Operating System

Lab-01

Scheduling Algorithms

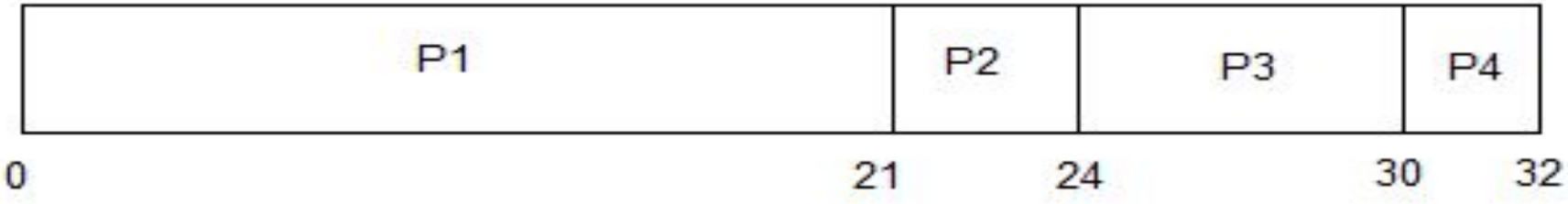
- CPU has many processes running at a time.
- Need to time share between them.

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 = 18.75 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,

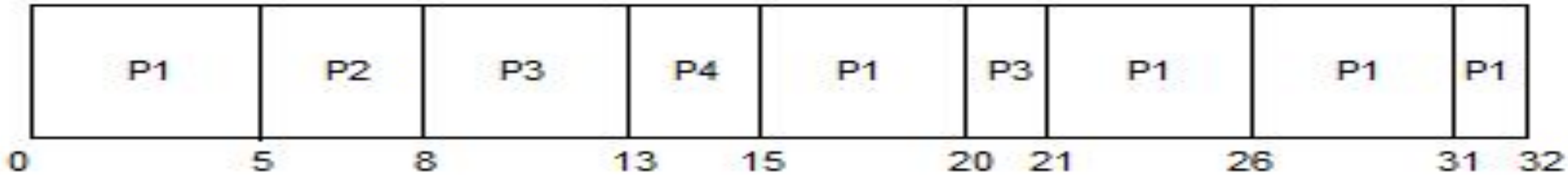
The average waiting time will be, (0 + 3 + 24 + 26)/4 = 13.25 ms

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.