

## State assignments.

Cost of realization is strongly dependent on how flip flop states are assigned.

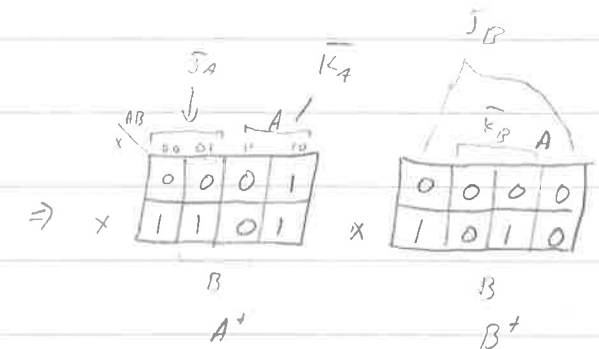
eg

PS	NS		Z	
	X=0	X=1	X=0	X=1
a	a	c	0	0
b	a	d	0	1
c	a	b	0	0
d	d	d	0	0

J	K
0	0
0	1
1	0
1	1

①

AB	fill in table	NS		Z	
		X=0	X=1	X=0	X=1
a = 00	00	00	11	0	0
b = 01	01	00	10	0	1
c = 11	11	00	01	0	0
d = 10	10	10	10	0	0



$$Z = X \bar{A} B$$

$$J_A = X$$

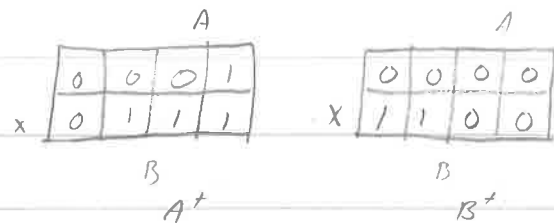
$$K_A = B$$

$$J_B = X \bar{A}$$

$$K_B = \bar{A} + \bar{X}$$

②

AB
a = 00
b = 11
c = 01
d = 10

 $\Rightarrow$ 


$$Z = X A B$$

$$J_A = X B$$

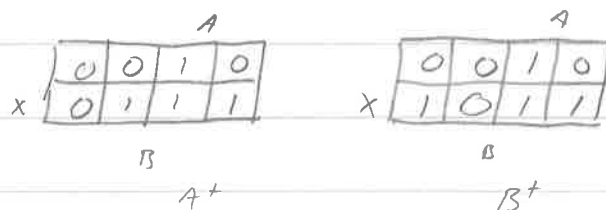
$$K_A = \bar{X} B$$

$$J_B = X \bar{A}$$

$$K_B = A + \bar{X}$$

③

AB
a = 00
b = 10
c = 01
d = 11

 $\Rightarrow$ 


$$J_A = X B$$

$$K_A = \bar{X} B$$

$$J_B = X$$

$$K_B = \bar{A}$$

$$Z = X A \bar{B}$$

Best