

# Exercise-homework-day 2

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## 2-40:

- a. 2
- b. -17
- c. positive infinity
- d. -3.125

## 2-43

- a. HELLO!
- b. hELLO!
- c. Computers!
- d. LC-2

## 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

$$Z = A \text{ AND } B$$

### 3.20

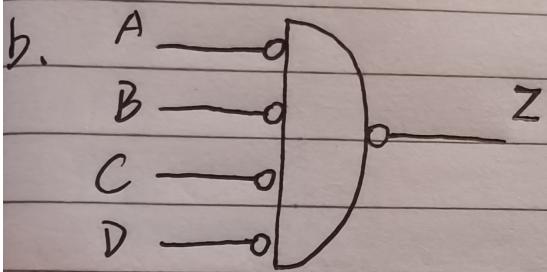
A 16-input multiplexer has only one output line. And it has 4 select lines.

### 3.23

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

The truth table has  $2^4=16$  rows.  $Z=\text{OR}(A,B,C,D)$

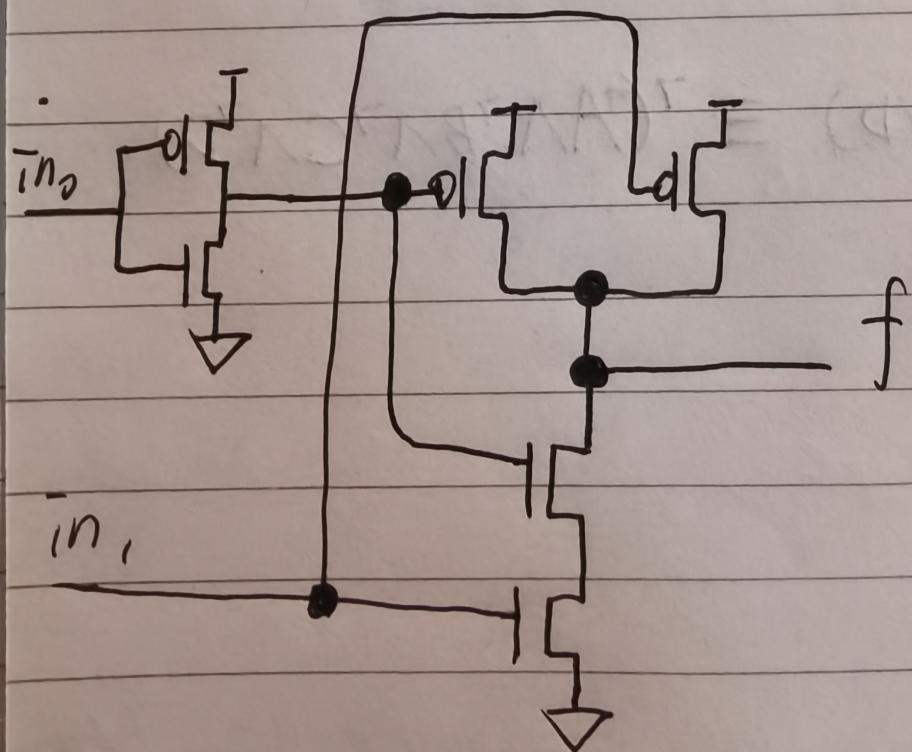
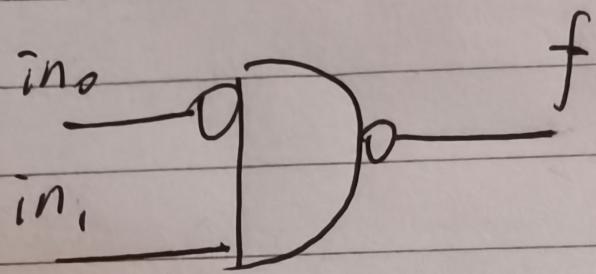
b.



$$(A \vee B \vee C \vee D) \equiv \neg(\neg(A \wedge \neg B \wedge \neg C \wedge \neg D))$$

3.26

3.26



3.30

a. if  $X=0, S=A+B$ ; if  $X=1, S=A+C$

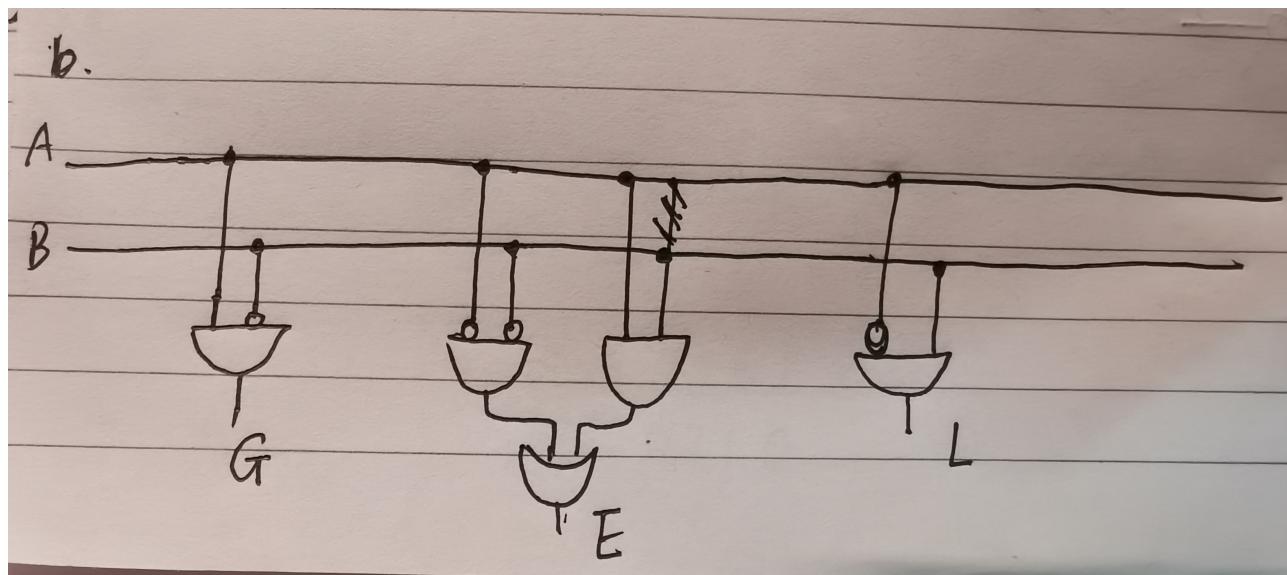
b. modify the Figure 3.42 :replace C with NOT(B), and let the Carry In = X.

### 3.36

a.

A	B	G	E	L
0	0	0	1	0
0	1	0	0	1
1	0	1	0	0
1	1	0	1	0

b.



c.

