

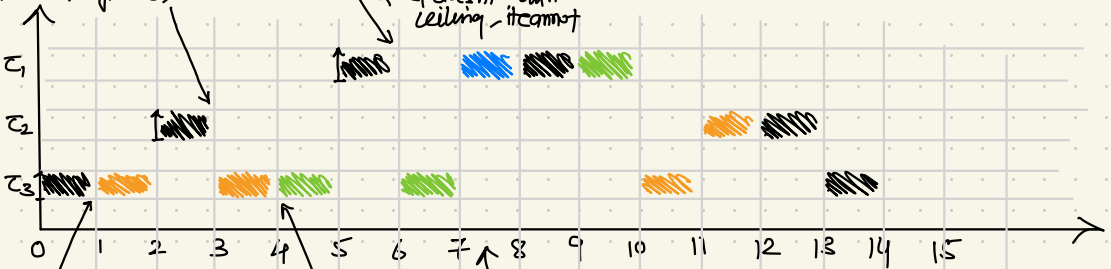
Task	Priority	Execution Times	Arrival time
$\tau_1$	$P_1$	Sequential CS	5
$\tau_2$	$P_2$		2
$\tau_3$	$P_3$	Nested CS	0

$$P_1 > P_2 > P_3 > P_4$$

$$CC(S_A) = 1, \quad CC(S_B) = 1, \quad CC(S_C) = 2$$

$\tau_2$  cannot acquire  $S_C$  because its priority  $P_2 = P_2 \neq C_{global}(t) = P_2$

$\tau_1$  tries to acquire  $S_A$ . But, since  $P_1 = P_1 = C_{global}$  &  $\tau_1$  does not "own" ceiling, it cannot

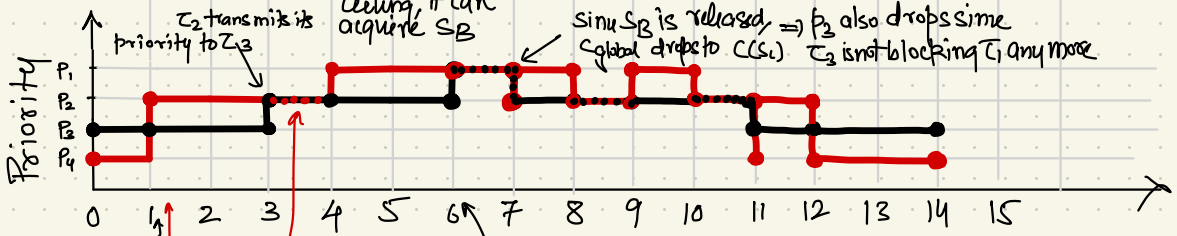


$P_3 = P_3 > C_{global}(t) = P_4$   
 $\tau_3$  can acquire  $S_C$

Since  $P_3 = P_2 = C_{global}$  &  $\tau_3$  "owns" the ceiling, it can acquire  $S_B$

$\tau_1$  is now the highest priority task. Also  $P_1 = P_1 > C_{global}$

Since  $S_B$  is released,  $\Rightarrow P_2$  also drops since  $C_{global}$  drops to  $CC(S_C)$ .  $\tau_3$  is not blocking  $\tau_1$  anymore



$P_3$  remains at  $P_3$  because  $\tau_3$  is not blocking anyone yet

Global remains same as  $S_C$  is still locked

Since  $\tau_3$  is blocking  $\tau_1$ , it inherits its priority

— Current System Ceiling  
 — Effective priority of  $\tau_3$