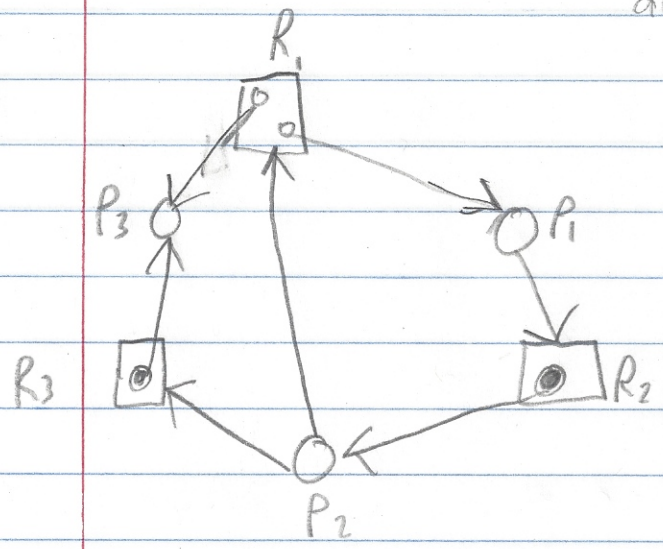
R_1 R_2 R_3

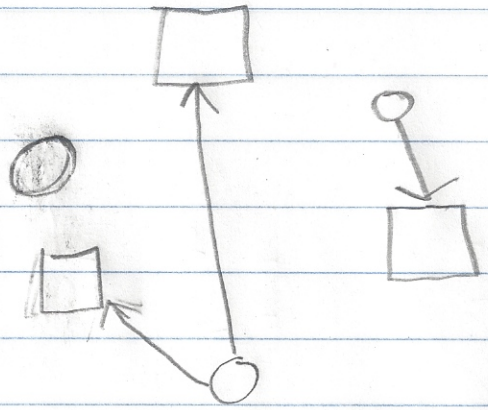
available $\langle 2, 1, 1 \rangle$



X	P_1	P_2	P_3	R_1	R_2	R_3
P_1	1	0	0	0	1	0
P_2	0	1	0	1	0	1
P_3	0	0	1	0	0	0
R_1	1	0	1	1	0	0
R_2	0	1	0	0	1	0
R_3	0	0	1	0	0	1

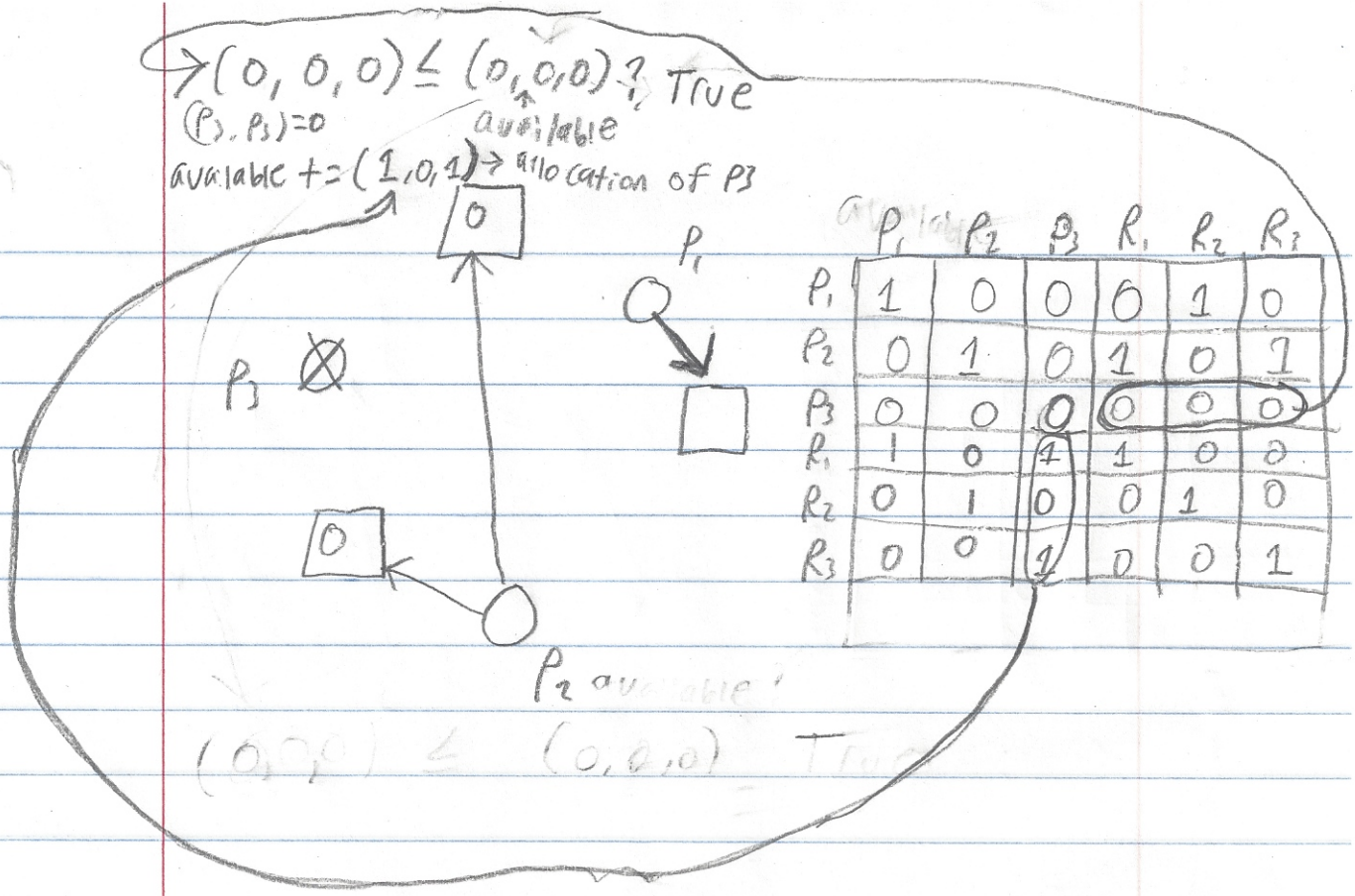
Step 1: allocate resources to their respective processes

available $\langle 0, 0, 0, \rangle$



	P_1	P_2	P_3	R_1	R_2	R_3
P_1	1	0	0	0	1	0
P_2	0	1	0	1	0	1
P_3	0	0	1	0	0	0
R_1	1	0	1	1	0	0
R_2	0	1	0	0	1	0
R_3	0	0	1	0	0	1

Step 2: see if any process can request any resources. If so, add allocated resources back to the system (available array).



	P1	P2	P3	R1	R2	R3
P1	1	0	0	0	1	0
P2	0	1	0	1	0	1
P3	0	0	0	0	0	0
R1	1	0	1	1	0	0
R2	0	1	0	0	1	0
R3	0	0	1	0	0	1

Try P1

P1 request → (0,1,0) ≤ (1,0,1) False ← available

From P1 row

From Row 2

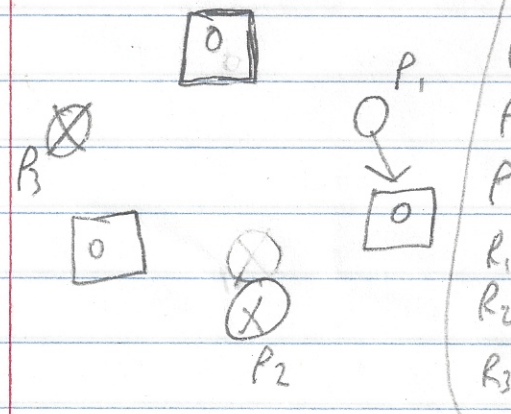
Try P2

P2 request → (1 0 1) ≤ (1 0 1) True

available

(P2, P2) = 0

available (1,0,1) + = (0,1,0)



	P1	P2	P3	R1	R2	R3
P1	1	0	0	0	1	0
P2	0	0	0	1	0	1
P3	0	0	0	0	0	0
R1	1	0	1	1	0	0
R2	0	1	0	0	1	0
R3	0	0	1	0	0	1

Try P_1

request of R_1 $(P_1, P_1) = 0$

available $(1,1,1) - (1,0,0)$

$(0,1,0) \leq (1,1,1)$? True

available

	P_1	P_2	P_3	R_1	R_2	R_3
P_1	0	0	0	0	1	0
P_2	0	0	0	1	0	1
P_3	0	0	0	0	0	0
R_1	1	0	1	1	0	0
R_2	0	1	0	0	1	0
R_3	0	0	1	0	0	1