In the following table we have 3 processes each of them will have arrive time and burst time and priority

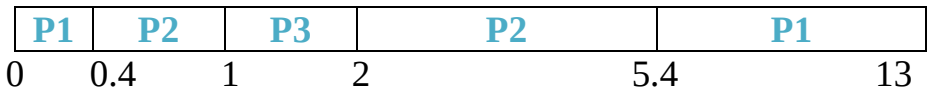
Process	Arrival Time	Burst Time	Priority
P_1	0.0	8	2
P_2	0.4	4	1
P_3	1.0	1	3

a. Draw two Gantt charts illustrating the execution of these processes using the following scheduling algorithms: preemptive SJF, nonpreemptive priority , preemptive priority and RR (quantum = 2).

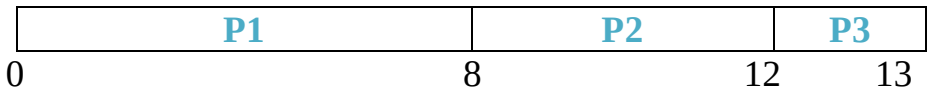
b. What is the average Waiting time of each process for each of the scheduling algorithms in part a?

ANSWER of a.:

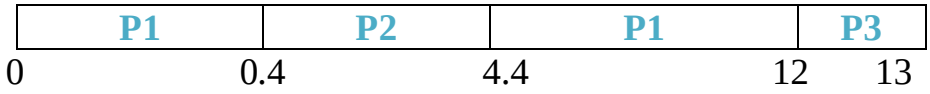
preemptive SJF:



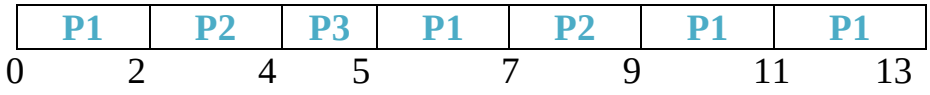
Nonpreemtive Priorty:



Preemtive Priorty:



RR:



ANSWER of b.:

preemptive SJF:

Waiting Time (P1) : (0-0) + (5.4-0.4) = 5
Waiting Time (P2) : (0.4-0.4) + (2-1) = 1
Waiting Time (P3) : (1-1) = 0

Average Turnaround Time = (5+1+0) / 3 = 2 milliseconds

Nonpreemptive priority:

Waiting Time (P1) : (0-0) = 0
Waiting Time (P2) : (8-0.4) = 7.6
Waiting Time (P3) : (12-1) = 11

Average Turnaround Time = (0+7.6+11) / 3 = 6.2 milliseconds

preemptive priority:

Waiting Time (P1) : (0-0) + (4.4-0.4) = 4
Waiting Time (P2) : (0.4-0.4) = 0
Waiting Time (P3) : (12-1) = 11

Average Turnaround Time = (4+0+11) / 3 = 5 milliseconds

RR:

Waiting Time (P1) : (0-0) + (5-2) + (9-7) = 5
Waiting Time (P2) : (2-0.4) + (7-4) = 4.6
Waiting Time (P3) : (4-1) = 3

Average Turnaround Time = (5+4.6+3) / 3 = 4.2 milliseconds