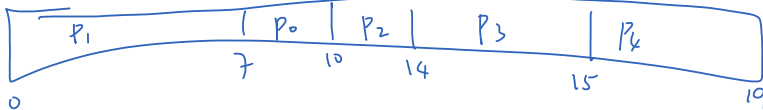
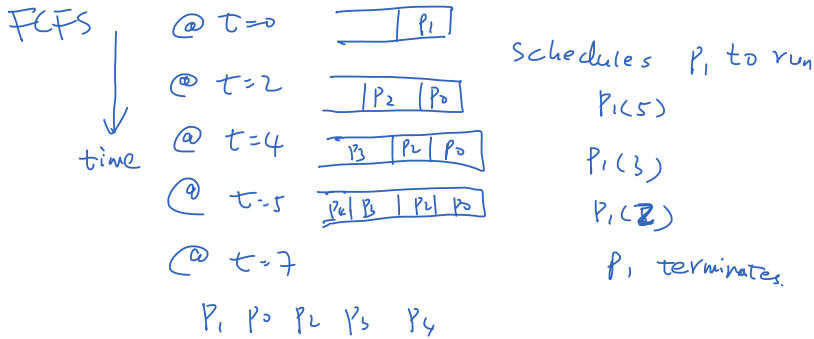


process	arrival time	Burst Time
P ₀	2	3
P ₁	0	7
P ₂	2	4
P ₃	4	1
P ₄	5	4



$$\text{Waiting time} = \text{Completion time} - \text{CPU burst} - \text{arrival time}$$

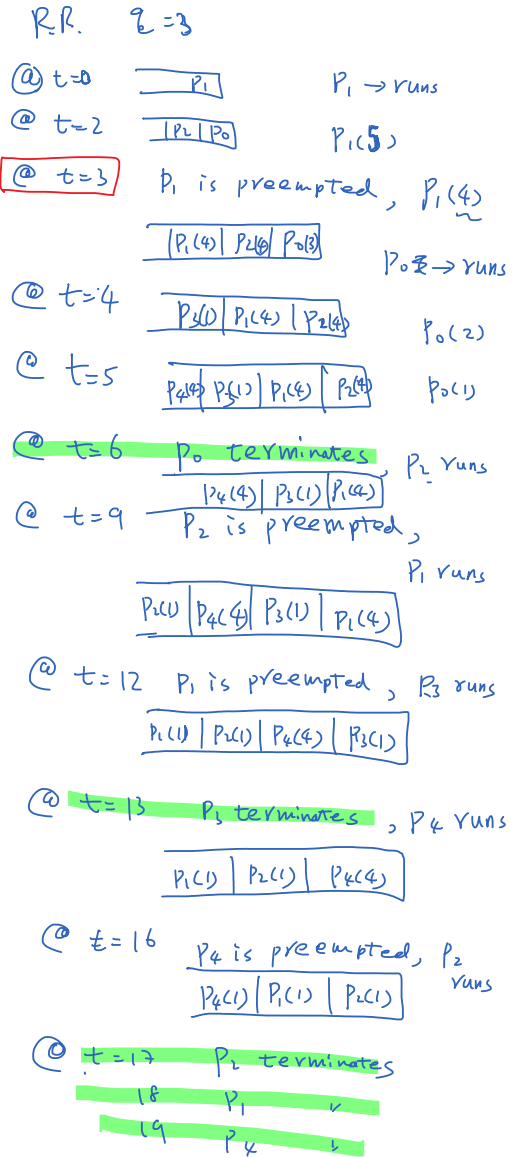
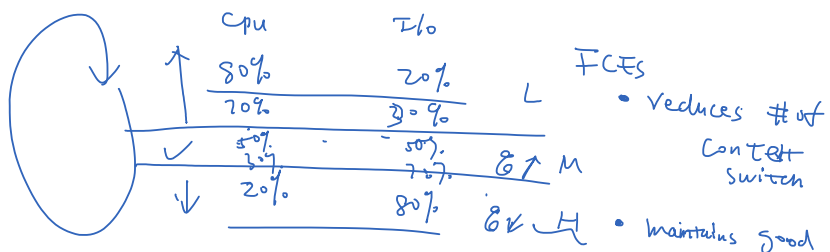
$$\begin{aligned} P_0: & 10 - 3 - 2 = 5 \\ P_1: & 7 - 7 - 0 = 0 \\ P_2: & 14 - 4 - 2 = 8 \\ P_3: & 15 - 1 - 4 = 10 \\ P_4: & 19 - 4 - 5 = 10 \end{aligned} \quad \text{Total: } 33$$

RR q=3

$$\begin{aligned} P_0: & 6 - 3 - 2 = 1 \\ P_1: & 18 - 7 - 0 = 11 \\ P_2: & 17 - 4 - 2 = 11 \\ P_3: & 13 - 1 - 4 = 8 \\ P_4: & 19 - 4 - 5 = 10 \end{aligned}$$

$$\frac{dn}{dt} = \lambda$$

$$\text{arrival rate} = \frac{\sum C_i}{\sum C_i + \sum I_j}$$



arrival rate $\frac{\lambda}{\sum_i C_i + \sum_j I_j}$ \downarrow 20% $\frac{100\%}{80\%}$ \rightarrow 6x \rightarrow maintain good quality

Q₀: if there is n_0 processes in \mathcal{Q}_0 .
($n_0 - 1$) of \mathcal{Q}_0

- good response

	n_1	\dots	Q_i
	$(n_1-1) \cdot Q_1$		
	arrival time	cpu burst	
p_0	0	25	
p_1	10	16	
p_2	12	24	
p_3	20	10	

	Q_0	Q_1	Q_2
$t=0$	$P_0(25)$, run p_0	—	—
$t=8$	P_0 preempted	$P_0(17)$, run p_0	—
$t=10$	$P_1(16)$, run p_1	$P_0(15)$	—
$t=12$	$P_2(24) P_1(14)$	—	—
$t=18$	$P_2(24)$	$P_1(8) P_0(5)$	—
$t=20$	$P_3(10) P_2(22)$	—	—
$t=26$	$P_3(10)$	$P_2(16) P_1(8) P_0(5)$	—
$t=34$	—	$P_3(2) P_2(16) P_1(8) P_0(5)$	—
$t=44$	—	$P_3(2) P_2(16) P_1(8)$	$P_0(5)$
$t=52$	—	$P_3(2) P_2(16)$	$P_0(5)$
$t=64$	—	$P_3(2)$	$P_2(4) P_0(5)$
$t=66$	—	—	$P_2(4) P_0(5)$

Since we have run p_0 for 2ms, this round $\frac{2}{25}$ run p_0 for 10ms

p_1 terminates

p_3 terminates

p_0 terminates $t = 11$:

$p_2 \text{ terminates at } t = 75$

