

Operating System

Lab-01

Scheduling Algorithms

- CPU has many processes running at a time.
- Need to time share between them.

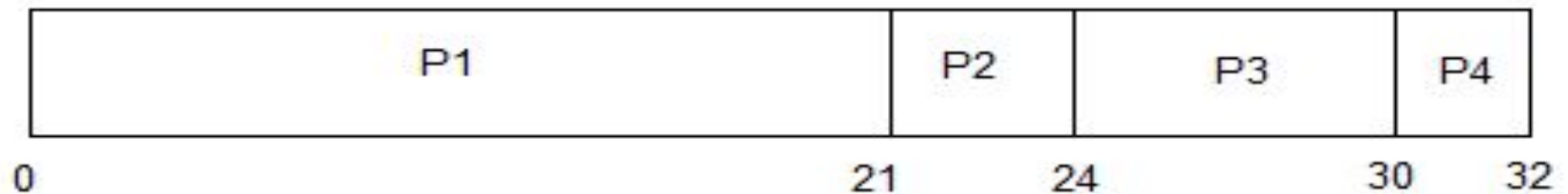
First Come First Serve

PROCESS	BURST TIME
P1	21
P2	3
P3	6
P4	2



The average waiting time will be = $(0 + 21 + 24 + 30) / 4 = \underline{18.75 \text{ ms}}$

0 p1 21 p2 24 p3 30 p4 32



This is the GANTT chart for the above processes

Shortest Job First

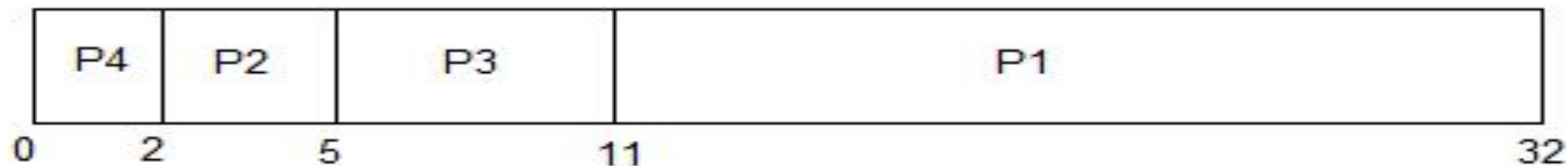
PROCESS	BURST TIME
P1	21
P2	3
P3	6
P4	2



In Shortest Job First Scheduling, the shortest Process is executed first.

Hence the GANTT chart will be following :

0 p4 2 p2 5 p3 11 p1 32

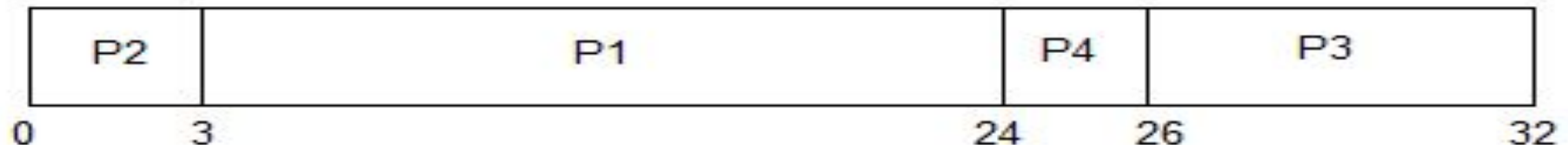


Now, the average waiting time will be = $(0 + 2 + 5 + 11)/4 = 4.5$ ms

Priority Scheduling

PROCESS	BURST TIME	PRIORITY
P1	21	2
P2	3	1
P3	6	4
P4	2	3

The GANTT chart for following processes based on Priority scheduling will be,



The average waiting time will be, $(0 + 3 + 24 + 26) / 4 = \underline{13.25 \text{ ms}}$

Round Robin

PROCESS	BURST TIME
P1	21
P2	3
P3	6
P4	2



Here, Quantam = 5

The GANTT chart for round robin scheduling will be,



The average waiting time will be, 11 ms.