FCFS

(First come first serve)

The **simplest scheduling** algorithm, the process that **requests the CPU first** is **allocated the CPU first**.

The key concept of this algorithm is to **allocate the CPU in order** in which the process arrive.

It is a nonpreemptive scheduling.

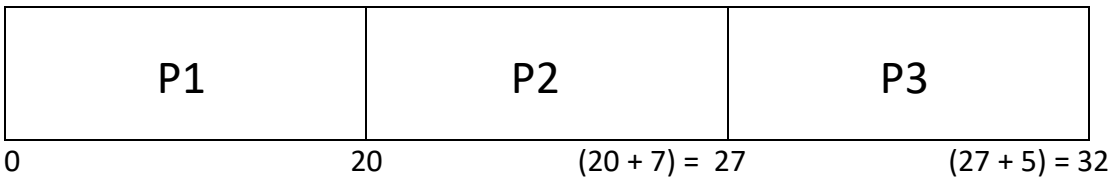
In nonpreemptive scheduling **no context switching is done**

Average waiting time is often quite long.

Process	Burst time
P1	20 ms
P2	7 ms
P3	5 ms

If Process order is p1, p2, p3

Gantt chart



Waiting time for p1 = 0 ms (as p1 is the first process in the ready queue)

Waiting time for p2 = 20 ms (p1 waiting time + p1 burst time)

Waiting time for p3 = 27 ms (p2 waiting time + p2 burst time)

Average waiting time = (0 + 20 + 27) / 3 = 15.66 ms

Turn Around Time = **TAT**

Means total time a process takes to complete.

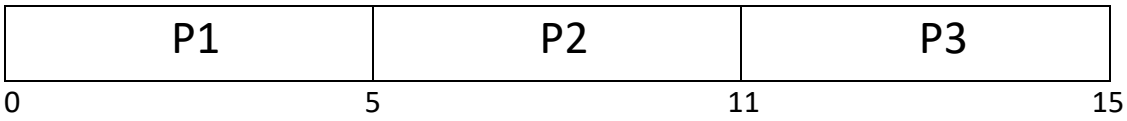
TAT for p1 = 20 ms (p1 waiting time + p1 burst time)

TAT for p2 = 27 ms (p2 waiting time + p2 burst time)

TAT for p3 = 32 ms (p3 waiting time + p3 burst time)

Average TAT = (20 + 27 + 32) / 3 = 26.33 ms

Process	Burst time	Arrv.time
P1	5 ms	0 ms
P2	6 ms	4 ms
P3	4 ms	6 ms



W.T p1 = 0 ms

W.T p2 = 5 – 4 = 1 ms (CPU assign time – arrival time)

W.T p3 = 11 – 6 = 5 ms (CPU assign time – arrival time)

Average Waiting Time (AWT) = (0 + 1 + 5) / 3 = 2 ms