



**National University of Computer & Emerging Sciences, Karachi**  
**Computer Science Department**  
**Spring 2025**  
**Lab 7 Tasks**



<b>Course Code: CL-2005</b>	<b>Course: Operating Systems Lab (CL 2006)</b>
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### **Task 1: First-Come, First-Served (FCFS) Scheduling**

Solve using the FCFS scheduling algorithm. Calculate the average waiting time (AWT) and average turnaround time (ATAT).

Process	Arrival Time	Burst Time
P1	0	6
P2	2	8
P3	4	7
P4	6	3

### **Task 2: Shortest Job First (SJF) – Non-Preemptive**

Solve using the SJF (Non-Preemptive) scheduling algorithm. Calculate the average waiting time (AWT) and average turnaround time (ATAT).

Process	Arrival Time	Burst Time
P1	1	5
P2	3	2
P3	5	9
P4	6	4

### **Task 3: Shortest Remaining Time First (SRTF) – Preemptive SJF**

Solve using the SRTF (Preemptive SJF) scheduling algorithm. Calculate the average waiting time (AWT) and average turnaround time (ATAT).

Process	Arrival Time	Burst Time
P1	0	9
P2	1	4
P3	2	7
P4	3	2

### **Task 4: Round Robin (RR) Scheduling – Time Quantum = 3ms**

Solve using the Round Robin scheduling algorithm with time quantum = 3ms. Calculate the average waiting time (AWT) and average turnaround time (ATAT).

Process	Arrival Time	Burst Time
P1	0	10

P2	1	5
P3	2	8
P4	3	3

### Task 5: Round Robin (RR) Scheduling – Time Quantum = 2ms

Solve using the Round Robin scheduling algorithm with time quantum = 2ms. Calculate the average waiting time (AWT) and average turnaround time (ATAT).

Process	Arrival Time	Burst Time
P1	0	12
P2	2	6
P3	4	8
P4	6	4

### Task 6: Priority Scheduling (Non-Preemptive)

Solve using the Priority Scheduling (Non-Preemptive) algorithm (Lower number = higher priority).

Process	Arrival Time	Burst Time	Priority/Queue
P1	0	7	3
P2	1	4	1
P3	2	6	2
P4	3	5	4

### Task 7: Priority Scheduling (Preemptive)

Solve using the Priority Scheduling (Preemptive) algorithm (Lower number = higher priority).

Process	Arrival Time	Burst Time	Priority/Queue
P1	0	8	2
P2	1	3	1
P3	2	5	3