

Tutorial Series No. 3

Exercise 1:

Five jobs arrive on a single-processor machine at different times as follows:

Job No.	Arrival Time	Execution Time	Priority
1	13:00	10 min	1
2	13:17	5 min	2
3	13:05	12 min	3
4	13:10	4 min	4
5	13:05	3 min	1

Q1) Calculate the response time of each job for the following scheduling policies:

- FCFS (First-Come, First-Served)
- SJF (Shortest Job First)
- Non-preemptive priority scheduling (4 is the highest priority)
- Preemptive priority scheduling
- Round Robin with a time quantum of 4 minutes

Q2) What is the average response time for each scheduling policy?

Exercise 2:

In a system using multilevel queues, a process needs 60 seconds to execute. Assuming there are no other processes and that the first queue uses a time quantum of 5 seconds, and at each level, the quantum doubles:

Q1) How many times will the process be interrupted, and in which queue will it be when it finishes?

Q2) What is the advantage of having a different quantum in each queue?