



$$XOR = A \oplus B = (\bar{A} \cdot B + A \bar{B}) \Rightarrow$$

$$\bar{A} \bar{B} + \bar{A} \bar{B}$$

A	B	
0	0	0
0	1	1
1	0	1
1	1	0

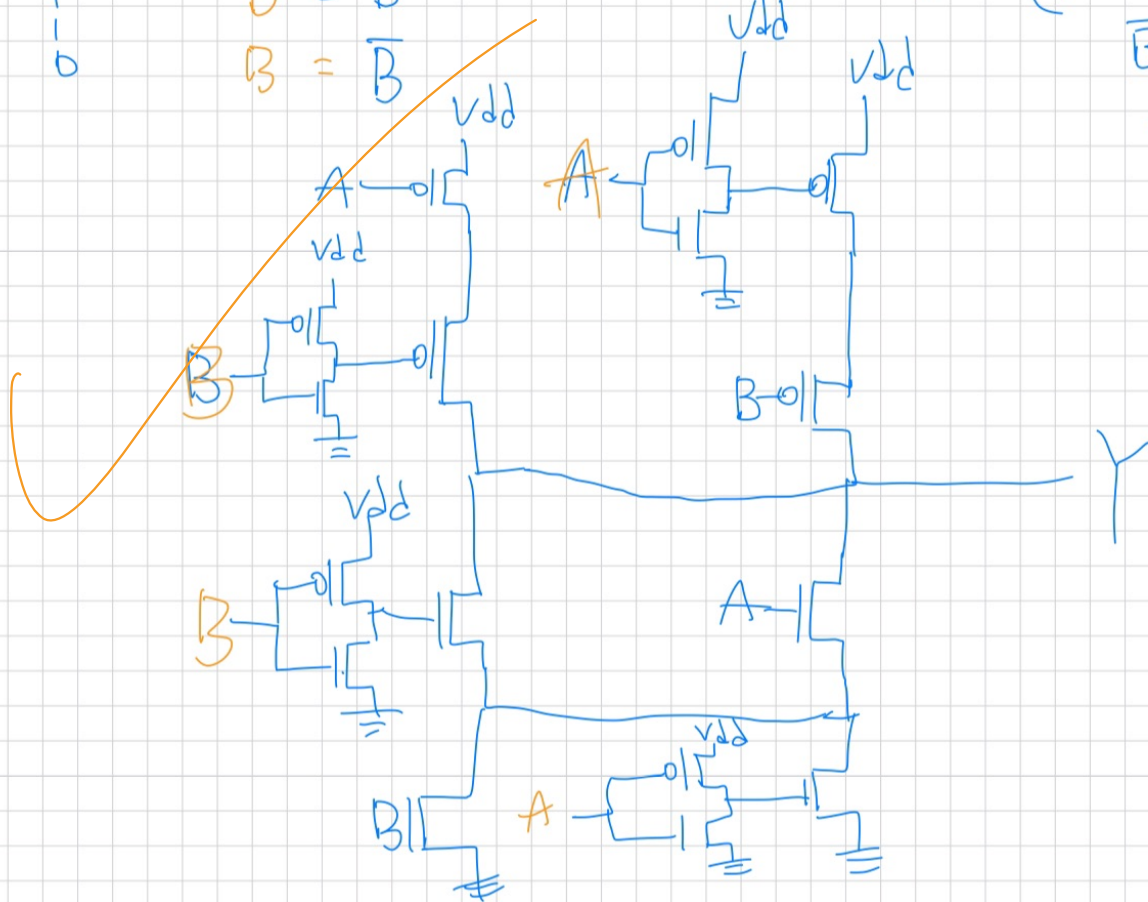
$$\bar{B} = \overline{\bar{B}}$$

$$B = \overline{\bar{B}}$$

SO(P)

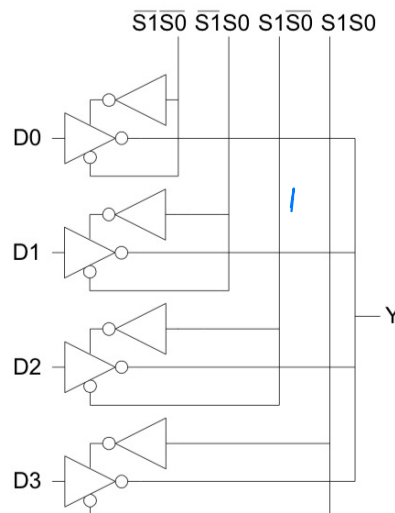
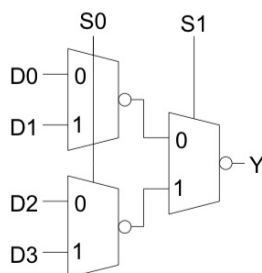
$$(A + \bar{B}) \cdot (\bar{A} + B)$$

POS



4:1 Multiplexer

- 4:1 mux chooses one of 4 inputs using two selects
 - Two levels of 2:1 muxes
 - Or four tristates



下午 4:20 10月17日 週四

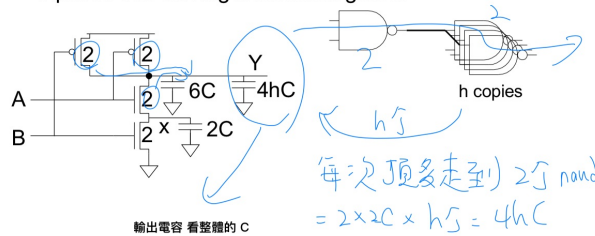
02-fault... x 113_1_B... x w6_adv... x lect4_... x lect3_C...

4: DC and Transient Response CMOS VLSI Design Slide 55

4hC 不懂

Example: 2-input NAND

- Estimate rising and falling propagation delays of a 2-input NAND driving h identical gates.



Example: 2-input NAND