

CSC369 Week 5 Notes

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1 Memory Management

- Physical Memory vs Virtual Memory ^[1]
 - Physical Memory
 - * Is RAM :)!!
 - * Is the first memory used when computer requires memory such as loading application or OS
 - Virtual Memory
 - * Is stored on hard drive
 - * Is used when RAM is filled
 - * Is slower than RAM

References:

- 1) Tech Walla: What Is the Difference Between Virtual Memory & Physical Memory?, [link](#)

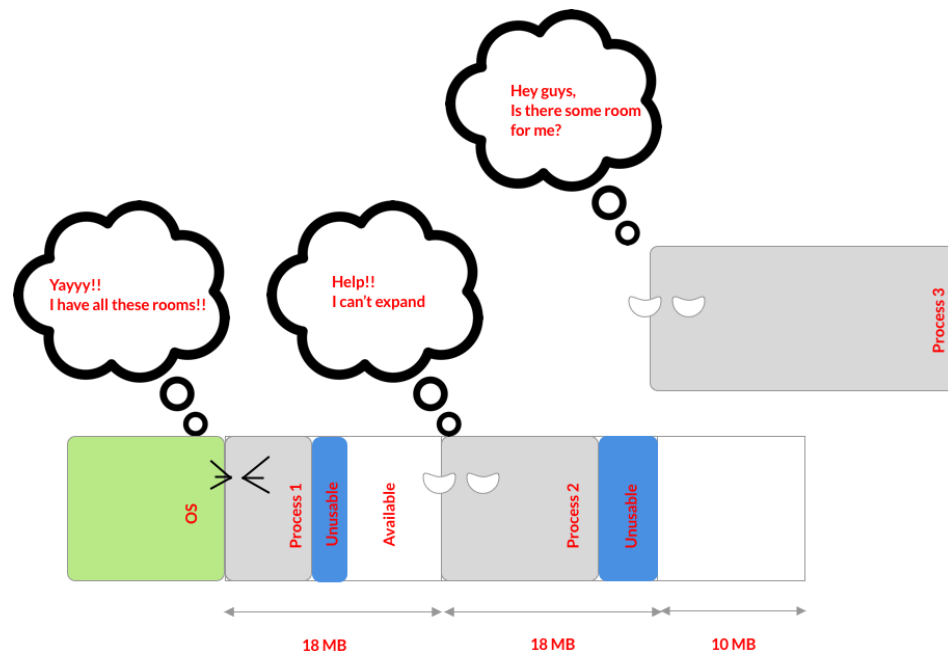
- Memory Management
 - Is the process of controlling and coordinating computer memory, by assigning portions known as **blocks** to various programs ^[1]

References:

- 1) Guru 99: Memory Management in OS: Contiguous, Swapping, Fragmentation & Physical Memory?, [link](#)

- Fixed Partitioning

- Is the oldest and simplest technique to put more than one processes in the main memory. ^[1]
- Divides memory into regions with fixed boundaries.
 - * Can be of equal size
 - * Or unequal size
- Advantages: ^[1]
 - * Is easy to implement
 - * Requires lesser indirect computational power
- Disadvantages: ^[1]
 - * Memory is wasted if process is smaller than partition (**Internal Fragmentation**)
 - * Programmer must deal with programs larger than partition



References:

- 1) Chegg Study: Fixed Partitions, link
- Dynamic Partitioning
 - Allevates problems caused by fixed partitioning ^[1]
 - Partitions vary in length and number over time
 - When a process is brought into memory, a partition of exact the right size is created to hold it

- Advantages ^[1]
 - * No internal fragmentation
 - There will be no unused space left in the partition
 - * No restriction on degree of multiprogramming
 - More processes in memory due to absence of internal fragmentation
 - Processes can be loaded until memory is empty
- Disadvantages

Refernces:

1) GeeksForGeeks: Variable (or dynamic) Partitioning in Operating System, link

- Paging
- Address Translation
- TLBS