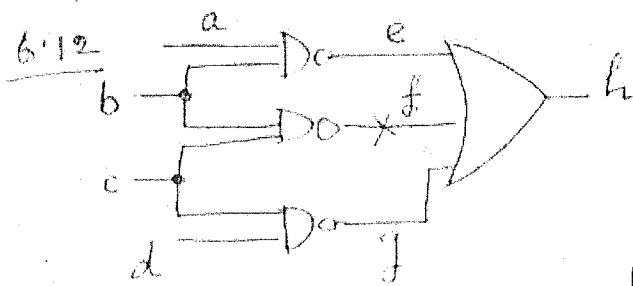
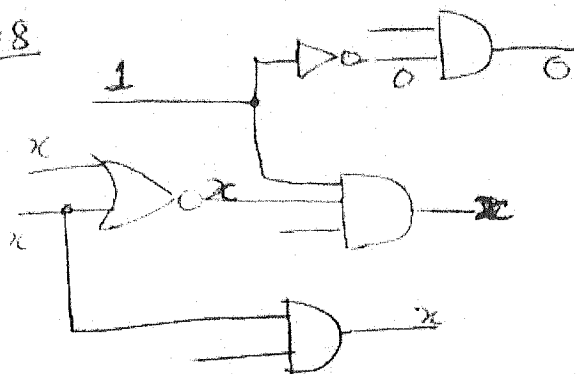


# SOLUTION: 6.12, 6.8, 6.32



| Obj | TL Ass | Imp               | D-F     |
|-----|--------|-------------------|---------|
| f=1 | b=0    | f=D<br>e=1<br>h=1 | NULL    |
|     | b=1    | —                 | NULL    |
|     | c=0    | f=D<br>g=1<br>h=1 | NULL    |
|     | c=1    | f=0               | NULL    |
|     | c=x    |                   |         |
|     | b=x    |                   | FAILURE |

6.8



6.32

ZS-a-o

(a)  $q_1 = q_2 = 1$

$$Z = \bar{q}_1 \cdot I$$

$$q_1^+ = I \cdot q_2 + \bar{I} \cdot q_1$$

$$q_2^+ = \bar{I} \cdot \bar{q}_2 + I \cdot q_2$$

if  $q_1 = q_2 = 1$  at  $t=0$

then  $Z(0) = 0$

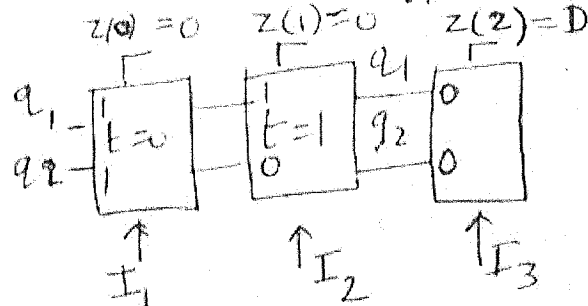
$$q_1(1) = 1 \quad q_2(1) = I_1$$

$$Z(1) = 0$$

$$q_1(2) = I_2 \cdot I_1 + \bar{I}_2$$

$$= \bar{I}_2 + I_1$$

$$Z(2) = \overline{q_1(2)} \cdot I_3$$



To make  $Z(2) = 1$ ,

$$I_3 = 1,$$

2R

$$\overline{q_1(2)} = 1 \text{ or } I_1 = 0, I_2 = 1$$

So apply  
input sequence  
011 to detect  
ZS-a-o

6.32(b):

I could not find a  
self-synchronizing sequence!