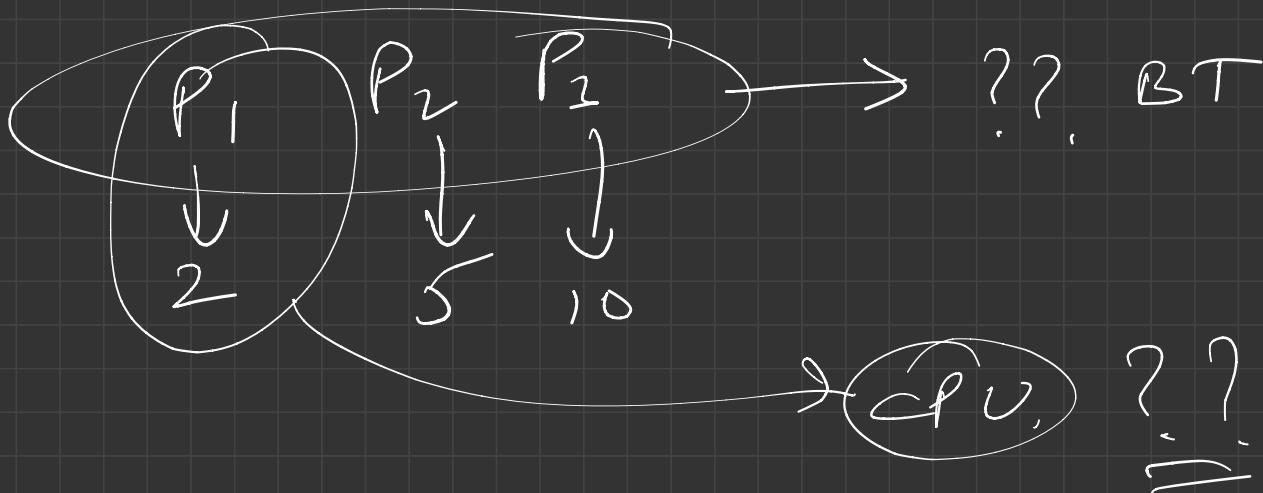



Lec-13

- ① SJF (shortest Job first) (Non Preemptive)
- process with least BT will get CPU.



P	AT	BT	CT	TAT	WT
P ₁	0	8	8	8	0
P ₂	1	4	12	11	7
P ₃	2	9	26	24	15
P ₄	3	5	17	14	9

AvgWT 7.75s.

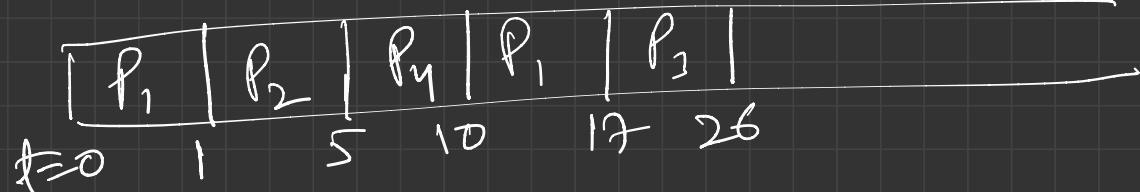
Non-dr.	P ₁	P ₂	P ₃	P ₄	
t=0	8	12	17	26	

Criteria: AT + BT

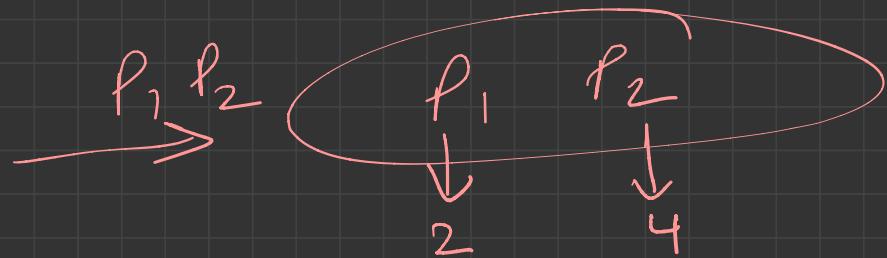
* Preemptive SJF ✓

P	AT	BT	CT	TAT	WT
P ₁	0	87	17	17	9
✓ P ₂	1	4	5	4	0
P ₃	2	9	26	24	15
P ₄	3	5	10	7	2

AvgWT: $\rightarrow 6.5 \text{ mts.}$



* Priority scheduling :-
* → Assign priority to each Job



① Non - Preemptive

P	Priority	AT	BT	CT	TAT	WT
1	2	0	4	4	4	0
2	4	1	2	25	24	22
3	6	2	3	23	22	19
4	10	3	5	9	6	1
5	8	4	1	20	16	15
6	12	5	4	13	8	4
7	9	6	6	19	13	7

P_1	P_4	P_6	P_7	P_5	P_2	P_3
4	9	13	19	20	23	25

$\Sigma = 0$

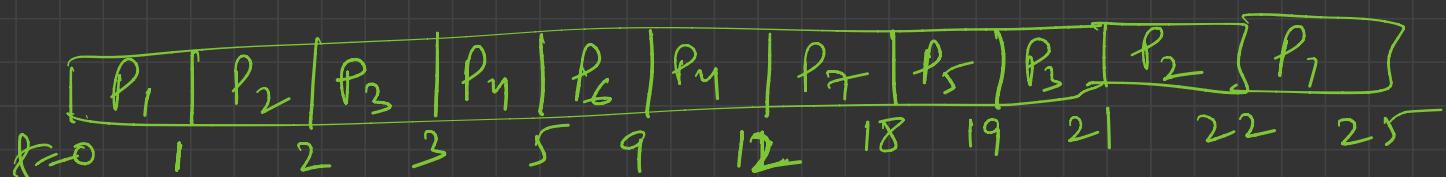
Avg. 9.714s

* Preemptive Priority Schedules,

Pno.	P*	AT	BT	CT
1	2	0	43	25
2	4	1	21	22
3	6	2	32	21
4	10	3	83	12
5	8	4	1	19
6	12	5	4	9
7	9	6	6	18

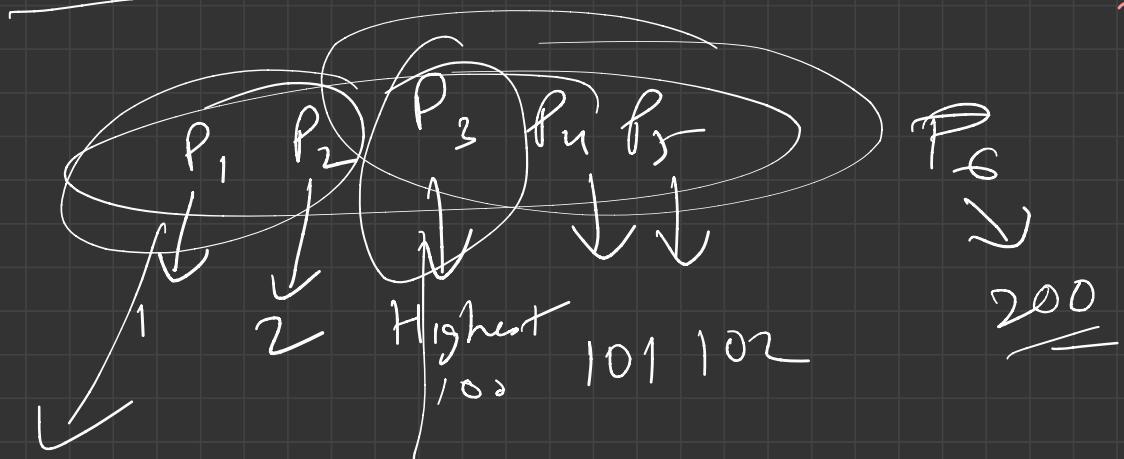
Ht. w
Avg wt

Avg = 11.4



Bigest Draw back \Rightarrow Non firs Preemb

Indefinite waiting or Extreme starvation

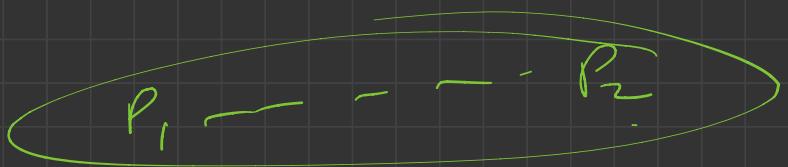


$X \subseteq P \cup T_{curr}$

Rumor ←

IBM 7094 at MIT

ON → 1967 → Job submit



1973 → check

lowest parent ~
Ready
Q =

Solution to indefinite waiting

Ageing \rightarrow

Gradually shifting priorities of lowest job

15 min \rightarrow Lowest Priority jobs

Priority +1

- * Round-Robin (RR)
 - Most Popular
 - FCFS (Preemptive) version
 - Criteria: AT + TQ, BTX
 - Design Time-Sharing
 - Easy to implement.

P	AT	BT
1	0	✓ X 0
2	1	✓ (3) X 0
3	2	✓ 2
4	3	✓ 0
5	4	✓ X X 0
6	5	✓ X 0

$$TQ = 2s$$

$$TQ = 1s$$

Answers:

P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}	P_{11}	P_{12}	P_{13}	P_{14}	P_{15}	P_{16}	P_{17}	P_{18}	P_{19}	P_{20}	P_{21}
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P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}	P_{11}	P_{12}	P_{13}	P_{14}	P_{15}	P_{16}	P_{17}	P_{18}	P_{19}	P_{20}	P_{21}
1	2	4	6	8	9	11	13	15	17	18	19	20	21							

$$TQ \Rightarrow 2s.$$