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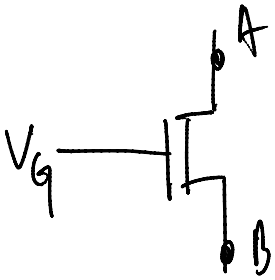
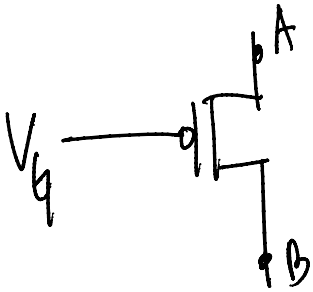
CMOS – Complementary Metal oxided Semiconductor



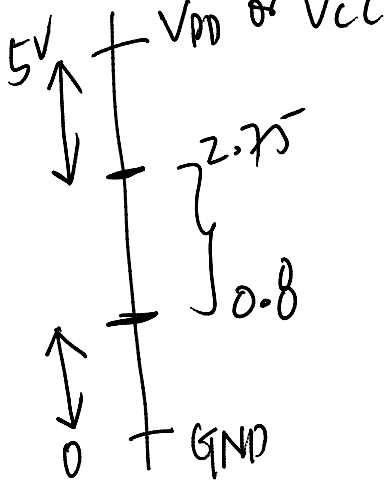
NMOS

$V_G = 1$, A and B is connected



PMOS

$V_G = 0$, A and B is connected.



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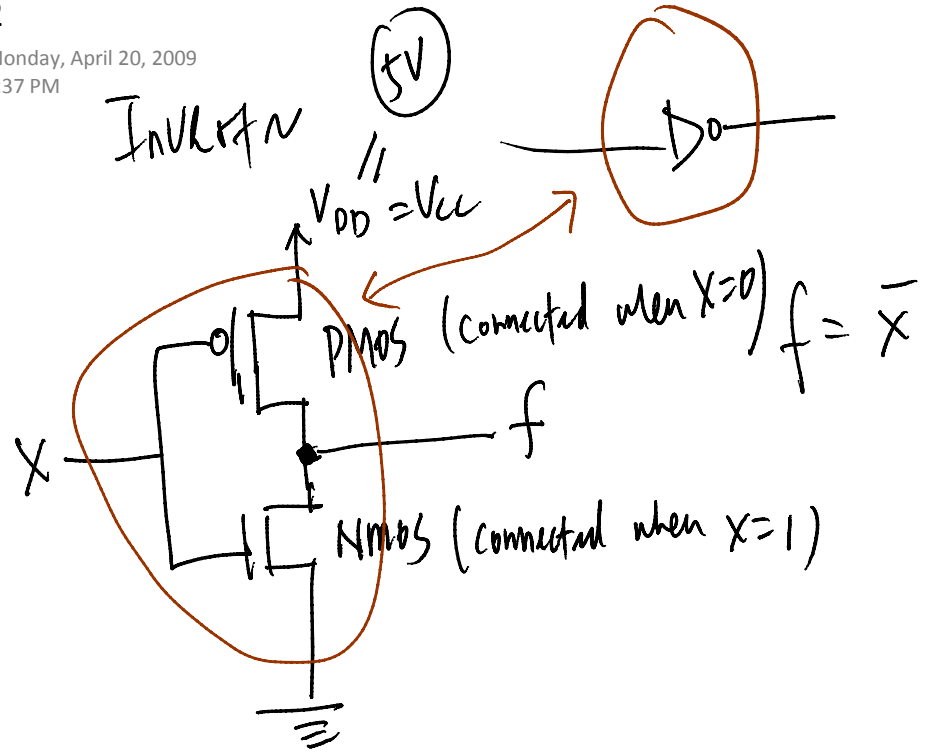

X=0, PMOS turn-on, NMOS turn-off, f=1

X=1, PMOS off, NMOS on, f=0

$f = \bar{X}$

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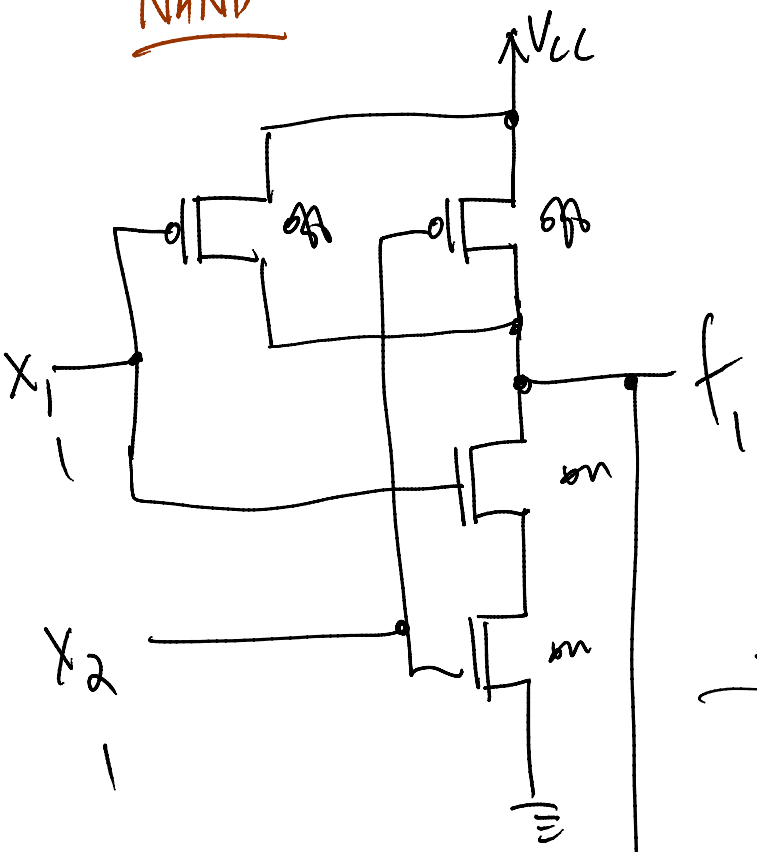
NAND is cheaper than AND!
↑
gates

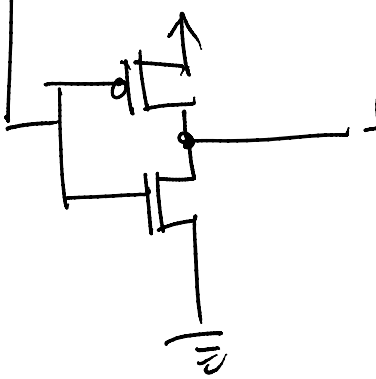
NAND



$f_1 = \overline{X_1 X_2}$

2-input NAND gate

X_1	X_2	f
0	0	1
0	1	1
1	0	1
1	1	0



$f_2 = X_1 \cdot X_2$

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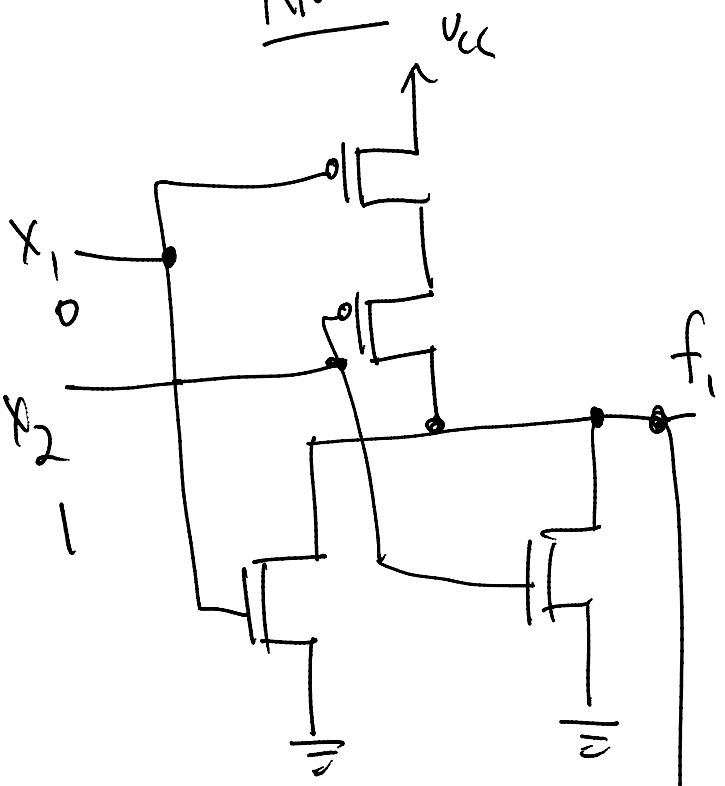
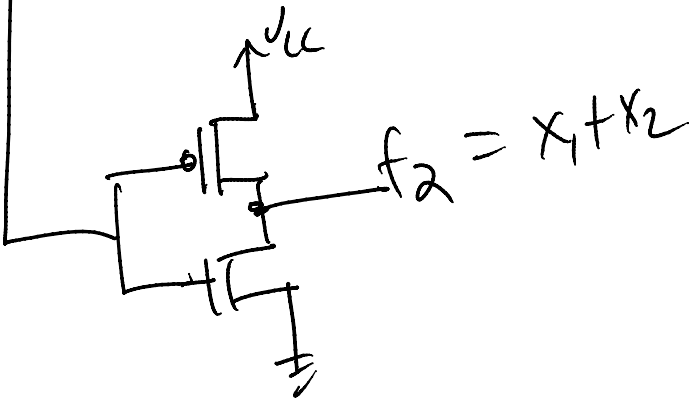
NOR



X_1	X_2	f_1
0	0	1
0	1	0
1	0	0
1	1	0

$$f_1 = \overline{X_1 + X_2}$$



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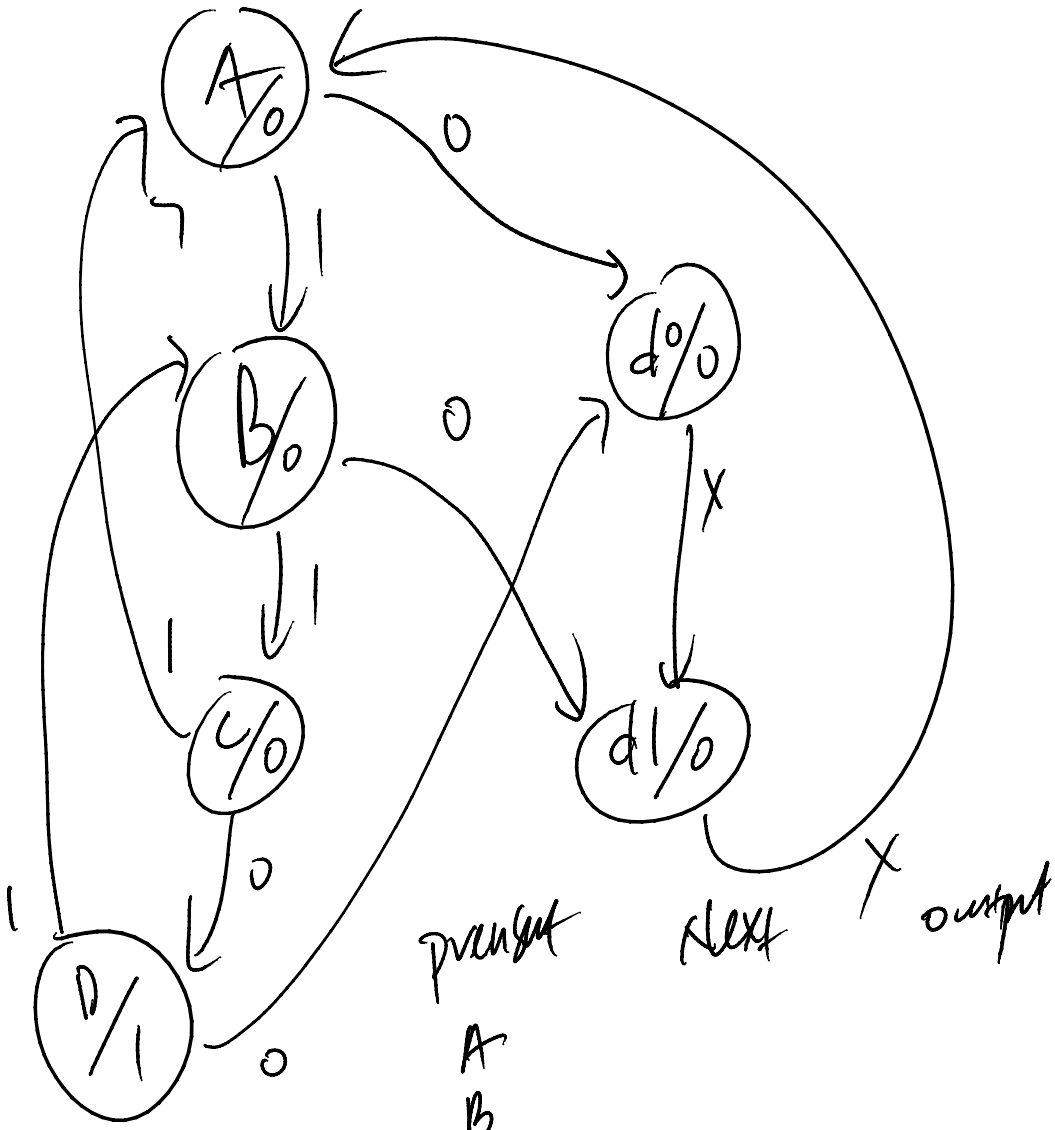
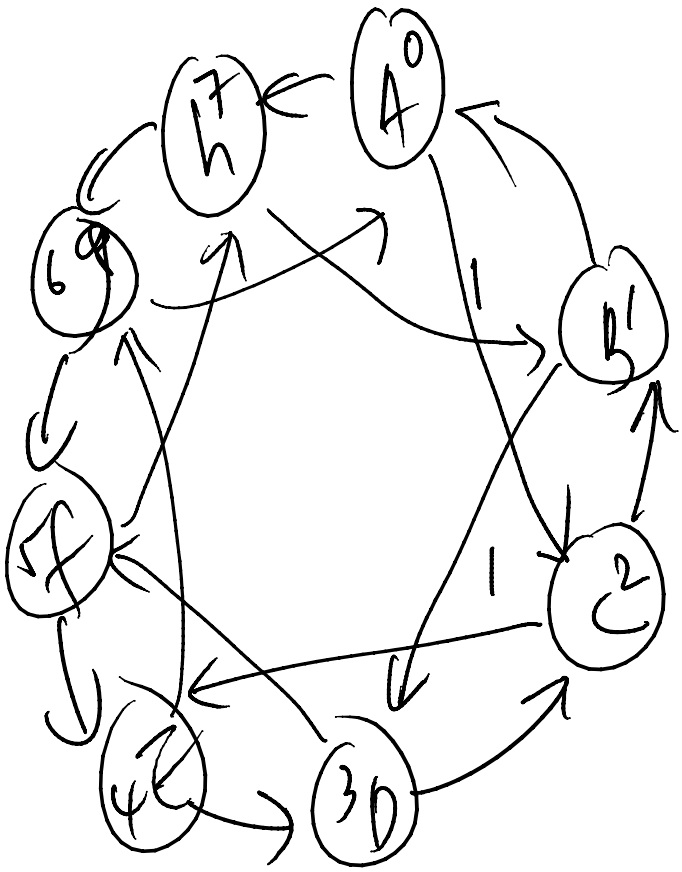
no overlap ! "110"

moore



present next output

A
B
C
D
d0
d1

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