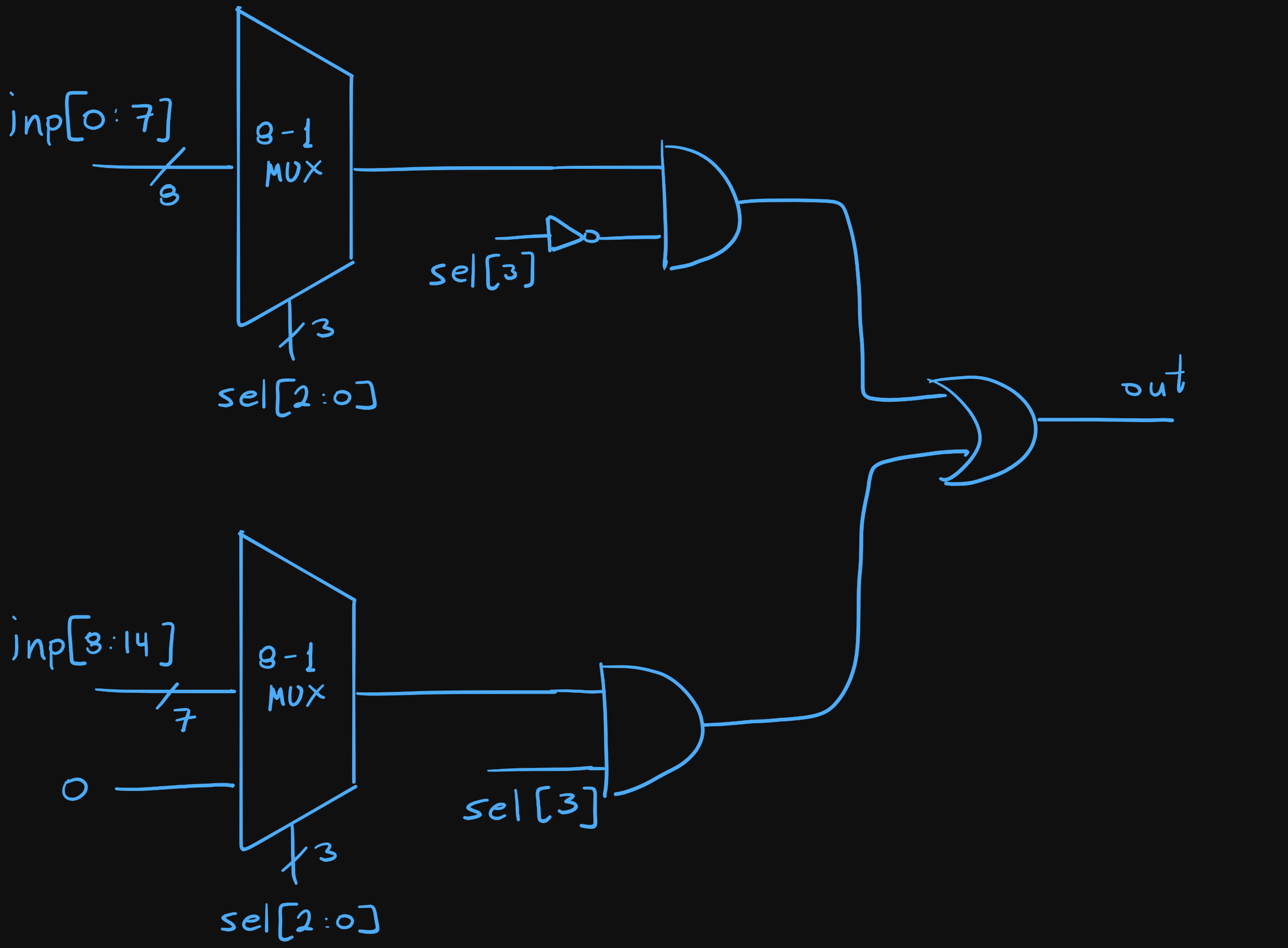
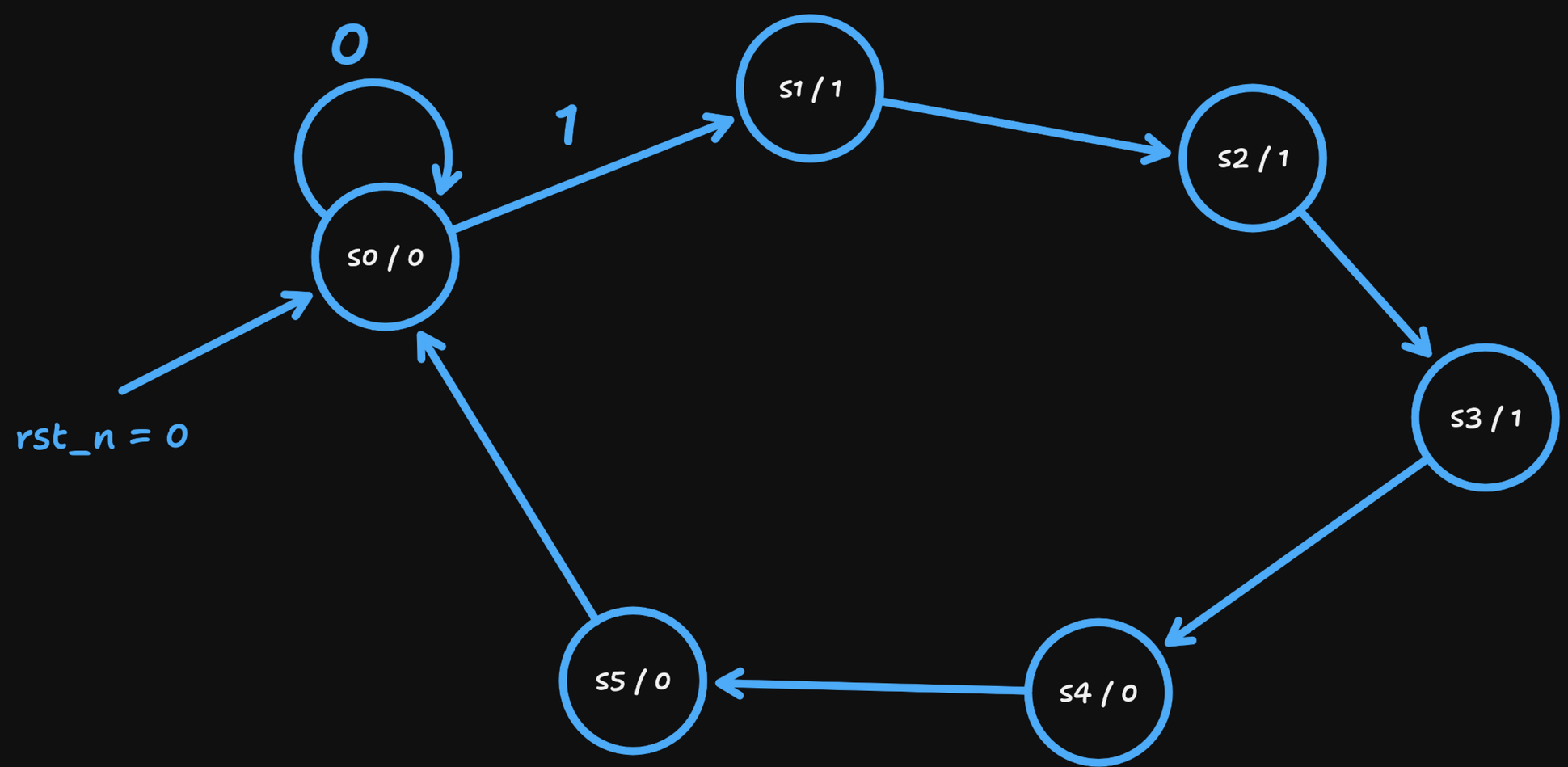
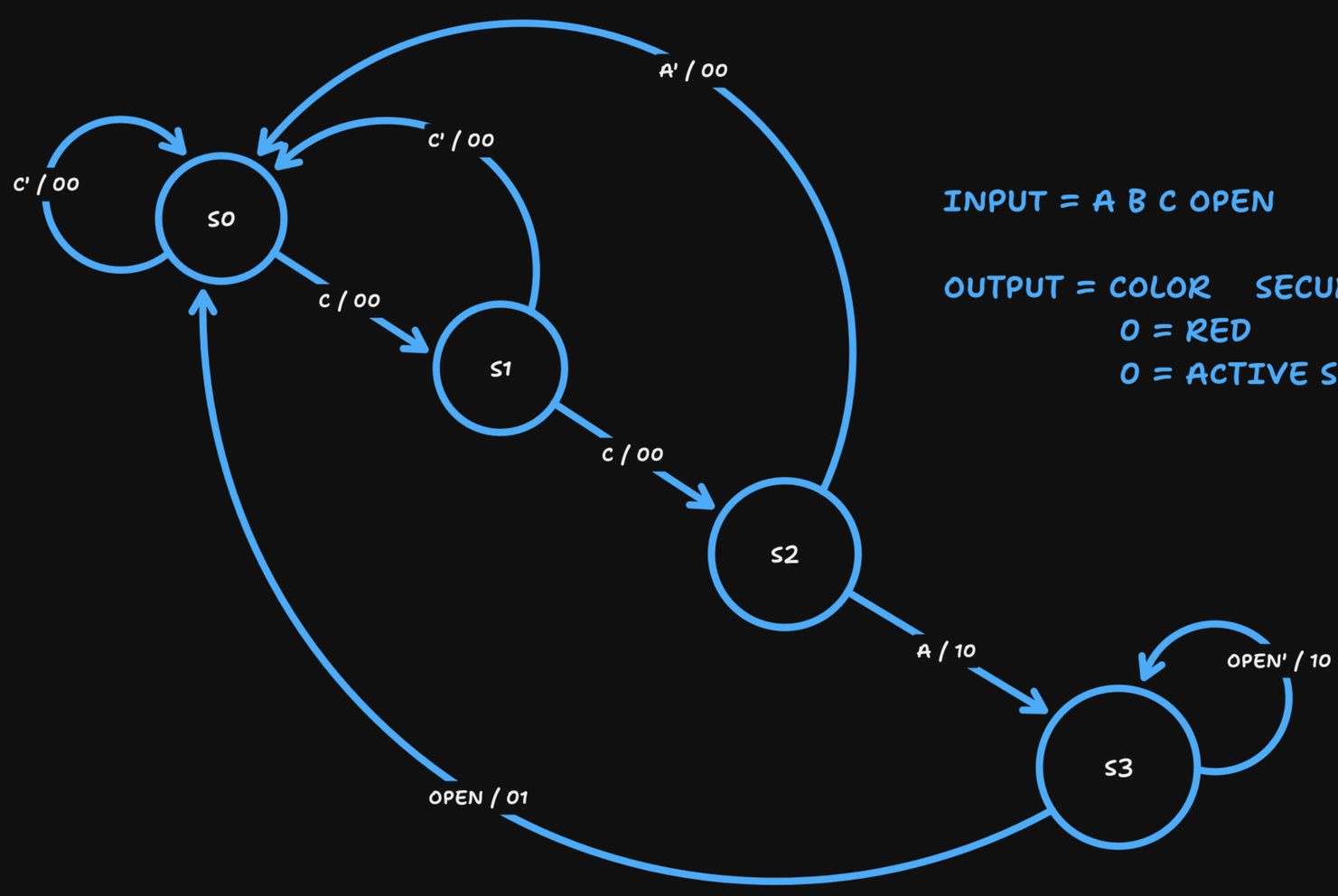

inp[0:7]
8
8-1
MUX
sel[3]
3
sel[2:0]
out
inp[8:14]
7
0
8-1
MUX
sel[3]
3
sel[2:0]


0
1
s0 / 0
s1 / 1
s2 / 1
s3 / 1
s4 / 0
s5 / 0
rst_n = 0



INPUT = A B C OPEN

OUTPUT = COLOR SECURITY
0 = RED
0 = ACTIVE SECURITY

Έστω:

- $S_0 = 00$
- $S_1 = 01$
- $S_2 = 10$
- $S_3 = 11$

Present state		Input				Next state	
D_1	D_0	A	B	C	OPEN	D_1'	D_0'
0	0	X	X	1	X	0	1
0	0	X	X	0	X	0	0
0	1	X	X	1	X	1	0
0	1	X	X	0	X	0	0
1	0	1	X	X	X	1	1
1	0	0	X	X	X	0	0
1	1	X	X	X	1	0	0
1	1	X	X	X	0	1	1

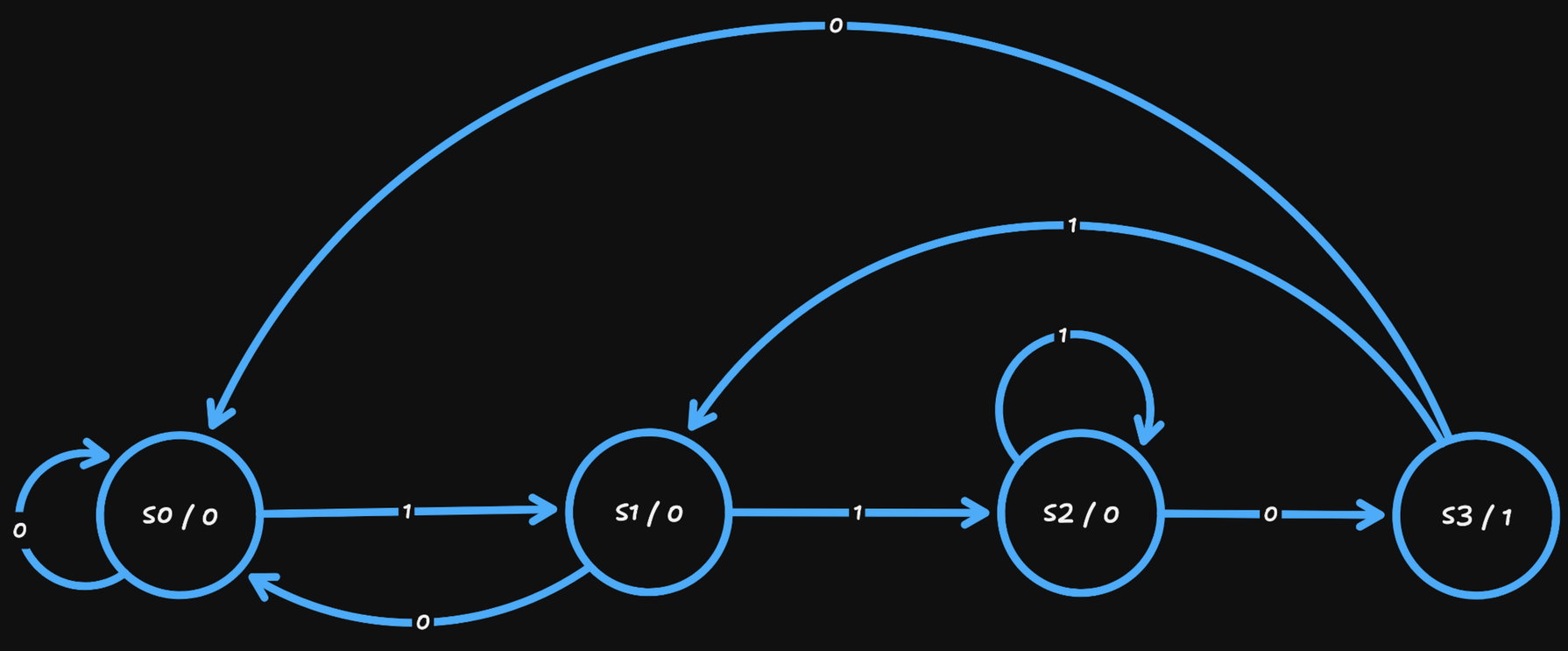
$$D_1' = \bar{D}_1 D_0 C + D_1 \bar{D}_0 A + D_1 D_0 \overline{OPEN}$$

$$D_0' = \bar{D}_1 \bar{D}_0 C + D_1 \bar{D}_0 A + D_1 D_0 \overline{OPEN}$$

Present state		Input				Output	
D_1	D_0	A	B	C	OPEN	COLOR	SEC
0	0	X	X	1	X	0	0
0	0	X	X	0	X	0	0
0	1	X	X	1	X	0	0
0	1	X	X	0	X	0	0
1	0	1	X	X	X	1	0
1	0	0	X	X	X	0	0
1	1	X	X	X	1	0	1
1	1	X	X	X	0	1	0

$$COLOR = D_1 \bar{D}_0 A + D_1 D_0 \overline{OPEN}$$

$$SECURITY = D_1 D_0 OPEN$$



CURRENT STATE		INPUT	NEXT STATE	
D1	D0	X	D1'	D0'
0	0	0	0	0
0	0	1	0	1
0	1	0	0	0
0	1	1	1	0
1	0	0	1	1
1	0	1	1	0
1	1	0	0	0
1	1	1	0	1

D1 D0

X \	00	01	11	10
0				1
1		1		1

D1'

$$D1' = D1 \cdot \overline{D0} + X \cdot \overline{D1} \cdot D0$$

D1 D0

X \	00	01	11	10
0				1
1	1		1	

D0'

$$D0' = X \cdot \overline{D1} \cdot \overline{D0} + X \cdot D1 \cdot D0 + X \cdot D1 \cdot \overline{D0}$$

CURRENT STATE		OUTPUT
D1	D0	Y
0	0	0
0	1	0
1	0	0
1	1	1

$$Y = D1 \cdot D0$$