

OS Assignment

CPU Scheduling Visualizer

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Code Link: <https://github.com/K-a-r-e-e-m/CPU-scheduling-visualizer>

Example 1 (FCFS):

1st Case : FCFS (First Come First Served)

Suppose that the processes arrive at time 0, in the order: P1 , P3 , P2 , P4

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time
P1	3
P2	9
P3	5
P4	7

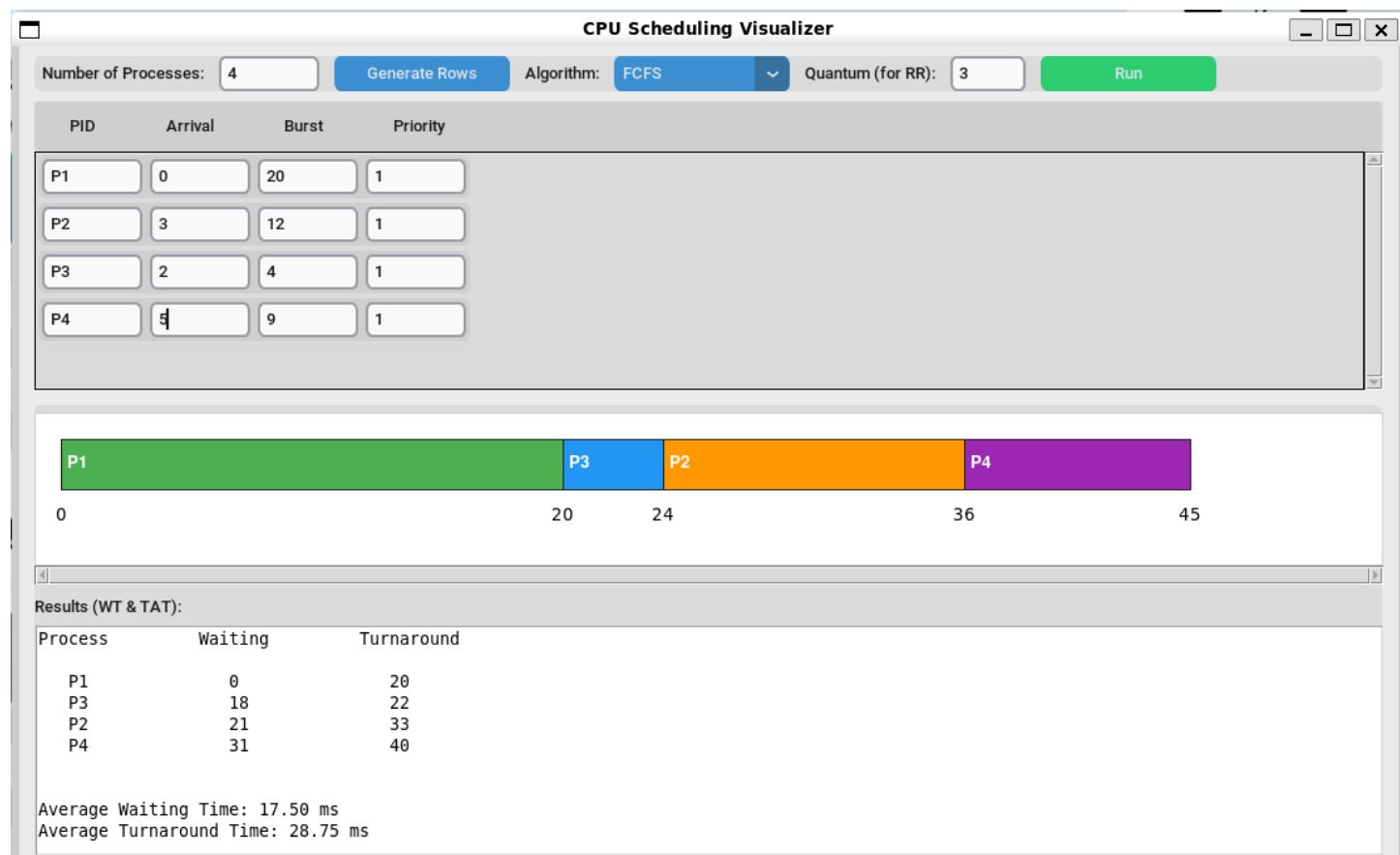


Example 2 (FCFS):

2nd Case : FCFS (First Come First Served)

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time	Arrival Time
P1	20	0
P2	12	3
P3	4	2
P4	9	5

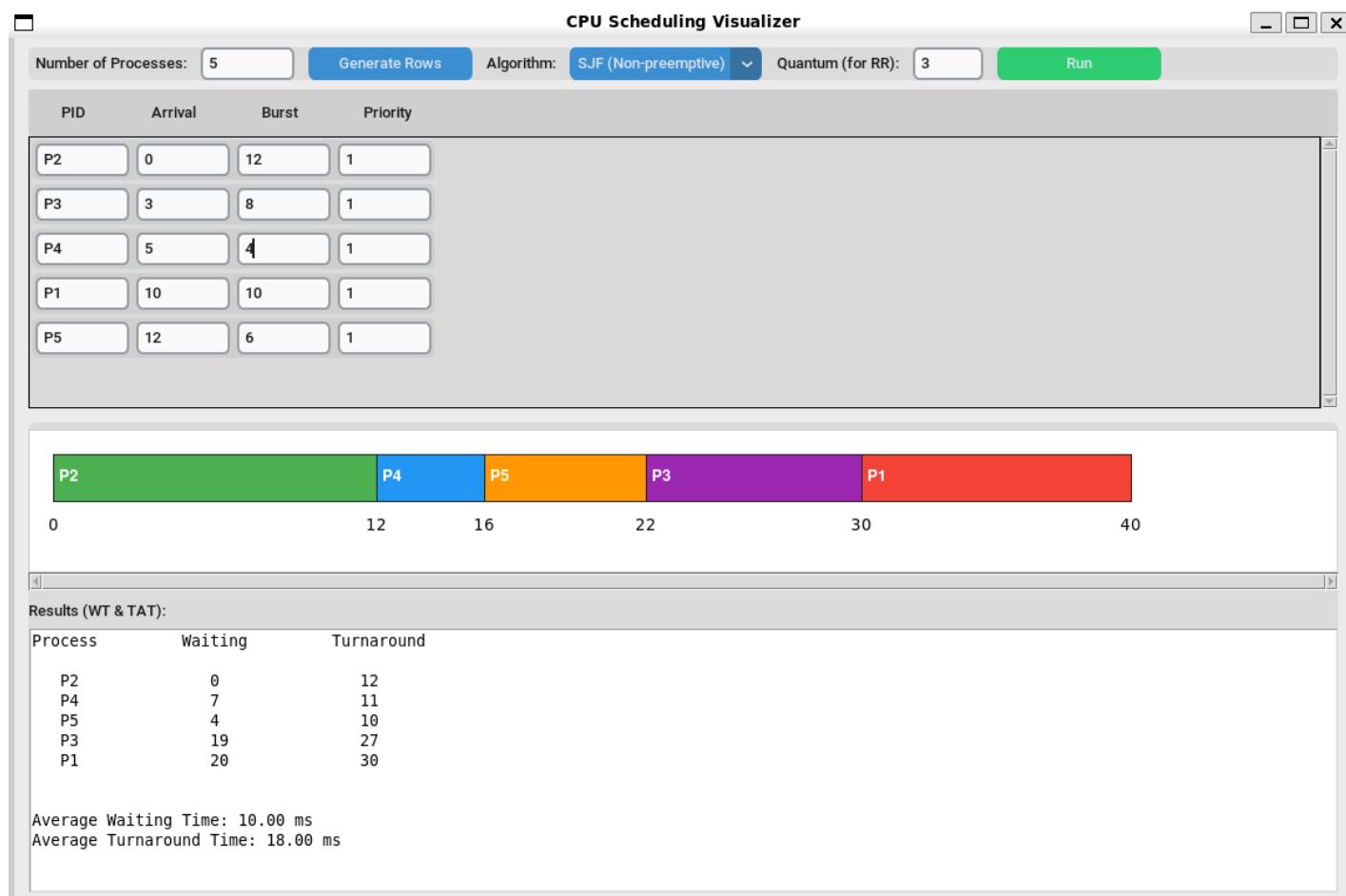


Example 3 (SJF non-preemptive):

3rd Case : SJF (short job first) non-Preemptive

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time	Arrival Time
P2	12	0
P3	8	3
P4	4	5
P1	10	10
P5	6	12



Example 4 (SJF preemptive):

4th Case : SJF (short job first) Preemptive

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time	Arrival Time
P2	12	0
P3	8	3
P4	4	5
P1	10	10
P5	6	12

CPU Scheduling Visualizer

Number of Processes: 5 Generate Rows Algorithm: SJF (Preemptive - SRTF) Quantum (for RR): 3 Run

PID	Arrival	Burst	Priority
P2	0	12	1
P3	3	8	1
P4	5	4	1
P1	10	10	1
P5	12	6	1

Gantt Chart:

Results (WT & TAT):

Process	Waiting	Turnaround
P2	18	30
P3	4	12
P4	0	4
P1	20	30
P5	3	9

Average Waiting Time: 9.00 ms
Average Turnaround Time: 17.00 ms

Example 5 (priority non-preemptive):

5th Case : Priority Scheduling ~~non-Preemptive~~

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time	Priority	Arrival Time
P1	10	3	All Processes Arrived at The Same Time
P2	1	1	
P3	2	4	
P4	1	5	
P5	5	2	

CPU Scheduling Visualizer

Number of Processes: 5 Generate Rows Algorithm: Priority (Non-preemptive) Quantum (for RR): 3 Run

PID	Arrival	Burst	Priority
P1	0	10	3
P2	0	1	1
P3	0	2	4
P4	0	1	5
P5	0	5	2

Gantt Chart:

Results (WT & TAT):

Process	Waiting	Turnaround
P2	0	1
P5	1	6
P1	6	16
P3	16	18
P4	18	19

Average Waiting Time: 8.20 ms
Average Turnaround Time: 12.00 ms

Example 6 (priority preemptive):

6th Case : Priority Scheduling Preemptive

Draw Gantt Chart and calculate the average waiting time using the given table ??

Process	Burst Time	Priority	Arrival Time
P1	10	3	0.0
P2	1	1	1.0
P3	2	4	2.0
P4	1	5	3.0
P5	5	2	4.0



Example 7 (Round Robin):

7th Case : Round Robin (RR)

Draw Gantt Chart and Calculate The Average Waiting Time , where **Quantum = 5 ms**

