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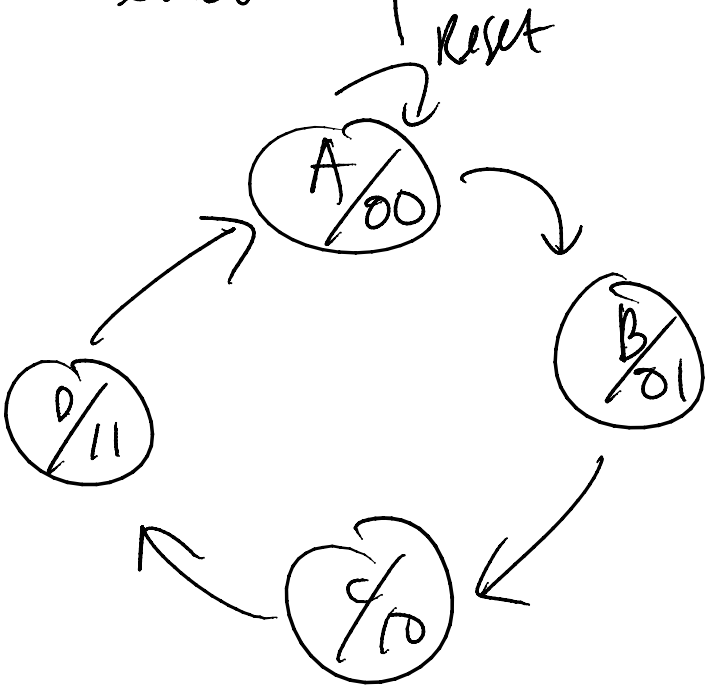
One-hot decoding

Up/down counter with one-hot encoding



Present State	Next State	output
A	B	00
B	C	01
C	D	10
D	A	11

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One-hot decoding:

A = 0001 C = 0100

B = 0010 D = 1000

Present State $y_3 y_2 y_1 y_0$	Next State $Y_3 Y_2 Y_1 Y_0$	Output $f_1 f_0$
0001	0010	00
0010	0100	01
0100	1000	10
1000	0001	11

1
2
4
8

Y_0

y_1y_0 \ y_3y_2	00	01	11	10
00		x_0		x_1
01	x_0			
11				
10	x_0			

$Y_0 = y_3$

Y_1

y_1y_0 \ y_3y_2	00	01	11	10
00		0		0
01	1			
11				
10	0			

$Y_1 = y_0$

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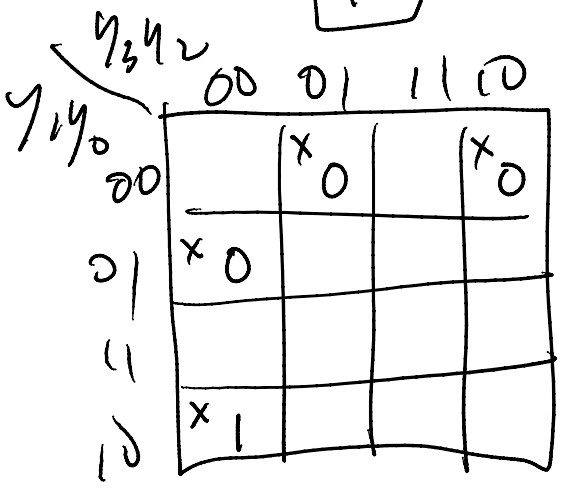
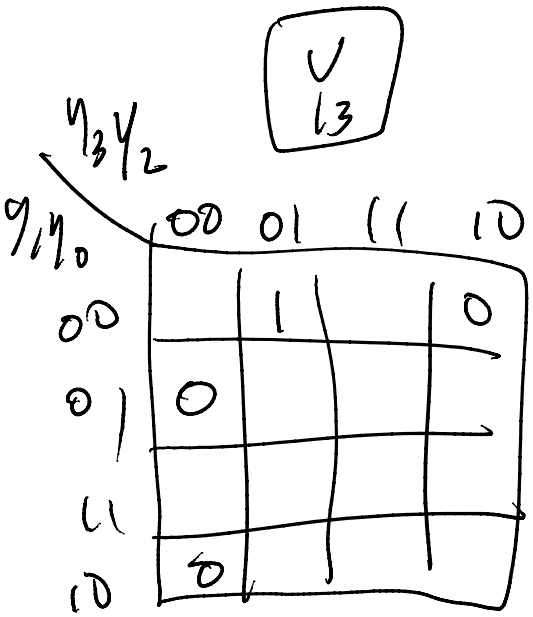
Y_2



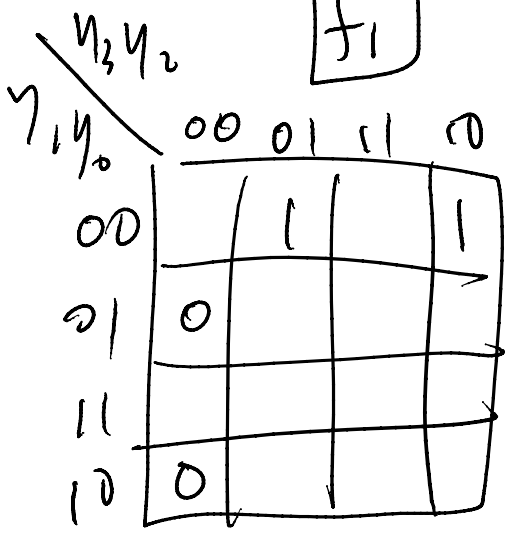
$Y_2 = y_1$

Y_3



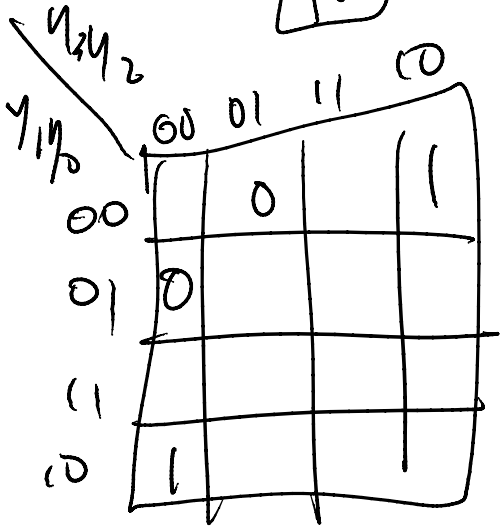
$Y_3 = y_2$

f_1



$f_1 = y_2 + y_3$

f_0



$f_0 = y_1 + y_3$

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