

# Program 7

Shortest Remaining Time First

Criteria: Burst time  
rule: Preemptive

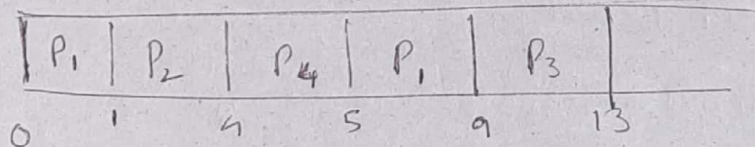
$$TAT = CT - RT$$

$$WT = TAT - RT$$

$$RT = \text{2 CPU first time} - AT$$

| Process        | Arrival Time | Burst Time | Completion time | TAT | WT | RT |
|----------------|--------------|------------|-----------------|-----|----|----|
| P <sub>1</sub> | 0            | 8          | 9               | 9   | 4  | 0  |
| P <sub>2</sub> | 1            | 2          | 4               | 3   | 0  | 0  |
| P <sub>3</sub> | 2            | 4          | 13              | 11  | 7  | 7  |
| P <sub>4</sub> | 4            | 1          | 5               | 1   | 0  | 0  |

Gantt Chart



$$\text{Avg TAT} = \frac{24}{4} = 6$$

$$\text{Avg WAT} = \frac{11}{4} = -$$

$$\text{Avg RT} = \frac{7}{4} = -$$

## Variables

array time

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 4 |   |   |   |   |   |   |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

burst time

|   |   |   |   |   |   |   |   |   |     |
|---|---|---|---|---|---|---|---|---|-----|
| 5 | 3 | 4 | 1 |   |   |   |   |   | min |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9   |

temp

|   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 3 | 4 | 1 |   |   |   |   |   |   |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

$i = 0$

Smallest = 9 0 1

Count = 0 1

time = 0 1.3 2.3

Limit = 4

wait time = 0

turn AT = 0

Any wait =

Any AT =

end = 5