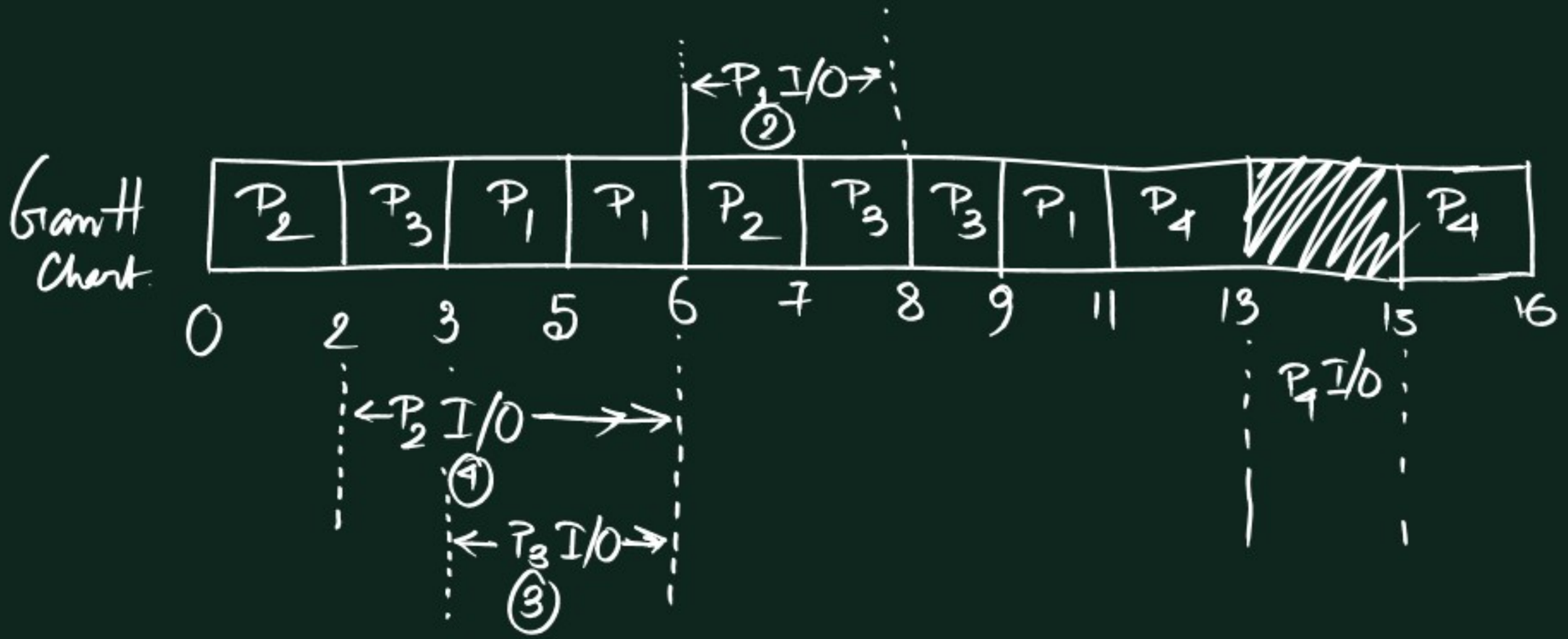
Q: SRTF

Pno.	AT	BT	I/O BT	BT	CT	TAT	WT
1	0	~~3~~ ~~1~~ 0	2 ✓	~~2~~ ~~1~~ 0	11	11	6
2	0	~~2~~ 0	4 ✓	~~1~~ 0	7	7	4
3	2	~~1~~ 0	3 ✓	~~2~~ ~~1~~ 0	9	7	4
4	5	~~2~~ 0	2	~~1~~ 0	16	11	8

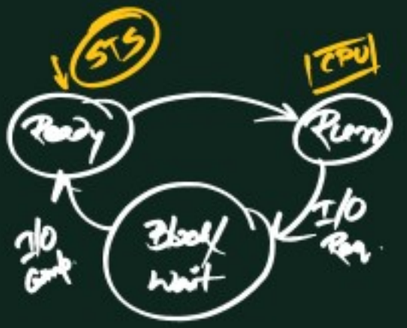


CPU efficiency

$\frac{14}{16} \times 100\%$

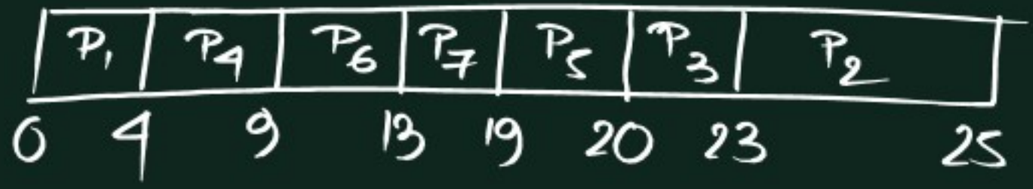
CPU Inefficiency

$\frac{2}{16} \times 100\%$



Priority CPU Scheduling

- Non-preemptive:



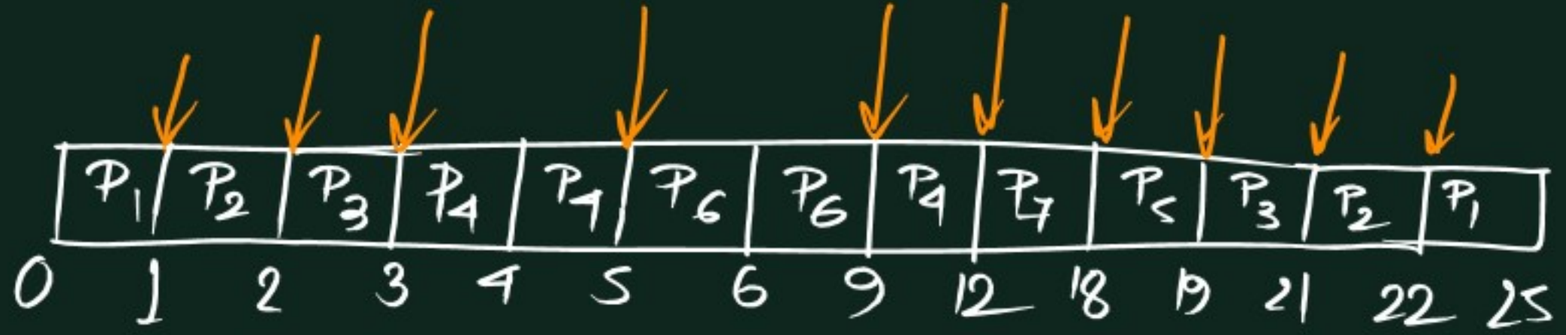
WT = RT

Pno	Priority	AT	BT	CT	TAT	WT	RT
1	2 (L)	0	4 ✓	4	4	0	0
2	4	1	2 ✓	25	24	22	22
3	6	2	3 ✓	23	21	18	18
4	10	3	5 ✓	9	6	1	1
5	8	4	1 ✓	20	16	15	15
6	12 (H)	5	4 ✓	13	8	4	4
7	9	6	6 ✓	19	13	7	7

Priority CPU Scheduling (Pre-emptive mode)

Pno.	Priority	AT	BT
1	2 (L)	0	~~1~~ ~~3~~ ~~0~~
2	4	1	~~2~~ ~~1~~ 0
3	6	2	~~3~~ ~~2~~ 0
4	10 ✓	3	~~5~~ ~~3~~ 0 ✓
5	8 ✓	4	~~1~~ 6
6	12 (H) ✓	5	~~4~~ ~~3~~ 0 ✓
7	9 ✓	6	~~6~~ 0

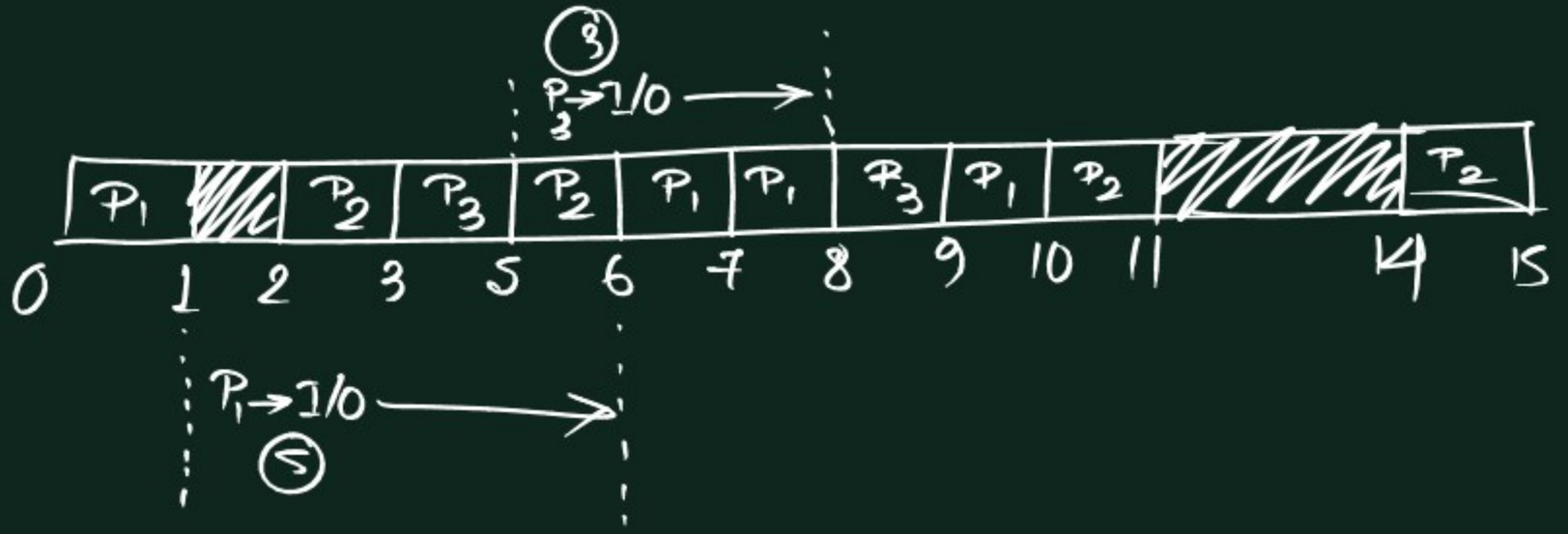
CT	TAT	WT	RT
25	25	21	0
22	21	19	0
21	19	16	0
12	9	1	0
19	15	14	14 ✓
9	4	0	0
18	12	6	6 ✓



Pre-emptive Priority

Q:

Proc.	AT	Priority	CPU BT	I/O BT	CPU BT	CT	TAT	WT
1	0	2	~~10~~	5✓	~~3~~ ~~2~~ ~~1~~ 0	10	10	6
2	2	3(L)	~~3~~ ~~2~~ ~~1~~ 0	3✓	~~1~~ 0	15	13	9
3	3	1(H)	~~2~~ 0	3	~~1~~ 0	9	6	3



CPU-efficiency:

$$\frac{11}{15} \times 100\%$$

CPU-inefficiency:

$$\frac{4}{15} \times 100\%$$

H/W

Consider 'n' processes sharing the CPU in R-R fashion.
If context switching time is 's' units, what must be the time quantum 'q',
such that, the no. of context switches are reduced but at the same time
each process is guaranteed to get the turn at the CPU for every 't' secs?