Shortest Remaining Time

- Also known as Shortest Job First with Pre-emption
- **Decision Mode: Pre-emptive**
- **Selection Function: min[s-e]**
- If a new process arrives with a shorter burst time than remaining of current process then schedule new process
- **Advantage**
  - Further reduces average waiting time and average response time
- **Disadvantage**
  - Not practical **(Predicting burst time)**

Date .....

=) Shortest Remaining Time / shortest job first with pre-emption.

①

	PCS	AT	BT	CT	TAT	WT	RT
	P_1	0	~~8~~ 7	17	17	9	0
✓	P_2	1	~~4~~ 0	5	4	0	0
	P_3	2	9	26	24	15	15
	P_4	3	5	10	7	2	2
					ATAT = 13	AWT = 6.5	

1 unit of Time

Gantt's chart : | P_1 | P_2 | P_4 | P_1 | P_3 |

0 1 5 10 17 26

②

	PCS	AT	BT	CT	TAT	WT	RT
	P_1	0	~~8~~ 7	20	20	12	0
✓	P_2	1	~~4~~ 3	10	9	5	0
✓	P_3	2	~~2~~ 1 0	4	2	0	0
✓	P_4	3	1	5	2	1	1
✓	P_5	4	3	13	9	6	6
✓	P_6	5	2	7	2	0	2
					ATAT = 7.33	AWT = 4	

Gantt's chart : | P_1 | P_2 | P_3 | P_3 | P_4 | P_6 | P_2 | P_5 | P_1 |

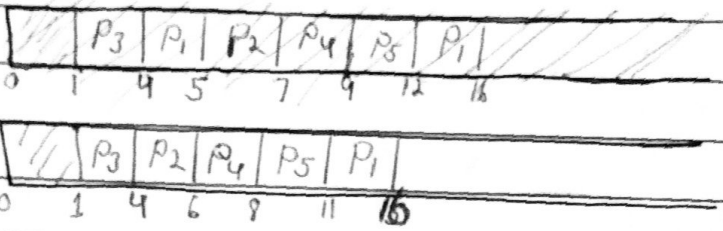
0 1 2 3 4 5 7 10 13 20

SHAMA

(3)

PRCS	AT	BT	CT	TAT	WT	RT
P_1	1	54	16	15	10	10
P_2	2	20	6	4	2	2
P_3	1	3	4	3	0	0
P_4	4	2	8	4	2	2
P_5	3	3	11	8	5	5
				ATAT:	AWT	

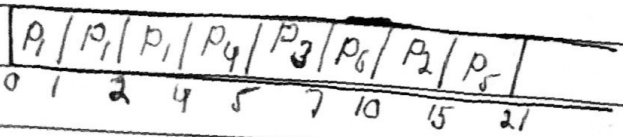
Gantt's chart :



(4)

PRCS	AT	BT	CT	TAT	WT	RT
P_1	0	4 ~~32~~	4	4	0	0
P_2	1	5	15	14	9	9
P_3	2	2	7	5	3	3
P_4	3	1	5	2	1	1
P_5	4	6	21	17	11	11
P_6	6	3	10	4	1	1

Gantt's chart :



Date .....

(5)

	PNCS	AT	BT	CT	TAT	WT	RT
	P_1	1	3	12	11	8	8
✓	P_2	1	2	3	2	0	0
✓	P_3	2	1	4	2	1	1
✓	P_4	3	2	6	3	1	1
✓	P_5	5	1	7	2	1	1
	P_6	8	2	9	2	0	0

Gantt's Chart :

	P_2	P_3	P_4	P_5	P_6	P_1

0 1 3 4 6 7 9 12

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use both SRTF & Round Robin ?

=>

	PNCS	AT	BT	CT	TAT	WT	RT
	P_1	1	3 2 1	18	17	12	12
✓✓	P_2	2	3 1	9	7	4	4
✓✓	P_3	3	4 2 0	13	10	6	6
✓✓	P_4	1	2	3	2	0	0
✓✓	P_5	2	2	5	3	1	1
✓✓	P_6	4	1	6	2	1	1

=> using SRTF

G.T :

	P_4	P_5	P_6	P_2	P_3	P_1

0 1 3 5 6 9 13 18

=> using Round Robin => TQ = 2

Ready Queue :

P_1	P_4	P_2	P_3	P_5	P_6	P_1	P_2	P_3	P_1

Gantt's chart :

	P_1	P_4	P_2	P_3	P_5	P_6	P_1	P_2	P_3	P_1

0 1 3 5 7 9 11 12 14 15 17 18

PIDs	AT	BT	CT	TAT	WT	RT
P_1	1	5 3 1	18	17	12	0
P_2	2	3 1	15	13	10	3
P_3	3	4 2	17	14	10	6
P_4	1	2	5	4	2	2
P_5	2	2	9 1	7	5	5
P_6	4	1	14	10	9	9

Ready Queue :

P_1	P_4	P_2	P_5	P_3	P_1	P_6	P_2	P_3	P_1

Gantt's chart :

	P_1	P_4	P_2	P_5	P_3	P_1	P_6	P_2	P_3	P_1

0 1 3 5 7 9 11 13 14 15 17 18