

CSC 112: Computer Operating Systems

Lecture 5

Scheduling Exercises

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Scheduling

- Here is a table of processes and their arrival and execution times.
- 1) Fill in the scheduling table with the Process ID (PID) that runs at each time instant, under 4 policies: First Come First Serve (FCFS), Shortest Job First (SJF), Shortest-Remaining-Time-First (SRTF), Round-Robin (RR) with timeslice quantum = 1. Assume that context switch overhead is 0. For RR, assume that an arriving process is scheduled to run at the beginning of its arrival time, i.e., it is added to the head of the queue upon arrival.
- 2) Compute the finish times and response times for all 5 processes, and the average response time. (If the division is hard, write a fraction like $28/5$ instead of 5.6)

Scheduling I

P I D	Arriv. time	Exec Time	FCFS Finish Time	FCFS Response Time	SJF Finish Time	SJF Response Time	SRTF Finish Time	SRTF Response Time	RR Finish Time	RR Response Time
1	0	2								
2	1	6								
3	4	2								
				Avg RT		Avg RT		Avg RT		Avg RT

FCFS											
SJF											
SRTF											
RR											
Time	0	1	2	3	4	5	6	7	8	9	10

Gantt Chart

Scheduling II

P I D	Arriv. time	Exec Time	FCFS Finish Time	FCFS Response Time	SJF Finish Time	SJF Response Time	SRTF Finish Time	SRTF Response Time	RR Finish Time	RR Response Time
1	0	3								
2	1	5								
3	3	2								
4	9	2								
				Avg RT		Avg RT		Avg RT		Avg RT

FCFS													
SJF													
SRTF													
RR													
Time	0	1	2	3	4	5	6	7	8	9	10	11	12

Gantt Chart