

Tutorial 2; Processes Management (Central Processor management)

Exercice1 :

We are interested in the execution of 5 programs (jobs) **A, B, C, D, E** that run on a single-processor configuration. The sequence of actions for the jobs is as follows:

Process	A	B	C	D	E
Priority	1	2	3	1	2
Arrival Time (ms)	0	2	4	6	8
Burst Time (ms)	5	6	4	5	4

Q1) Draw the Gantt Diagram using the scheduling algorithms follow:

- a) SJF b) Time Sharing (Round Robbin (Quantum=2 ms)), c)SRTF d)FCFS (FIFO)

d) With Priority and pre-emptive (the process of the priority 3 is the highest priority)

e) With priority and without pre-emptive

Q2) calculate the **Turn Around Time** (response time) and **waiting time** of **P4** in all algorithms.

Exercise 2

We consider the following **multilevel scheduling and feedback** technique:

- Queue 1 has the highest priority. A newly created process is placed in Queue 1 which is managed according to the Round Robin scheduling algorithm with a quantum equal to 4
 - When a process in Queue 1 gets the CPU, it is granted a max time of 4 time units, if he does not finish he is moved to queue 2.
 - Queue 2 is also managed according to the Round Robin scheduling algorithm with a quantum equal to 8 units of time to each process. If the process does not terminate, it is moved in queue 3.
 - Queue 3 is managed according to Round Robin scheduling with a quantum equal to 16. if he does not finish he is moved to queue 4.
 - Queue 4 is managed according to the priority scheduling with preemptive.
1. Provide the execution processes in the Gantt chart of this technique.
 2. Calculate the **Turn Around Time** (response time) and **waiting time** in this technique.

processes	Arrival time (ms)	Burst time (ms)	Priority
P1	0	32	3
P2	0	46	5
P3	0	6	2
P4	0	14	4
P5	40	35	4

