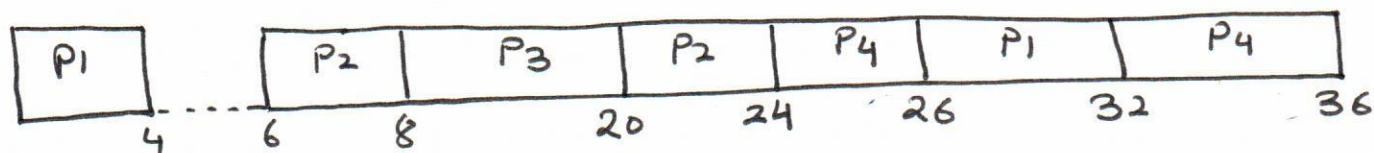


Preemptive Priority.



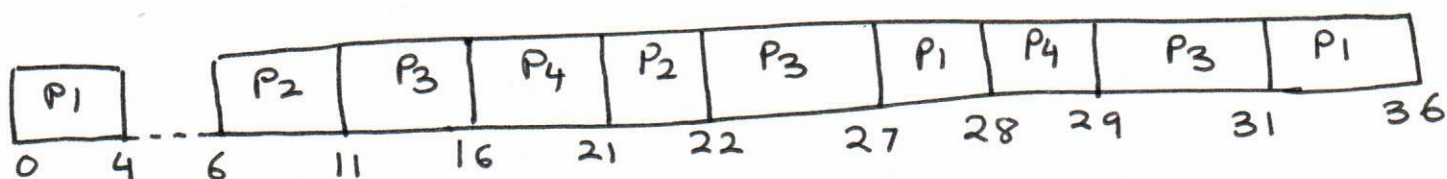
Waiting Time.

$$P_1 = 0, P_2 = 12, P_3 = 0, P_4 = 20$$

Normalized Turn around Time.

$$P_1 = 32/32, P_2 = 18/6, P_3 = 12/12, P_4 = 26/6$$

Virtual Round Robin (VRR).



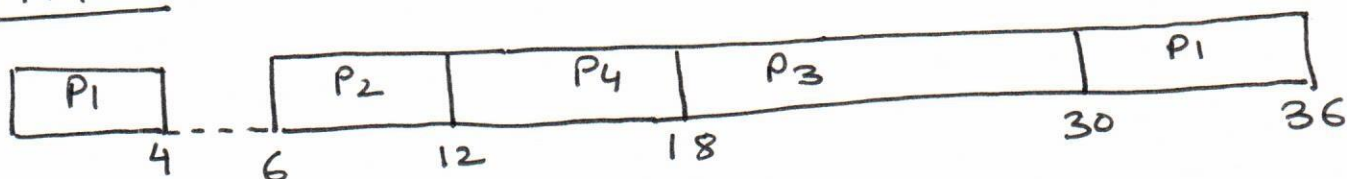
Waiting Time.

$$P_1 = 4, P_2 = 10, P_3 = 11, P_4 = 13$$

Normalized Turn around time.

$$P_1 = 36/22, P_2 = 16/6, P_3 = 23/12, P_4 = 19/6$$

SRTF



Waiting Time.

$$P_1 = 4, P_2 = 0, P_3 = 10, P_4 = 2$$

Normalized Turn around Time.

$$P_1 = 26/10, P_2 = 6/6, P_3 = 22/12, P_4 = 8/6$$

Fare Share

Group 1 ~~2=5~~ $w=0.5$

Group 2. $w=0.5$

| Time. | P ₁ | | | P ₂ | | | P ₃ | | | P ₄ | | |
|-------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | P _r | P _u | G _u | P _r | P _u | G _u | P _r | P _u | G _u | P _r | P _u | G _u |
| 0 | 32 | 0 | 0 | 34 | 0 | 0 | 34 | 0 | 0 | 36 | 0 | 0 |
| | | 40 | 40 | | | 40 | | | | | | |
| 1 | 52 | 20 | 20 | 44 | 0 | 20 | 34 | 0 | 0 | 36 | 0 | 0 |
| | | | | | | | | 40 | 40 | | | 40 |
| 2 | 42 | 10 | 10 | 39 | 0 | 10 | 54 | 20 | 20 | 46 | 0 | 20 |
| | | | 40 | | 40 | 40 | | | | | | |
| 3 | 46 | 5 | 25 | 56 | 20 | 25 | 44 | 10 | 10 | 41 | 0 | 10 |
| | | | | | | | | | 40 | | 40 | 40 |
| 4 | 39 | 2 | 12 | 45 | 10 | 12 | 48 | 5 | 25 | 58 | 20 | 25 |
| | | 40 | 40 | | | 40 | | | | | | |

a #

Q2 Short Term scheduler is invoked when

(a) I/O interrupt occurs

Process makes a system call

Process Terminates

Time slice expiry of executing Process.

(b) Multiple block queue helps in reducing the search time whenever an event for any specific I/O interrupt occurs.

(c) I/O Services are centralized as it helps to keep track of current status of I/O devices and this in terms helps in ~~preventing~~ providing access of each I/O services in mutually exclusive manner.