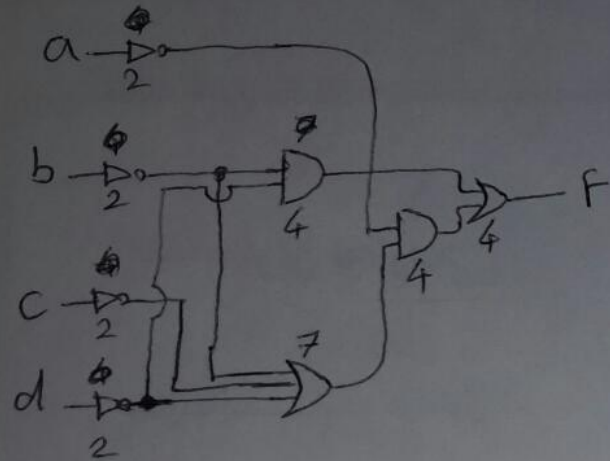
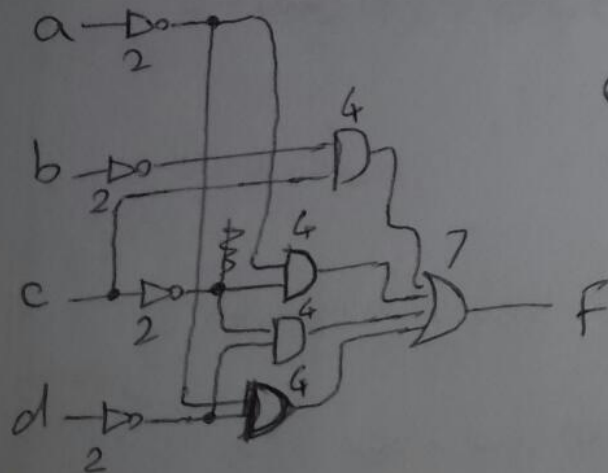


$$F = \bar{a}\bar{c} + \bar{a}\bar{d} + \bar{a}\bar{b} + \bar{b}\bar{d} = \bar{a}(\bar{b} + \bar{c} + \bar{d}) + \bar{b}\bar{d}$$



$$F = \bar{a}\bar{c} + \bar{a}\bar{d} + \bar{b}c + \bar{c}d$$



$$\begin{aligned} 4 + 7 &= 11 \\ 2 + 4 + 7 &= 13 \end{aligned}$$

+12

$$23 - 11 = 12 \quad \text{hazard}$$

$$23 - 11 = 12 \quad \text{static}$$

$$\begin{array}{c} \underline{abcd} \\ 0010 \leftrightarrow 0000 \end{array}$$

$$0000 \rightarrow 0010$$

hazard