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| **Kernel Space** | **User Space** |
| 1.Kernel Space is the location where the code of the kernel is stored, and runs under the Kernel space.  2.Kernel has access to all the memory  3. If a process performs a system call, a software interrupt is sent to the kernel, which then dispatches the appropriate interrupt handler and continues its work after the handler has finished.  4. Kernel space code has the property to run in "kernel mode", which (in your typical desktop -x86- computer) is what you **call code that executes under ring 0**.  5)Any issue in kernel is catastrophic,it may disrupt the entire system. | 1.User Space is the set of the location where  user processes run (i.e everything other than the kernel). The role of the kernel is to manage applications running in this space from messing with each other, and the machine.  2. Processes running under the user space have access only to a limited part of memory  3. User space processes can *only access a small part of the kernel* via an interface exposed by the kernel - **the system calls**.  4. User space is just used to run the various API and Kernel and other Programs .It does not have any specific mode.  5) Issues in user space are recoverable. |

Svheduling Criteria

**CPU utilization** – keep the CPU as busy as possible

**Throughput** – number of processes that complete their execution per time unit

**Turnaround time** – amount of time to execute a particular process

**Waiting time** – amount of time a process has been waiting in the ready queue

**Response time** – amount of time it takes from when a request was submitted until the first response is produced, **not** output (for time-sharing environment)

Arrival Time:- The time at which process gets into ready Queue.

Burst Time(Execution Time): Amount of CPU time required to finish execution of process.

Completion Time : Time at which process completes its execution.

Turnaround time: Time required for execution of the process or Total time spent by the process in a system

(End time-Arrival Time)

Waiting Time: Total time process is waiting for CPU.(TAT-BT) (Start Time - Arrival Time)

Response Time: Time when process is allocated to CPU First time.