CSE 321 Operating Systems
Lab Assignment 3
Total Marks: 30

Given the list of processes, their CPU burst times, arrival times and priorities implement SJF, Priority and Round Robin scheduling algorithms on the processes with preemption. For each of the scheduling policies, compute and print the completion Time(CT), Turnaround Time(TAT), and Waiting Time(WT) for each process using **C Programming.**

Waiting time: Processes need to wait in the process queue before execution starts and in execution while they get preempted.

Turnaround time: Time elapsed by each process to get completely served. (Difference between submission time and completion time).

Instructions:

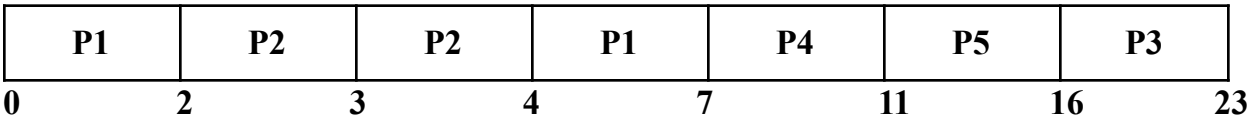
1. **You must use Struct to implement each of the algorithms**
2. **You must take user input for no. of processes, AT and BT.**
3. **Need to show individual CT, TAT and WT for each of the processes not the average.**
4. **For Priority Scheduling, lower number will get the highest priority.**

Task 1: SJF Scheduling with preemption

You can use the following input as sample:

Process	Arrival Time	Burst Time
P1	0	5
P2	2	2
P3	3	7
P4	4	4
P5	5	5

Solution in a Gantt chart:

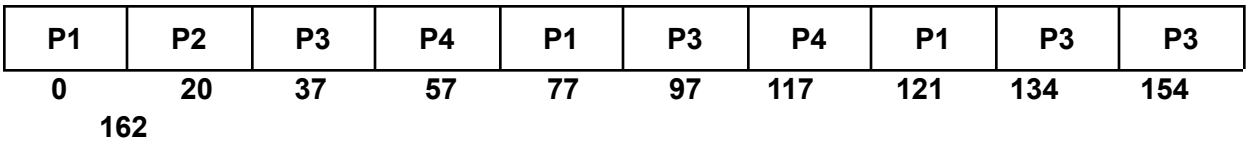


Task 2: Round Robin

You can use the following input as sample:
Time Quantum = 20 ms

Process	Burst Time
P1	53
P2	17
P3	68
P4	24

Solution in a Gantt chart:



Task 3: Priority Scheduling

Note: Lower number will get the highest priority.

You can use the following input as sample:

Process	Arrival Time	Burst Time	Priority
P1	0	15	2
P2	14	5	4
P3	3	10	0
P4	9	22	3
P5	7	16	1

Solution in a Gantt chart: