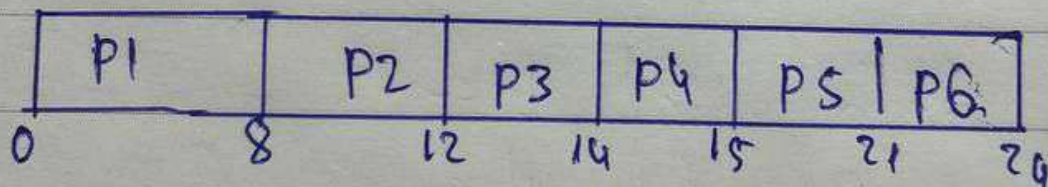


Exercise

1. first come first serve (FCFS) scheduling algorithm

PID	AT	BT	CT	TT	NT
P1	0	8	8	8	0
P2	2	4	12	10	6
P3	4	2	14	10	8
P4	5	1	15	10	9
P5	6	6	21	15	9
P6	8	3	24	16	13

Gantt chart



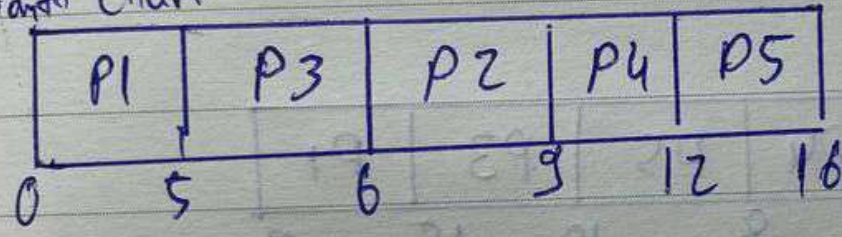
$$\text{Avg TT} = \frac{8 + 10 + 10 + 10 + 15 + 16}{6} = \frac{69}{6} = \underline{11.5}$$

$$\text{Avg NT} = \frac{0 + 6 + 8 + 9 + 9 + 13}{6} = \frac{45}{6} = 7.5$$

2 Shortest job first (SJF) scheduling algorithm

PID	AT	BT	CT	TT	NT
P1	0	5	5	5	0
P2	2	3	9	7	4
P3	3	1	6	3	2
P4	4	3	12	8	5
P5	6	4	16	10	6

Gantt chart



$$\text{Avg TT} = \frac{5 + 7 + 3 + 8 + 10}{5} = \frac{33}{5} = 6.6$$

$$\text{Avg NT} = \frac{0 + 4 + 2 + 5 + 6}{5} = \frac{17}{5} = 3.4$$



Mo Tu We Th Fr Sa Su

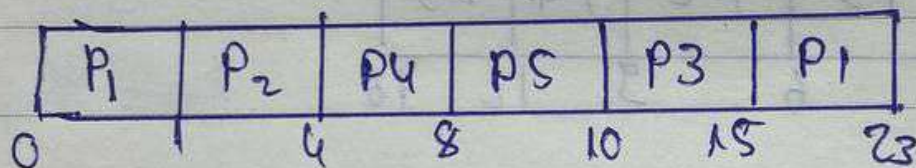
Memo No. _____

Date / /

3 Preemptive shortest job first (PSJF) scheduling algorithm

PID	AT	BT	CT	TT	WT
P1	0	9	23	23	14
P2	1	3	4	3	0
P3	2	5	15	13	8
P4	4	4	8	4	0
P5	6	2	10	4	2

Gantt Chart



- P1 runs from 0 → 1 (remained 8)
- P2 runs from 1 → 4 (finished)
- P4 runs from 4 → 8 (finished)
- P5 runs from 8 → 10 (finished)
- P3 runs from 10 → 15 (finished)
- P1 runs from 15 → 23 (finished)

$$\text{Avg TI} = \frac{23 + 3 + 13 + 4 + 4}{5} = \frac{47}{5} = \underline{9.4}$$

$$\text{Avg RT} = \frac{14 + 0 + 8 + 0 + 2}{5} = \frac{24}{5} = \underline{4.8}$$