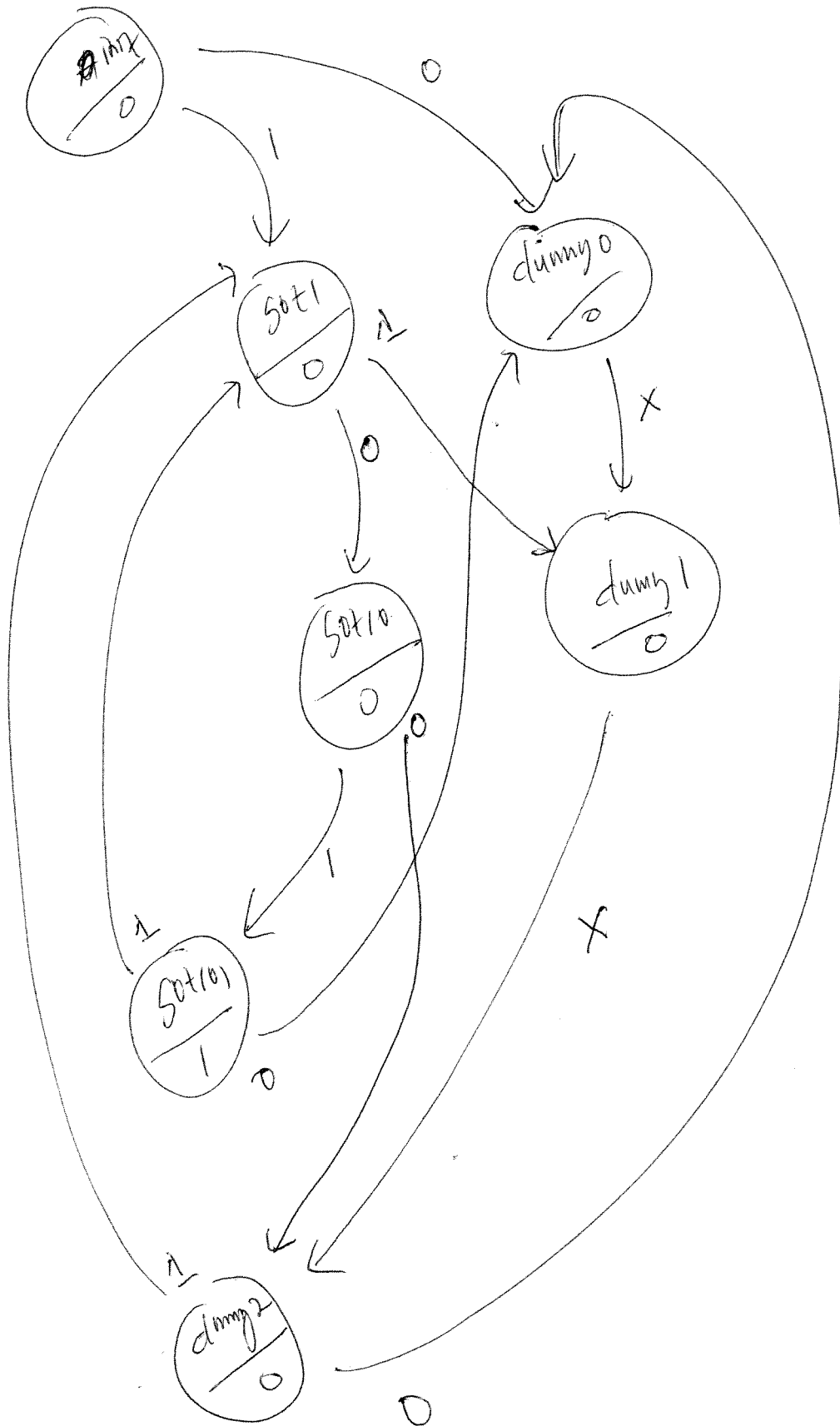


101

3-~~hr~~ Warden, not morning



000
001
010
011
100
101
110
111

①

Present state

Next state
w=0 w=1

output

init	dummy 0	got 1	0
got 1	got 10	dummy 1	0
got 10	dummy 2	got 101	0
got 101	dummy 0	got 1	1
dummy 0	dummy 1	dummy 1	0
dummy 1	dummy 2	dummy 2	0
dummy 2	dummy 0	got 1	0

~~dummy~~ → "000"
got 1 → "001"
got 10 → "010"

got 101 → "011"
dummy 0 → "100"
dummy 1 → "101"

dummy 2 → "110"

Present state
y₂ y₁ y₀

Next state
w=0 w=1
y₂ y₁ y₀ y₂ y₁ y₀

output
f

0 0 0	100	001	0
0 0 1	010	101	0
0 1 0	110	011	0
0 1 1	100	001	1
1 0 0	101	101	0
1 0 1	110	110	0
1 1 0	100	001	0

V_0

$y_1 y_0 \backslash w y_2$	00	01	11	10
00	0	1	1	1
01	0	0	0	1
11	0	d	d	1
10	0	0	1	1

$$V_0 = \bar{w} \bar{y}_2 + w \bar{y}_2 + y_2 \bar{y}_1 \bar{y}_0$$

V_1

$y_1 y_0 \backslash w y_2$	00	01	11	10
00	0	0	0	0
01	1	1	1	0
11	0	d	d	0
10	1	0	0	1

$$V_1 = y_2 y_0 + \bar{y}_2 y_1 \bar{y}_0 + \bar{w} \bar{y}_1 y_0$$

V_0

$y_1 y_0 \backslash w y_2$	01	01	11	10
00	1	1	1	0
01	0	1	1	1
11	1	d	d	0
10	1	1	0	0

$$V_0 = \bar{w} y_1 + y_2 \bar{y}_1 + \bar{w} y_1 + w \bar{y}_1 y_0$$

f

$y_1 y_0 \backslash y_2$	0	1
00	0	0
01	0	0
11	1	d
10	0	0

$$f = y_1 y_0$$