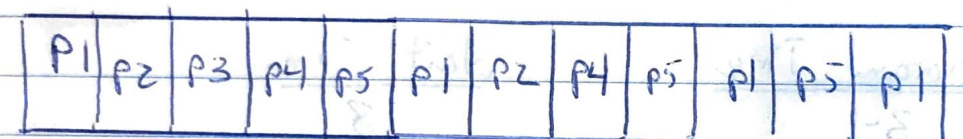


1. <u>Process</u>	<u>Arrival Time</u>	<u>Burst Time</u>	<u>Priority</u>
P1	0	16	8
P2	0	10	10
P3	3	5	6
P4	5	8	10
P5	8	12	5

a) Round-Robin, quantum = 5

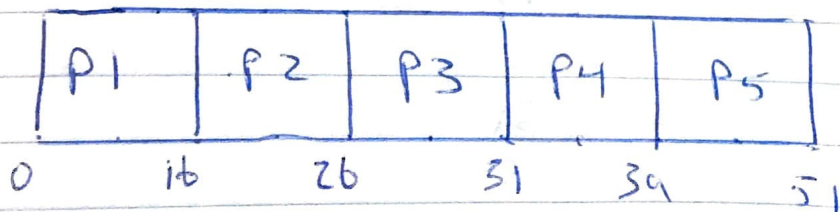
→ We assume P1 arrived before P2 as Round-Robin doesn't take priority into account.



0 5 10 15 20 25 30 35 38 43 48 50 51

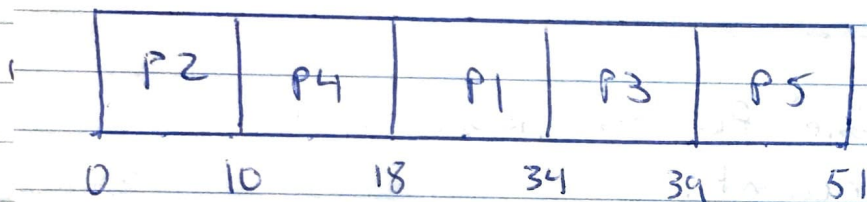
<u>Process</u>	<u>Turnaround Time</u>	<u>Wait Time</u>
P1	51	35
P2	35	25
P3	12	7
P4	33	25
P5	42	30

b) First Come First Serve: Assuming P1 come before P2



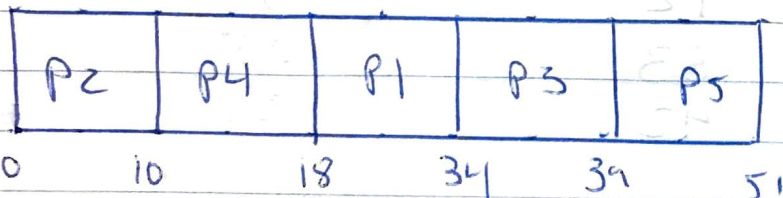
<u>Process</u>	<u>Turnaround Time</u>	<u>Wait Time</u>
P1	16	0
P2	26	16
P3	28	23
P4	34	26
P5	43	31

c) Priority Preemptive



<u>Process</u>	<u>Turnaround Time</u>	<u>Wait Time</u>
P1	34	18
P2	10	0
P3	36	31
P4	13	5
P5	43	31

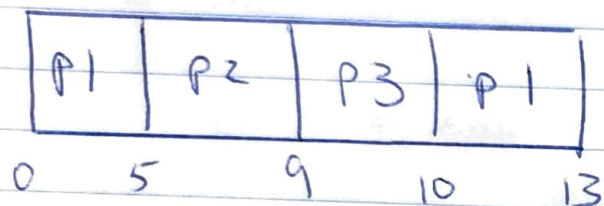
d) Priority Non Preemptive



<u>Process</u>	<u>Turnaround Time</u>	<u>Wait Time</u>
P1	34	18
P2	10	0
P3	36	31
P4	13	5
P5	43	31

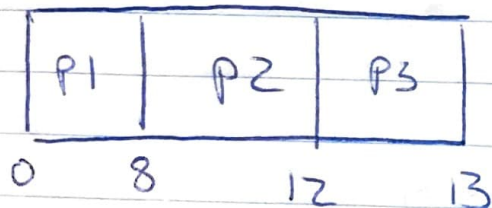
Process	Arrival Time	Burst Time	Priority
P1	0	8	8
P2	0	4	10
P3	4	1	6

a) Round Robin = quantum = 5 = Assume P1 runs first



Process	Turnaround Time	Wait Time
P1	13	5
P2	9	5
P3	6	3

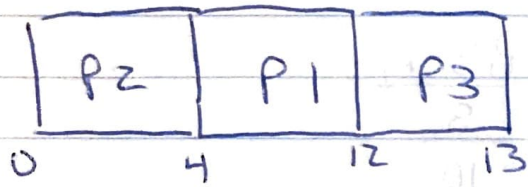
b) First Come First Serve = Assume P1 runs first



Process	Turnaround Time	Wait Time
P1	8	0
P2	12	8
P3	7	6

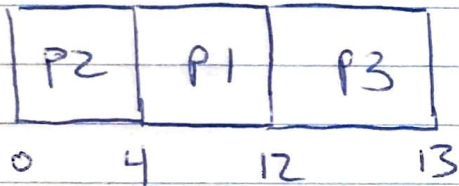
c) Priority preemptive





Process	Turnaround Time	Wait Time
P1	12	4
P2	4	0
P3	9	8

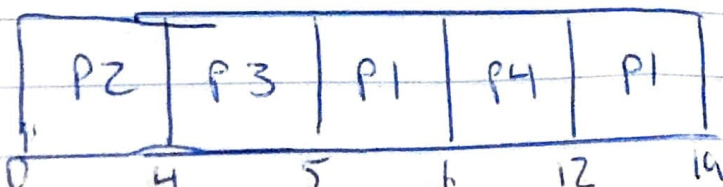
d) Priority Nonpreemptive



Process	Turnaround Time	Wait Time
P1	12	4
P2	4	0
P3	9	8

3. Process	Arrival Time	Burst Time	Priority
P1	0	8	8
P2	0	4	10
P3	4	1	6
P4	6	6	8

• Shortest Remaining Time



Process	Turnaround Time	Wait Time
P1	19	11
P2	4	0
P3	1	0
P4	6	0

## 41. Starvation

### a) First Come First Served

- Starvation can occur if the burst time of the first/current process is much larger and the rest of the processes have to wait. Called the convoy effect.

### b) Round - Robin

- Does not suffer from starvation problem

### c) Shortest Job First

- Starvation can occur if processes keep getting added that have a shorter burst time than a process that has been waiting.

### d) Shortest Time Remaining First

- Starvation can occur if processes keep arriving with a shorter burst time than currently waiting processes.

### e) Priority-based Round Robin Preemptive

- Starvation can occur if jobs arrive continuously and have a higher priority than currently waiting processes.