

2022150221 何泽峰

3.8 习题.

3.5.

A	B	C	OUT
0	0	0	1
0	0	1	0
0	1	1	0
1	0	0	1
1	0	1	0
1	1	1	0

3.6

A	B	C	D	Z
0	0	1	1	0
0	1	1	0	0
1	0	0	1	0
1	1	0	0	1

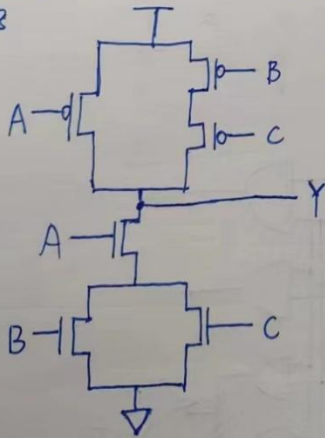
$$Z = \overline{A}B$$

3.7

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

当 A、B 有 1 个为 1, 1 个为 0 时  
电路上下都处于导通状态。  
短路。

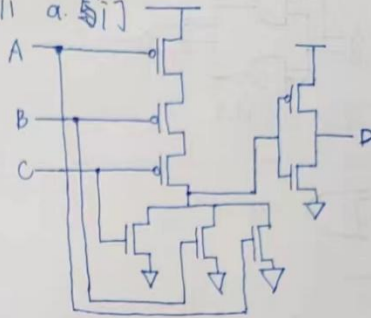
3.8



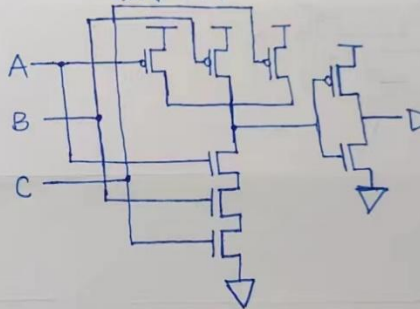
3.9

0 0 与门  
0 1

3.11 a. 或门



b. 异或门

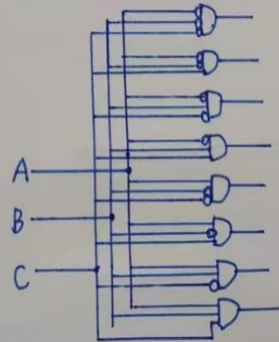


b. (1) A=1, P 断 N 连, B=0, P 连 N 断  
C=0, P 连 N 断.

(2) A=0, B=0, C=0, P 连 N 断.

(3) A=1, B=1, C=1, P 断 N 连.

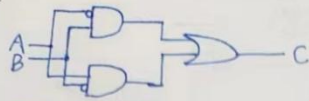
3.12



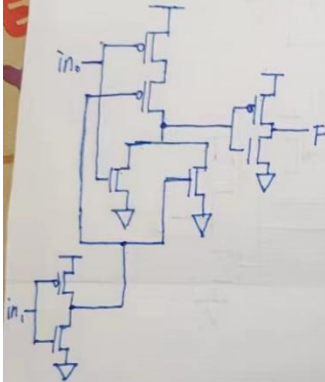
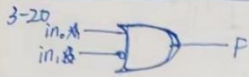
3-18 a. 异或门

b. 异或门

c.



d. 不能, 进位缺失.



3-22.

$S_1$	$S_2$	A	B	C	D
0	0	1	0	0	0
0	1	0	1	0	0
1	0	0	0	1	0
1	1	0	0	0	1

23

0  
0  
0  
0  
0  
0  
0

3-24 a. X 用于选择,  $X=0$ , 输入  $B_0, B_1, B_2, B_3$   
 $X=1$ , 输入  $C_0, C_1, C_2, C_3$

b. 将  $C_0 \rightarrow B_0, C_1 \rightarrow B_1, C_2 \rightarrow B_2, C_3 \rightarrow B_3$   
则  $X=0$  时为 "+",  $X=1$  时为 "-"

3-26

$A_i$	$B_i$	$C_i$	$S_i$	$C_{i+1}$
0	0	0	0	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	1	0
1	0	1	0	1
1	1	0	0	1
1	1	1	1	1

3-27 a.  $A=1, Z=1$

$A=0, Z=0$

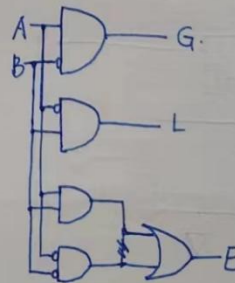
b. Z 会保留原输出.

c. 是.

3-30 a.

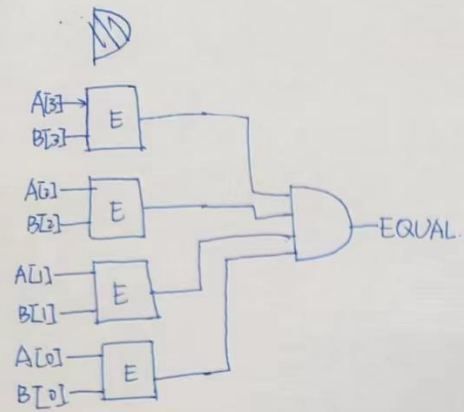
G	E	L
0	1	0
0	0	1
1	0	0
0	1	0

b.



2022150221 何泽锋

C.



- 3.33 a. 11, 0  
b. 6. 否.  
c.  $2^6 - 60 = 4$

- 3.34 a. 4  
b. 4  
c. 0001

3.43 a.	$D_1$	$D_0$	$Z$
	0	0	0
	0	0	0
	0	0	1
	1	0	1
	1	1	1
	1	1	1
	1	0	1