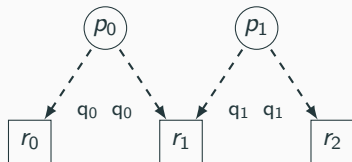


Scenario 1

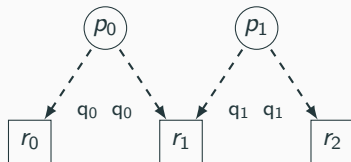
Dining Philosophers



	r_0	r_1	r_2
0	q_0^*	1	2
1		2	3
2		3	4
\vdots	\vdots	\vdots	\vdots
n		n	n

Comment: Suppose r_0 replies to p_0 first with 0 and increments $pp(r_0)$ to $pp(r_0) = 1$ (* means promised, not locked yet).

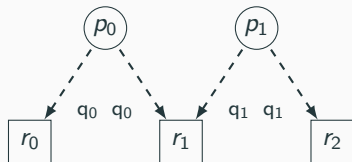
Dining Philosophers



	r_0	r_1	r_2
0	q_0^*	1 q_1^*	2
1		2	3
2		3	4
\vdots	\vdots	\vdots	\vdots
n		n	n

Comment: Suppose r_1 replies to p_1 with 1 and increments $pp(r_1)$ to $pp(r_1) = 2$.

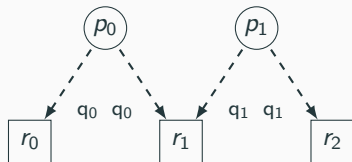
Dining Philosophers



r_0		r_1		r_2	
0	q_0^*	1	q_1^*	2	q_1^*
1		2		3	
2		3		4	
\vdots	\vdots	\vdots	\vdots	\vdots	
n		n		n	

Comment: Suppose r_2 replies to p_1 with 2 and increments $pp(r_2)$ to $pp(r_1) = 3$.

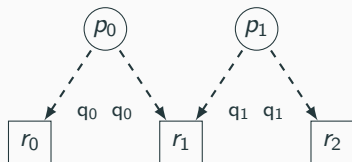
Dining Philosophers



	r_0		r_1		r_2
0	q_0^*	1	q_1^*	2	q_1^*
1		2	q_0^*	3	
2		3		4	
\vdots	\vdots	\vdots	\vdots	\vdots	
n		n		n	

Comment: Suppose r_1 replies to p_0 with 2 and increments $pp(r_2)$ to $pp(r_1) = 3$.

Dining Philosophers

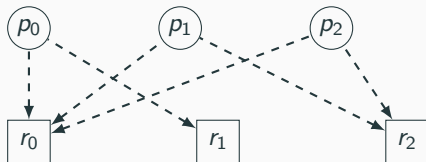


r_0		r_1		r_2	
0	q_0^*	1	q_1^*	2	q_1^*
1		2	q_0^*	3	
2		3		4	
\vdots	\vdots	\vdots	\vdots	\vdots	
n		n		n	

Comment: Both p_0 and p_1 can confirm they received all replies they needed, but $\max(p_0) = \max(p_1) = 2$ and so they both would like to lock $r_1(2)$.

Scenario 2

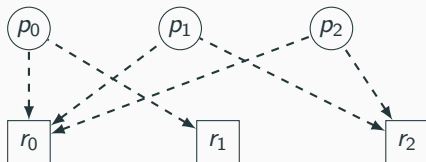
Dining Philosophers



	r_0	r_1	r_2
0	q_0^*	1	2
1		2	3
2		3	4
\vdots	\vdots	\vdots	\vdots
n		n	n

Comment: Suppose r_0 replies to p_0 with 0 and increments $pp(r_0)$ to $pp(r_0) = 1$.

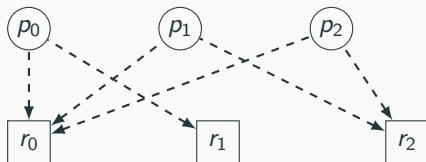
Dining Philosophers



	r_0	r_1	r_2
0	q_0^*	1	2
1	q_1^*	2	3
2	p_2^*	3	4
3		4	5
\vdots	\vdots	\vdots	\vdots
n		n	n

Comment: Suppose r_0 replies to p_1 and p_2 (r_1 hasn't replied to p_0 yet) respectively with 1 and 2, now $pp(r_0) = 3$

Dining Philosophers



	r_0	r_1	r_2
0	q_0^*	1 q_0^*	2
1	q_1^*	2	3
2	q_2^*	3	4
3		4	5

Comment: Suppose r_1 now replies to p_0 with 1 and increments $pp(r_1)$ and now p_0 could lock $\max(0, 1) = 1$, but $r_0(1)$ is promised for someone else. Sure, it's possible that these will be released as other values might be higher, but it's likely they won't. (I'm considering locking lane with $\text{keys}(q_n)$, but that's not a particularly nice solution)