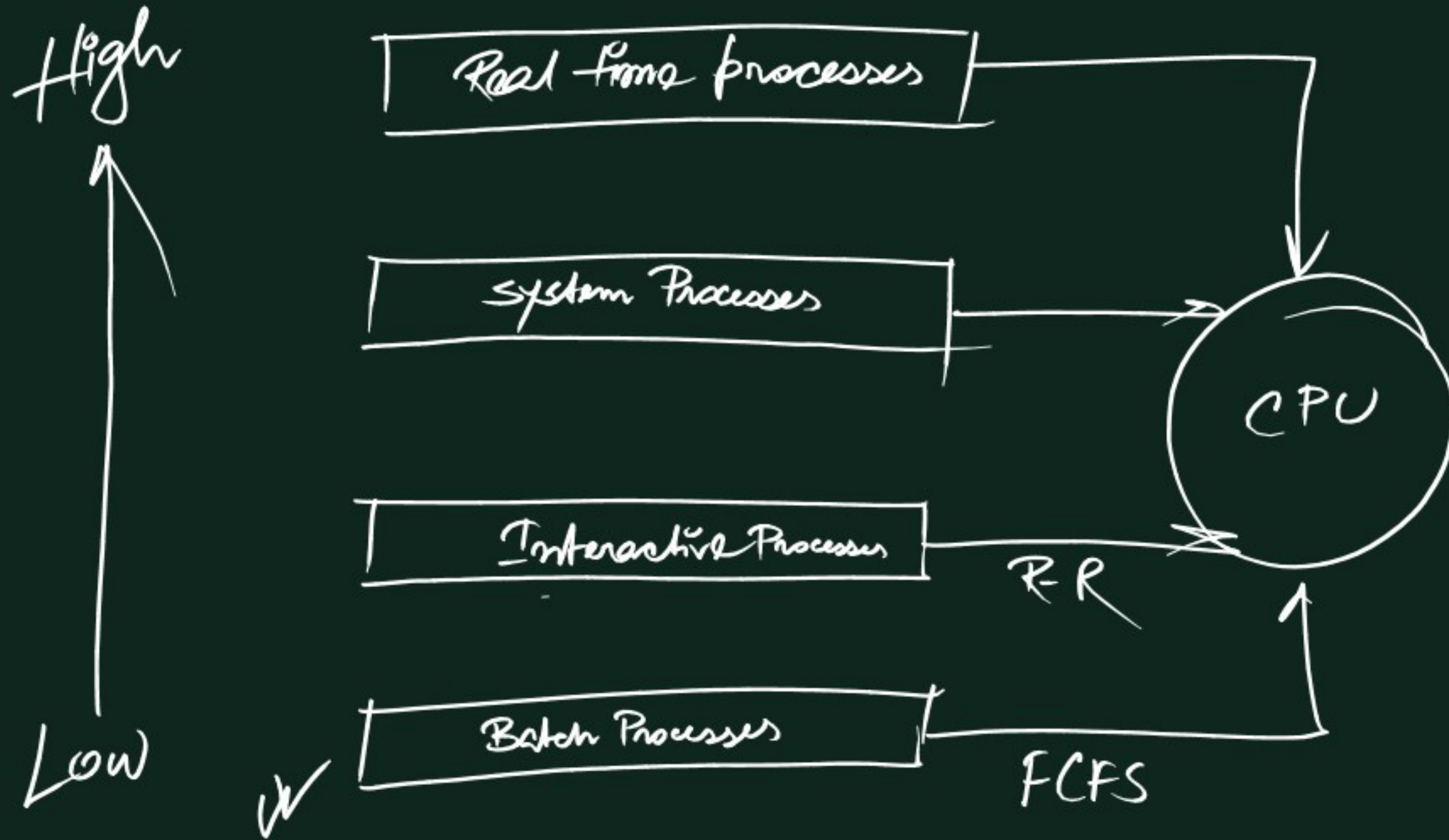
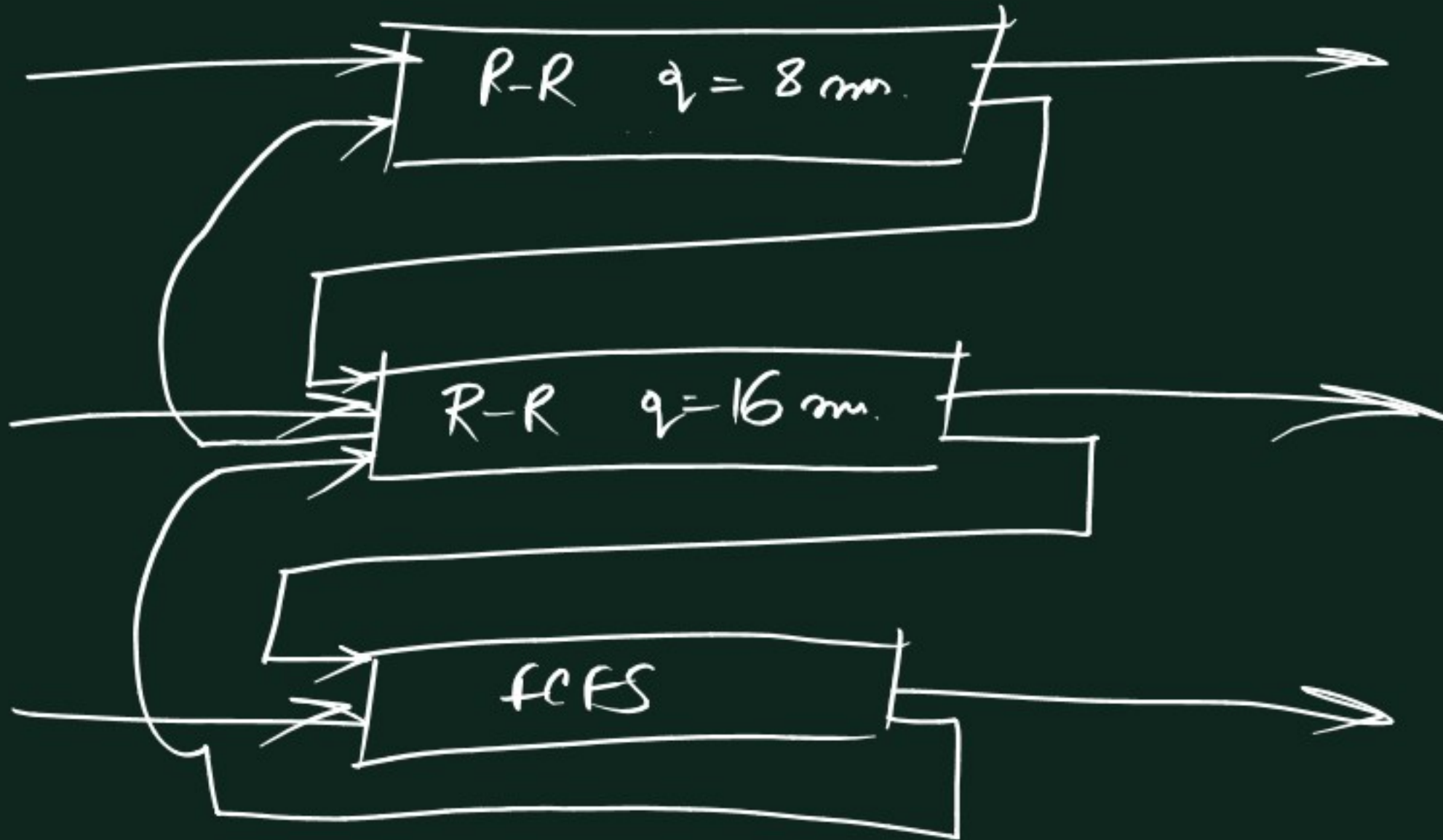


# Multilevel Queue Scheduling



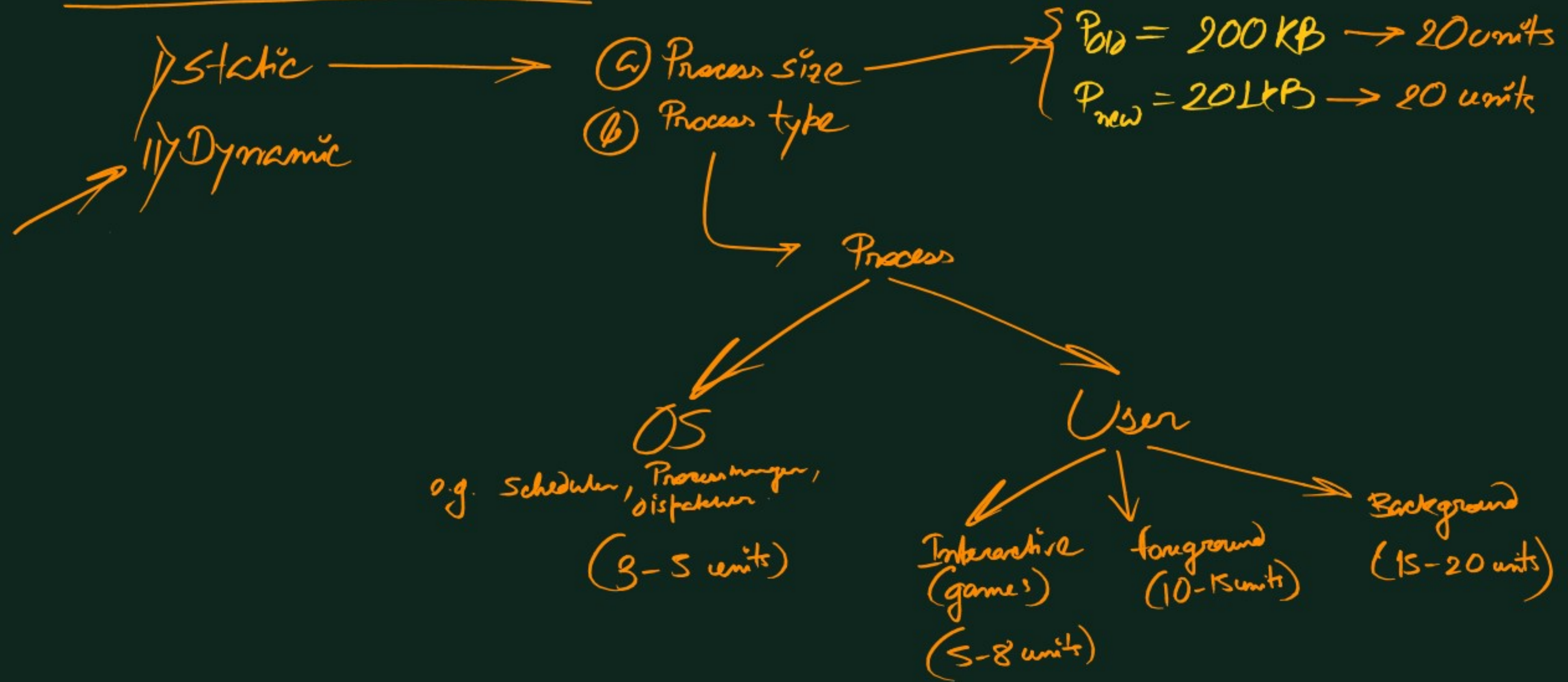
# Multilevel Feedback Queue Scheduling

①



②

# STF with predicted BT



# Dynamic

→ Simple averaging:

1. Given 'n' processes  $P_1, \dots, P_2$

2. Let the actual BT be  $t_i$ .

3. Let the predicted BT be  $\tilde{Y}_i$

$$\tilde{Y}_{m+1} = \frac{1}{m} \sum_{i=1}^m t_i$$

Q Exponential averaging:

$\alpha$  = smoothing factor  
 $0 \leq \alpha \leq 1$

$$Y_{m+1} = \alpha t_m + (1-\alpha) Y_m$$

$$Y_{m+1} = \alpha t_m + (1-\alpha) Y_m \dots \textcircled{i}$$

$$Y_m = \alpha t_{m-1} + (1-\alpha) Y_{m-1} \dots \textcircled{ii}$$

$$\begin{aligned} Y_{m+1} &= \alpha t_m + (1-\alpha) (\alpha t_{m-1} + (1-\alpha) Y_{m-1}) \\ &= \alpha t_m + (1-\alpha) \alpha t_{m-1} + (1-\alpha)^2 Y_{m-1} \dots \end{aligned}$$

$\textcircled{Y_1}$

Q: Given,  $\alpha = 0.5$

$$\gamma_1 = 10$$

the actual  $BT_s (t_1, t_2, t_3, t_4) = (4, 8, 6, 7)$ , then  $\gamma_5 = ?$

$$\boxed{\gamma_{n+1} = \alpha t_n + (1-\alpha) \gamma_n}$$

