

$$S_1' S_0' P_a P_b' + S_2 S_1' P_b' + S_2 P_b' R' + S_2 P_a + S_2 S_0 + S_2 S_1 P_b = N_2$$

$$S_2' S_0 P_a' P_b + S_2' S_1 S_0' P_a' + S_1 P_a' R' + S_1 P_b + S_1 S_0 P_a + S_2 S_0 P_a + S_2 S_0 P_a P_b' + S_2 S_1 P_a = N_1$$

$$S_2' S_0' P_a' P_b + S_1' S_0 P_a' P_b' + S_0 P_a P_b + S_2' S_1 P_a P_b' + S_1 S_0 R' + S_1 S_0 P_b + S_2 S_1' S_0' P_a P_b' = N_0$$

FSM-2

equation

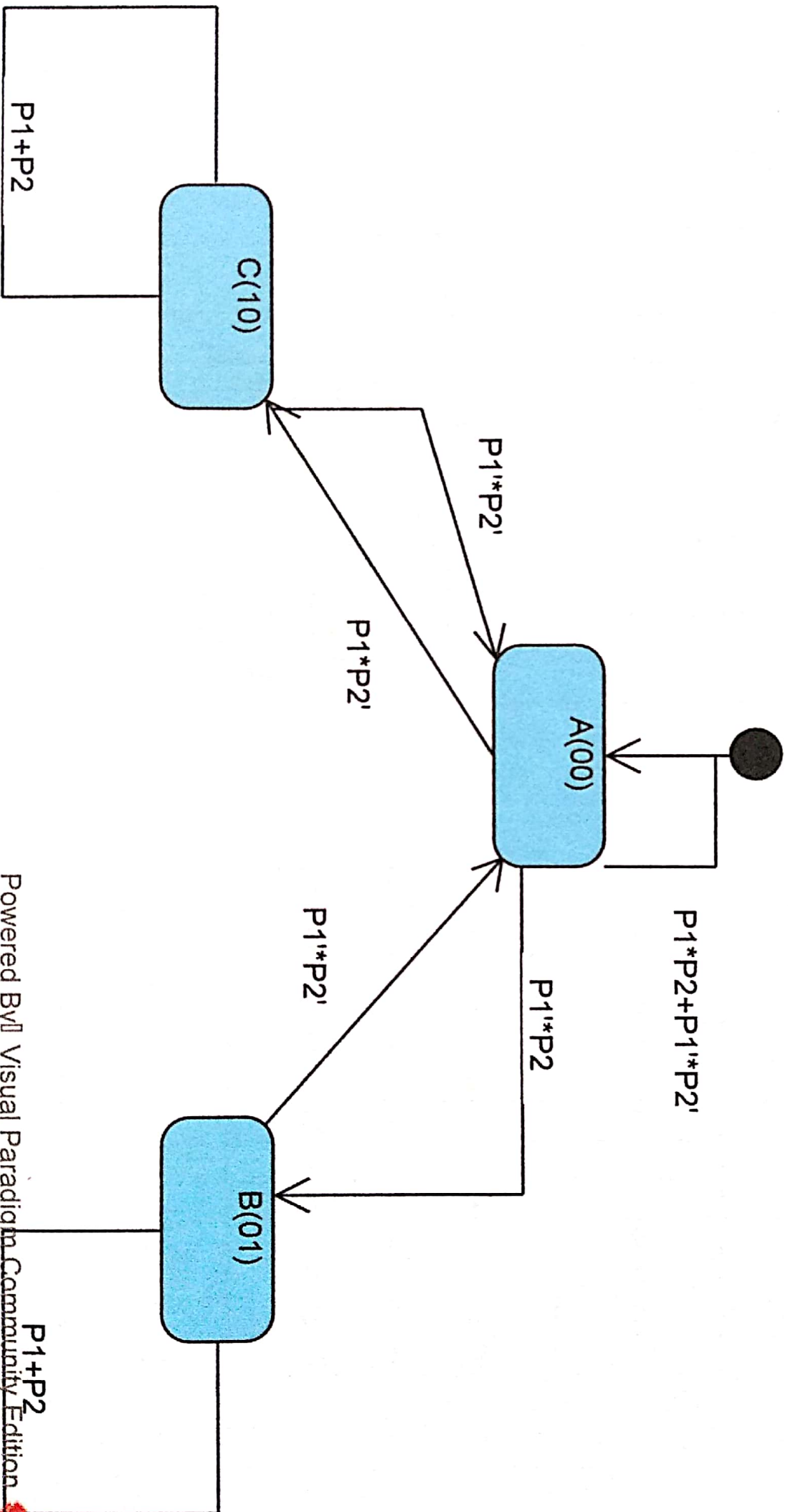
$$\delta_0' P_1 P_2' + \delta_1 \delta_0' P_2 = N_1$$

$$\delta_1' \delta_0' P_2 + \delta_1' \delta_0 P_1' = N_0$$

$$\delta_1 \delta_0' P_1' P_2' = P_0$$

$$\delta_1' \delta_0' P_1 P_2' = P_b$$

FSM-1 equations



Step -2 B | C

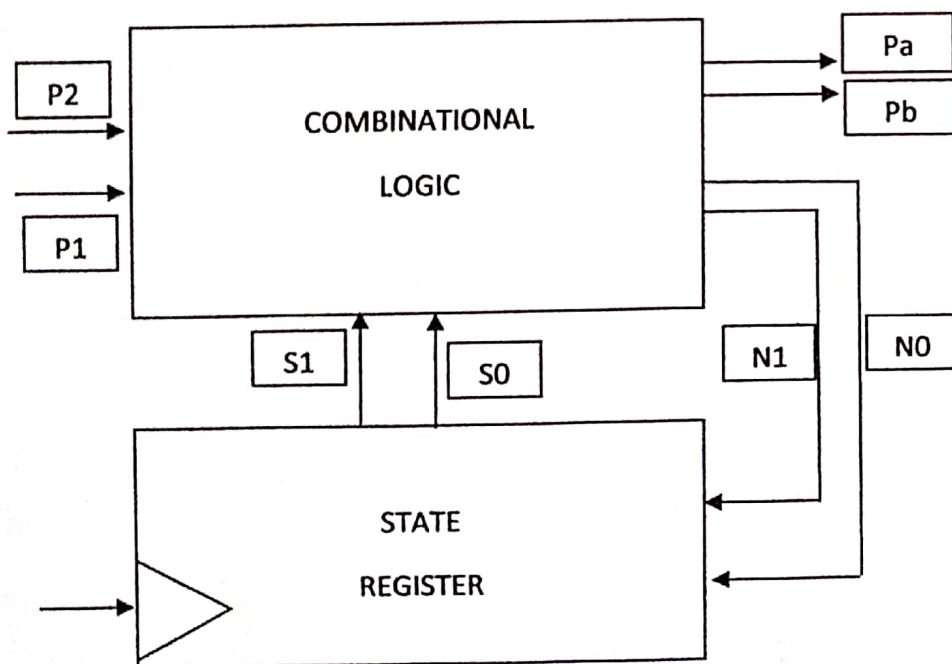
-2 Bit State register(THREE State "A,B,C")

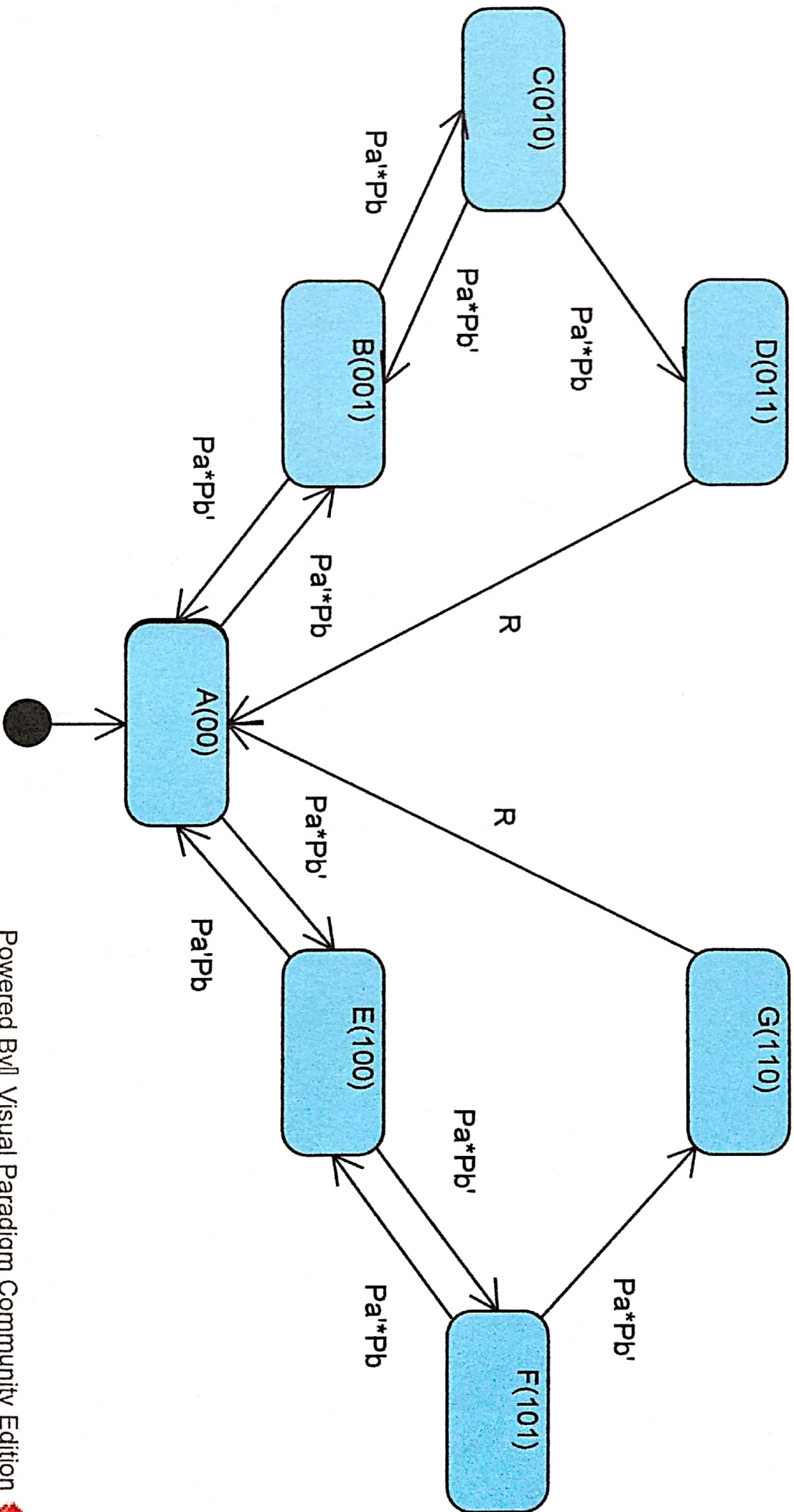
-Input P1,P2

-Output Pa,Pb

-Next State Signals N1,N0

S1	S0	P1	P2	N1	N0	Pa	Pb
0	0	0	0	0	0	0	0
0	0	0	1	0	1	0	0
0	1	0	0	0	0	0	1
0	1	0	1	0	1	0	0
0	1	1	0	0	1	0	0
0	1	1	1	0	1	0	0
0	0	1	0	1	0	0	0
1	0	0	0	0	0	1	0
1	0	0	1	1	0	0	0
1	0	1	0	1	0	0	0
1	0	1	1	1	0	0	0
0	0	1	1	0	0	0	0





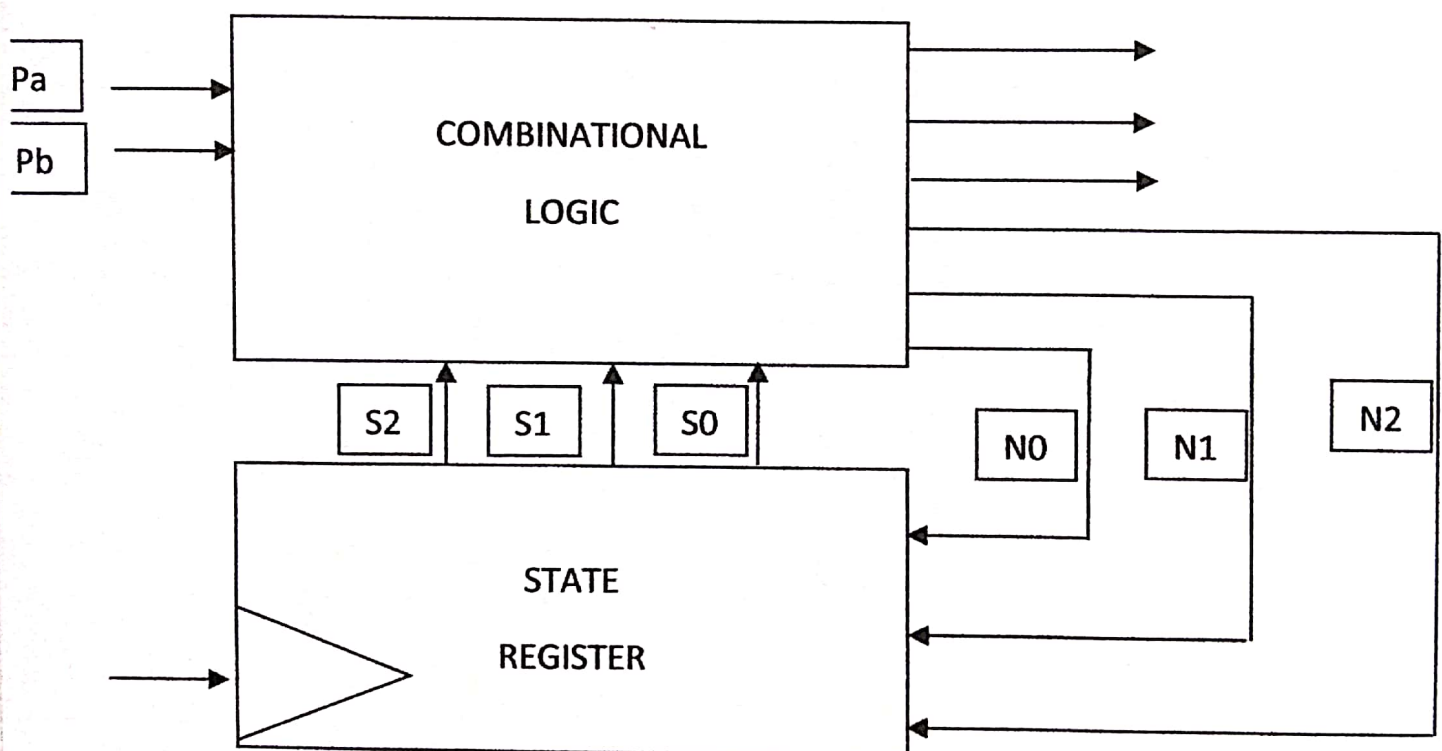
Step -2 A|B|C

-3 Bit State register(State "A,B,C,D,E,F,G")

-Input Pa,Pb,R

-Output N2,N1,N0

-Next State Signals N2,N1,N0



T R U T H									
S2	S1	S0	Pa	Pb	R	N2	N1	N0	
0	0	0	0	0	0	0	0	0	
0	0	0	0	0	1	0	0	0	
0	0	0	0	1	0	0	0	1	
0	0	0	0	1	1	0	0	1	
0	0	0	1	0	0	1	0	0	
0	0	0	1	0	1	1	0	0	
0	0	0	1	1	0	0	0	0	
0	0	0	1	1	1	0	0	0	
0	0	1	0	0	0	0	0	1	
0	0	1	0	0	1	0	0	1	
0	0	1	0	1	0	0	1	0	
0	0	1	0	1	1	0	1	0	
0	0	1	1	0	0	0	0	0	
0	0	1	1	0	1	0	0	0	
0	0	1	1	1	0	0	0	1	
0	0	1	1	1	1	0	0	1	
0	1	0	0	0	0	0	1	0	
0	1	0	0	0	1	0	1	0	
0	1	0	0	1	0	0	1	1	
0	1	0	0	1	1	0	1	1	
0	1	0	1	0	0	0	0	1	
0	1	0	1	0	1	0	0	1	
0	1	0	1	1	0	0	1	0	
0	1	0	1	1	1	0	1	0	
0	1	1	0	0	0	0	1	1	
0	1	1	0	0	1	0	0	1	
0	1	1	0	1	0	0	1	1	
0	1	1	0	1	1	0	1	1	
0	1	1	1	0	0	0	1	1	
0	1	1	1	0	1	0	1	1	
0	1	1	1	1	0	0	1	1	
0	1	1	1	1	1	0	1	1	
0	1	1	1	1	1	0	1	1	
0	1	1	1	1	1	1	1	1	

1	0	0	0	0	0	1	0	0
1	0	0	0	0	1	1	0	0
1	0	0	0	1	0	0	0	0
1	0	0	0	1	1	0	0	0
1	0	0	1	0	0	1	0	1
1	0	0	1	0	1	1	0	1
1	0	0	1	1	0	1	0	0
1	0	0	1	1	1	1	0	0

1	0	1	0	0	0	1	0	1
1	0	1	0	0	1	1	0	1
1	0	1	0	1	0	1	0	0
1	0	1	0	1	1	1	0	0
1	0	1	1	0	0	1	1	0
1	0	1	1	0	1	1	1	0
1	0	1	1	1	0	1	0	1
1	0	1	1	1	1	1	0	1

1	1	0	0	0	0	1	1	0
1	1	0	0	0	1	0	0	0
1	1	0	0	1	0	1	1	0
1	1	0	0	1	1	1	1	0
1	1	0	1	0	0	1	1	0
1	1	0	1	0	1	1	1	0
1	1	0	1	1	0	1	1	0
1	1	0	1	1	1	1	1	0