Memory Management

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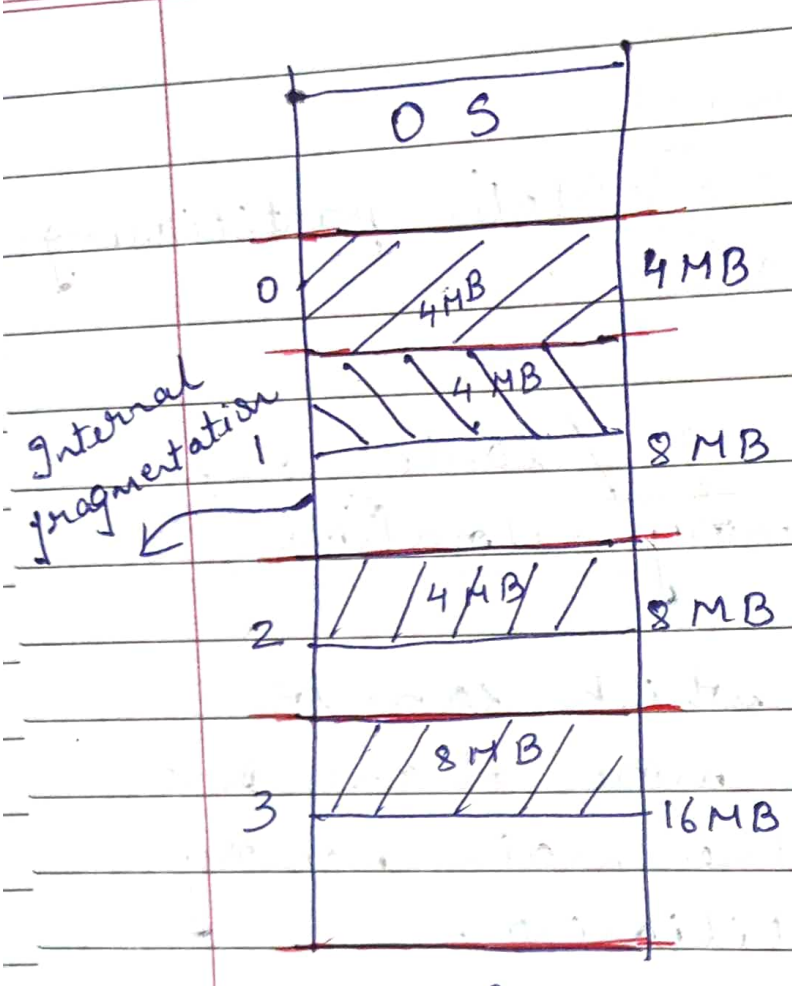
Module 4

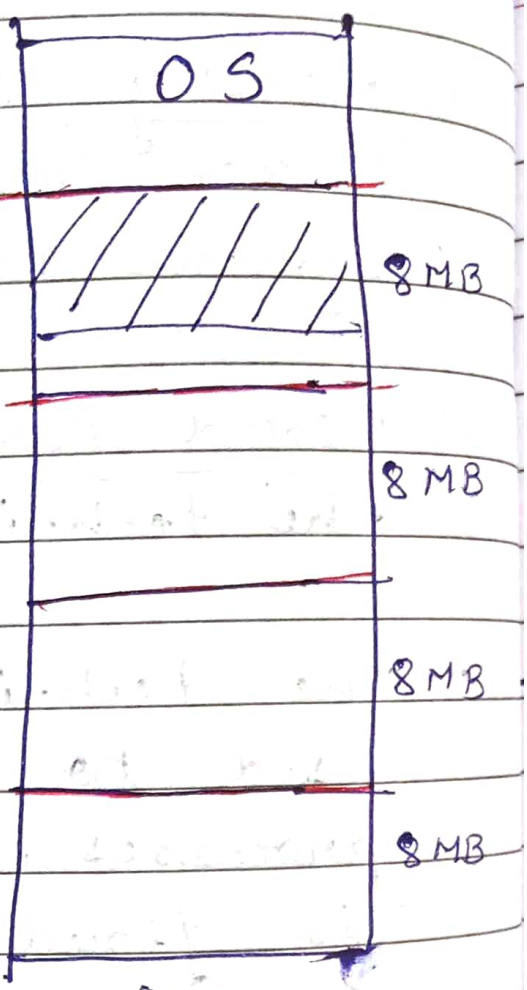
* Memory Partitioning
1) Fixed Partitioning / Static partitioning.
2) Dynamic Partitioning.

1) Fixed Partitioning / Contiguous memory allocation

- The technique which can be used to load more than one processes into the main memory is fixed partitioning.
- In this technique, the main memory is divided into x fixed partitions of equal or different / unequal sizes.
- The O.S always resides in the first partition while the other partitions can be used to store user processes.
- The memory is assigned to the processes in contiguous way.
- In this technique, number of partitions are fixed.
- In this technique ~~PTO~~ Spanning is not allowed.



(a)
Unequal size partitions



(b)
Equal size partitions

$P_1 = 4MB$

$P_2 = 4MB$ $P_3 = 32MB$

$P_4 = 4MB$ $P_5 = 8MB$

$P_6 = 16MB$

$P_1 = 6MB$

Drawbacks

1) Internal fragmentation
2) Limit in process size.
3) Limitation on degree of multiprogramming.
4) ~~External Fragmentation~~