

23K-2001

BCS-4J

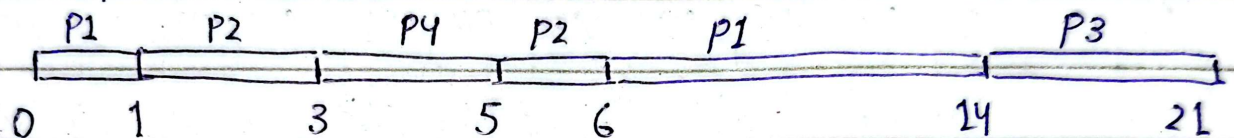
OS LAB 07 Homeworks

Date _____

Task 03: Preemptive SJF

Process	Arrival time	CT	Turnaround time	Waiting time	Burst time
P1	0	14	$14 - 0 = 14$	$14 - 9 = 5$	9
P2	1	6	$6 - 1 = 5$	$5 - 4 = 1$	4
P3	2	21	$21 - 2 = 19$	$19 - 7 = 12$	7
P4	3	5	$5 - 3 = 2$	$2 - 2 = 0$	2

Gantt Chart:



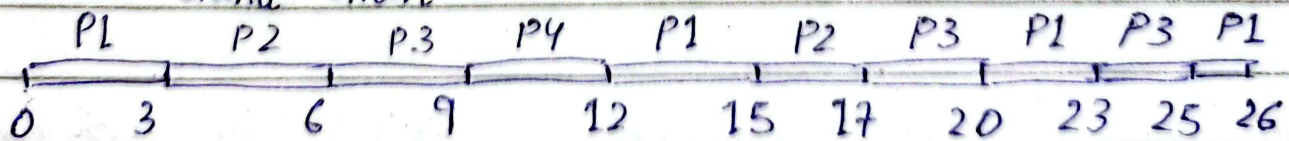
$$ATAT \Rightarrow = \frac{14 + 5 + 19 + 2}{4} = 10 \text{ units}$$

$$AWT \Rightarrow = \frac{5 + 1 + 12 + 0}{4} = 4.5 \text{ units}$$

Task 04: Round Robin

Process	Arrival time	CT	Turnaround time	Waiting time	Burst time
P1	0	26	$26 - 0 = 26$	$26 - 10 = 16$	10
P2	1	17	$17 - 1 = 16$	$16 - 5 = 11$	5
P3	2	25	$25 - 2 = 23$	$23 - 8 = 15$	8
P4	3	12	$12 - 3 = 9$	$9 - 3 = 6$	3

Gantt Chart:



$$ATAT \Rightarrow = \frac{26 + 16 + 23 + 9}{4} = 18.5 \text{ units}$$

$$AWT \Rightarrow = \frac{16 + 11 + 15 + 6}{4} = 12 \text{ units}$$

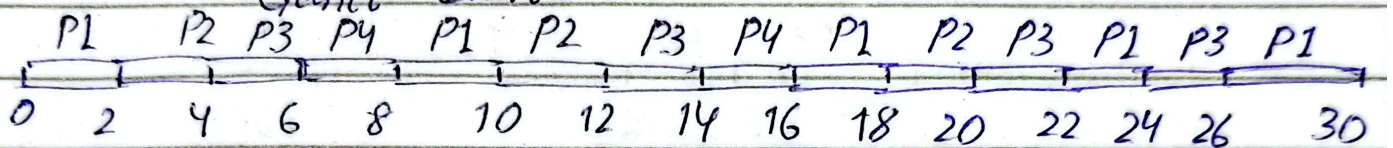
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Task 05: Round Robin

Process	Arrival time	CT	Turnaround time	Waiting time	Burst time
P1	0	30	$30 - 0 = 30$	$30 - 12 = 18$	12
P2	2	20	$20 - 2 = 18$	$18 - 6 = 12$	6
P3	4	26	$26 - 4 = 22$	$22 - 8 = 14$	8
P4	6	16	$16 - 6 = 10$	$10 - 4 = 6$	4

Gantt Chart:



$$ATAT \Rightarrow = \frac{30 + 18 + 22 + 10}{4} = 20$$

4

units

$$AWT \Rightarrow = \frac{18 + 12 + 14 + 6}{4} = 12.5$$

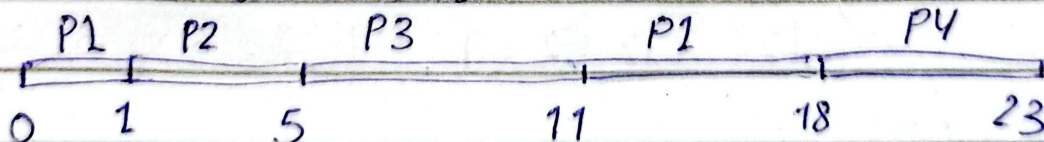
4

units

Task 06: Priority Scheduling (Non-preemptive)

Process	AT	Priority	CT	Turnaround time	Waiting time	Burst time
P1	0	3	18	$18 - 0 = 18$	$18 - 7 = 11$	7
P2	1	1	5	$5 - 1 = 4$	$5 - 1 - 4 = 0$	4
P3	2	2	11	$11 - 2 = 9$	$11 - 2 - 6 = 3$	6
P4	3	4	23	$23 - 3 = 20$	$20 - 5 = 15$	5

Gantt Chart:



$$ATAT \Rightarrow = \frac{18 + 4 + 9 + 20}{4} = 12.75$$

4

units

$$AWT \Rightarrow = \frac{11 + 0 + 3 + 15}{4} = 7.25$$

4

units

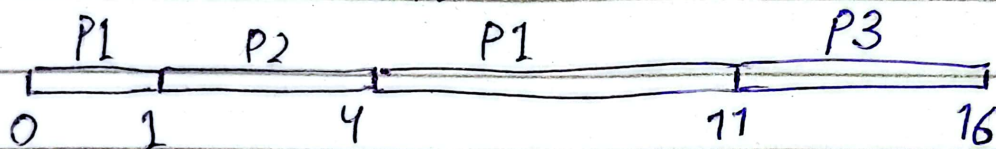
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Task 07: Priority Scheduling (Preemptive)

Process	AT	Priority	CT	Turnaround time	Waiting time	Burst time
P1	0	2	11	$11 - 0 = 11$	$11 - 8 = 3$	8
P2	1	1	4	$4 - 1 = 3$	$3 - 3 = 0$	3
P3	2	3	16	$16 - 2 = 14$	$14 - 5 = 9$	5

Gantt Chart:



$$ATAT \Rightarrow = \frac{11 + 3 + 14}{3} = 9.333 \text{ units}$$

$$AWT \Rightarrow = \frac{3 + 0 + 9}{3} = 4 \text{ units}$$