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Roll - 29

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DATE :

TUTORIAL 5

Scheduling Algorithms

Q# Consider the following process :

Process	Arrival time	Burst time	Priority
A	0	1	3
B	1	9	3
C	3	1	2
D	3	9	1

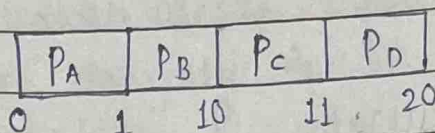
> Draw Gantt chart to finish time

> Calculate TT and WT in case of each of the following strategies :

- FCFS
- SJF (Non preemptive)
- SJF (Preemptive)
- Round Robin ($T_s = 1$)
- Priority Non preemptive
- Priority preemptive

FCFS : (First come first serve)

» Gantt chart :

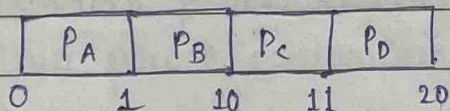


Process	Completion time	Turn around time [CT - AT]	Waiting Time [TT - BT]
A	1	1	0
B	10	9	0
C	11	8	7
D	20	17	8

Avg WT = 3.75, Avg TT = 8.75

SJF : Non preemptive

» Gantt chart

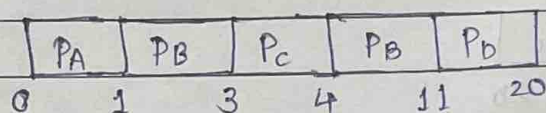


Process	BT	CT	TT [CT - AT]	WT [TT - BT]	AT
A	1	1	1	0	1
B	9	10	9	0	1
C	1	11	8	7	3
D	9	20	17	8	3

Avg TT = 8.75
Avg WT = 3.75

SJF : Preemptive

» Gantt chart



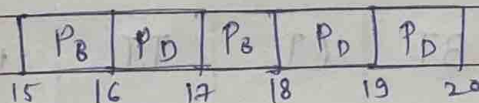
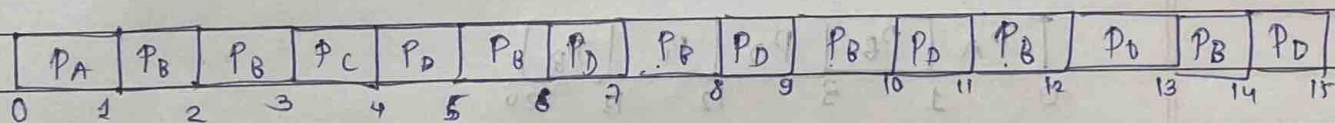
Process	AT	BT	CT	TT	WT
A	0	1	1	1	0
B	1	9	11	10	1
C	3	1	4	1	0
D	3	9	20	17	8

$$\text{Avg TT} = 7.25$$

$$\text{Avg WT} = 2.25$$

Round Robin (TS = 1)

» Gantt Chart



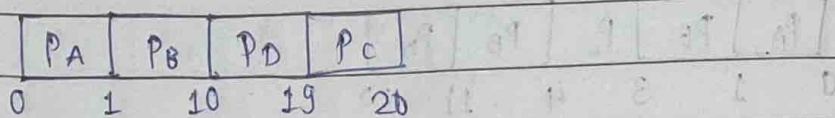
Process	AT	BT	CT	TT	WT
A	0	1	1	1	0
B	1	9	18	17	8
C	3	1	4	1	0
D	3	9	20	17	8

$$\text{Avg TT} = 8$$

$$\text{Avg WT} = 8$$

Priority Non preemptive

>> Gantt chart

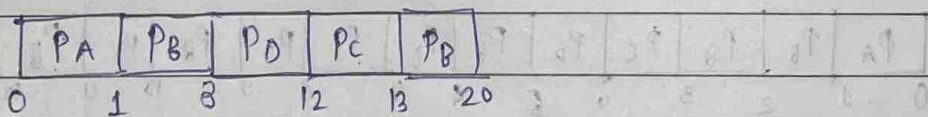


Process	AT	BT	CT	TT	WT	
A	0	1	1	1	0	
B	1	9	10	9	8	
C	3	1	20	17	16	
D	3	9	19	16	13	

Arg TT = 10.75
Arg WT = 5.75

Priority Preemptive

>> Gantt chart



Process	AT	BT	CT	TT	WT
A	0	1	1	1	0
B	1	9	20	19	10
C	3	1	13	10	9
D	3	9	12	9	10

Arg TT = 9.75

Arg WT = 4.75