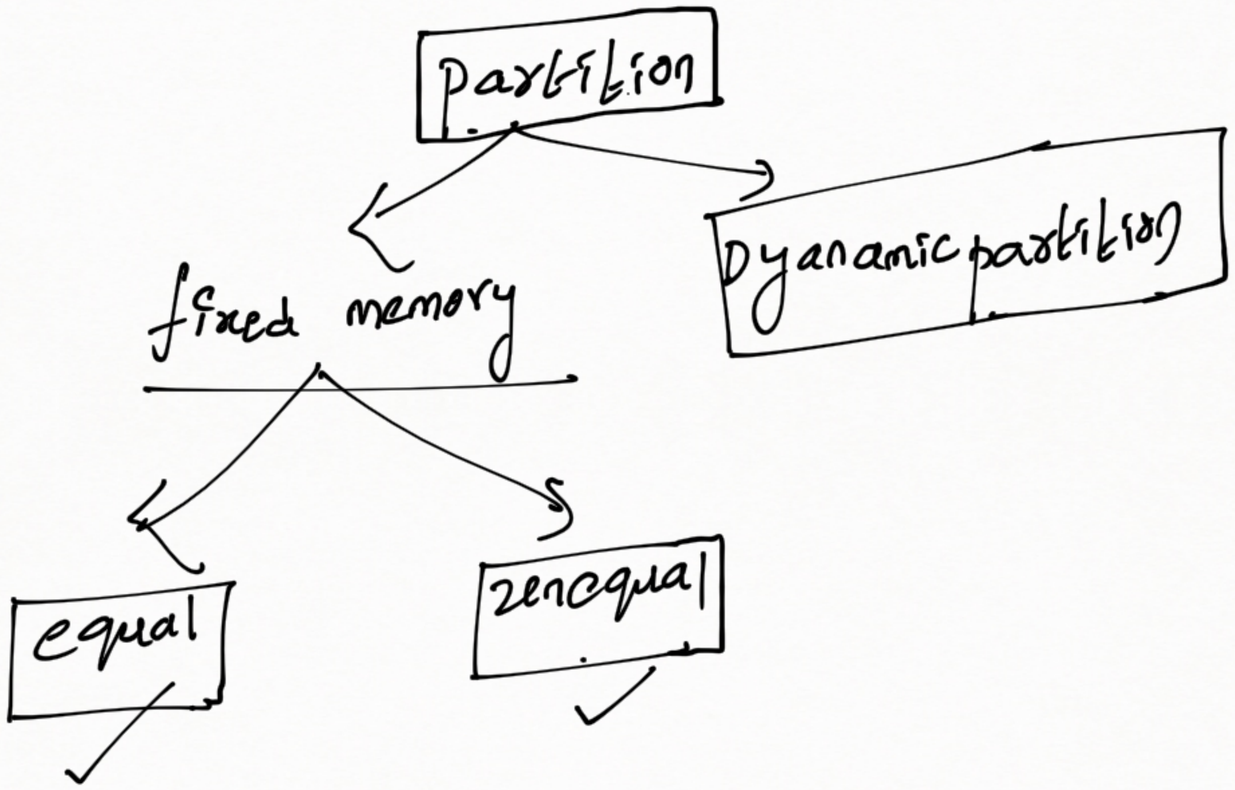
Date: 4-12-21

memory partitioning

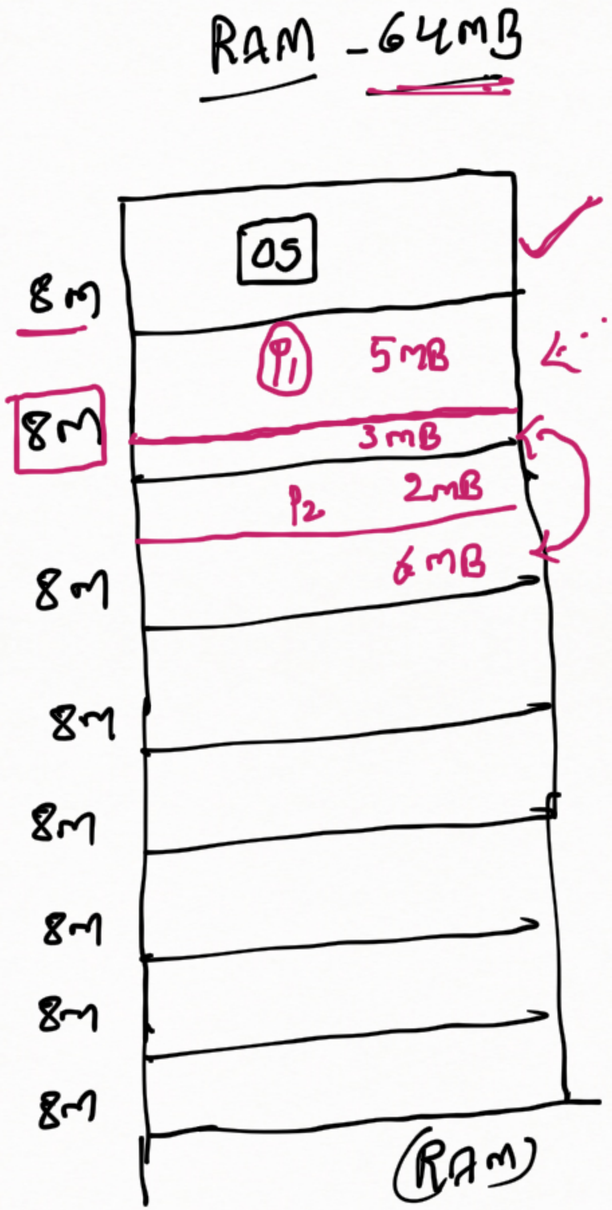


Equal fixed partition

- each partition size is same
- no. of partitions are fixed

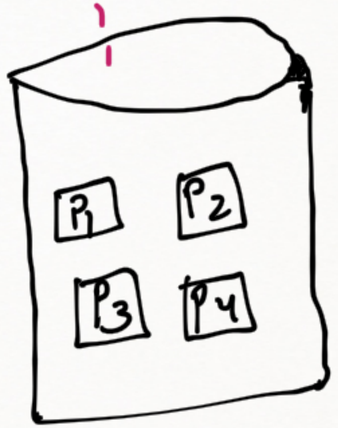
-> main memory utilization is extremely inefficient.

Any program (process) no matter how small it occupy the one partition.



P1 - 5MB

P2 - 2MB



(Secondary memory)

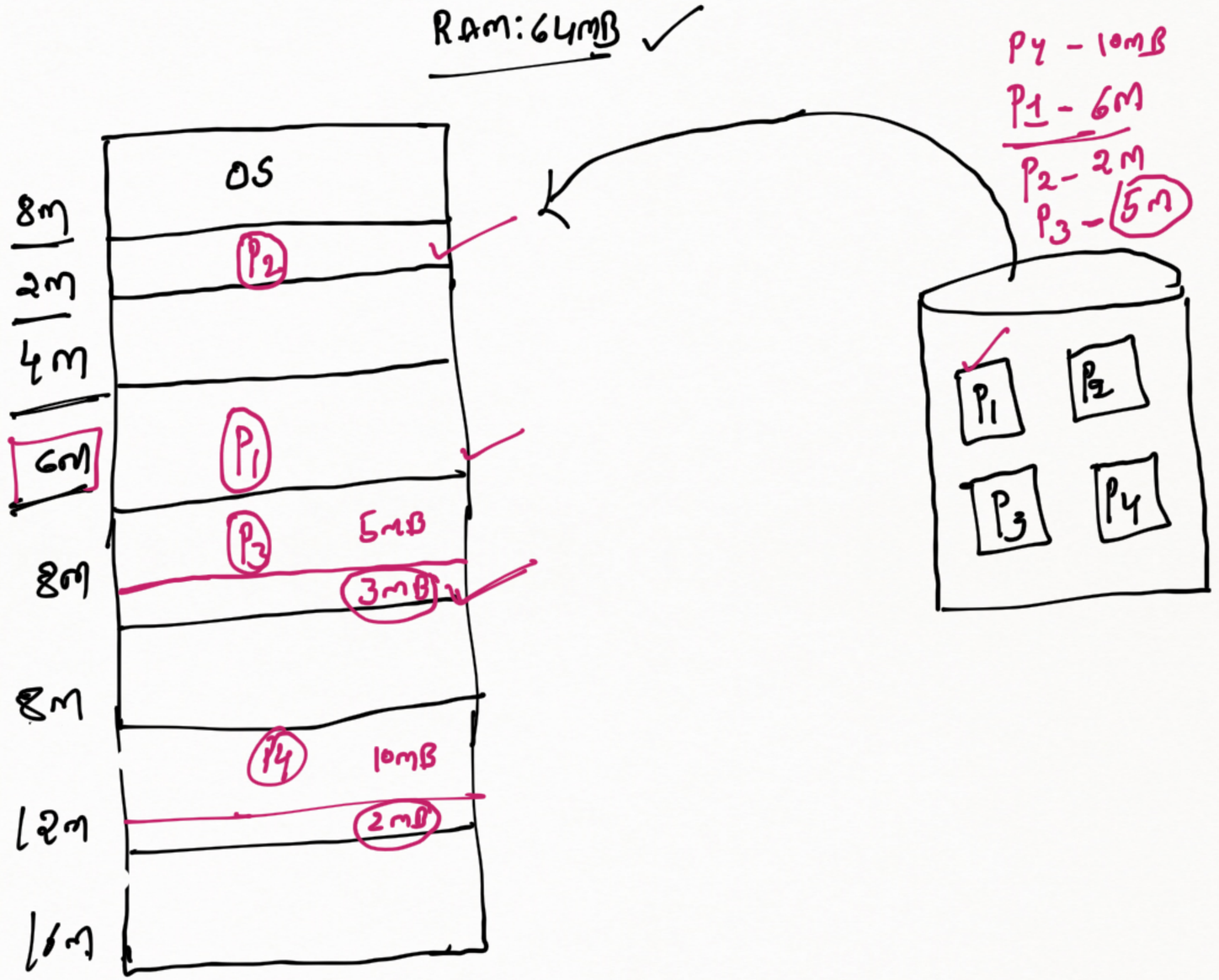
→ the situation where wasted space internally to each partition is called internal fragmentation.

→ the number of partitions are fixed so that number of active processes at any time is also fixed

Unequal fixed partition

- each partition size is not exactly same.
- number of partitions are fixed

→ Both equal and unequal fixed partition techniq are having internal fragmentation problem.



Dynamic partition : partition size and number of partitions are not preset when system started they are decided at runtime

→ Dynamic partition is good for initial process but after some when a process swap out and again after some time swapin then eventually small hole are created in each partition this is known as external fragmentation.

→ Even 10MB memory free unable to load 10MB process

→ To avoid external fragmentation solution is compaction

Compaction: Time to time if OS moving running processes one side and free memory partitions another side so that a new process possible to load, but Major issue in compaction if is extra burden on OS and H/W every time moving processes