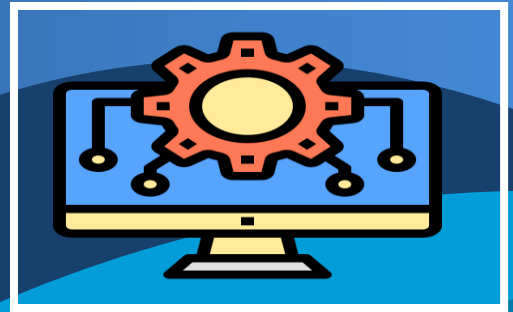


Khaled Dawoud

## S\_LINUX\_01: Pros/Cons for Scheduling Algorithms



**Scheduling algorithms** are used in operating systems to determine how tasks or processes should be executed by the CPU. There are several scheduling algorithms available, each with its own set of advantages and disadvantages. Here are some of the pros and cons of scheduling algorithms:

### Pros:

**Fairness:** Some scheduling algorithms are designed to ensure that each task gets a fair share of CPU time.

**Throughput:** some scheduling algorithms prioritize smaller tasks, allowing the CPU to execute more tasks in a given amount of time.

**Response time:** Some scheduling algorithms prioritize tasks based on their importance, which can reduce response times for critical tasks.

**Efficiency:** some scheduling algorithms can improve the efficiency of resource utilization by dividing tasks into different queues with different priorities.

### Cons:

**Starvation:** some scheduling algorithms can lead to starvation of lower priority tasks if higher priority tasks are continuously arriving.

**Complexity:** Some scheduling algorithms can be complex to implement and require significant computational resources.

**Overhead:** some scheduling algorithms can result in high overhead due to the frequent context switching between tasks.

**Unpredictability:** Some scheduling algorithms are non-deterministic where the order of tasks aren't predictable.

Overall, the choice of scheduling algorithm depends on the specific requirements of the system and the goals of the system designer.