

2.2, $A_1 = \overline{B_1}$

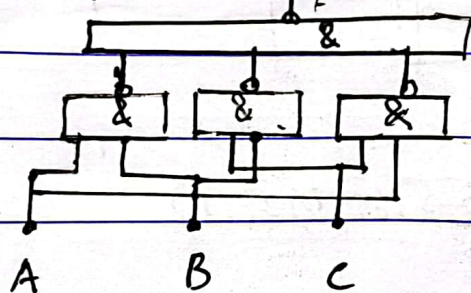
$A_2 = B_2$

$A_4 = B_2 \oplus B_4$

$A_8 = \overline{B_8 + B_4 + B_2}$, 求 B_8, B_4, B_2, B_1 的对 9 的变补

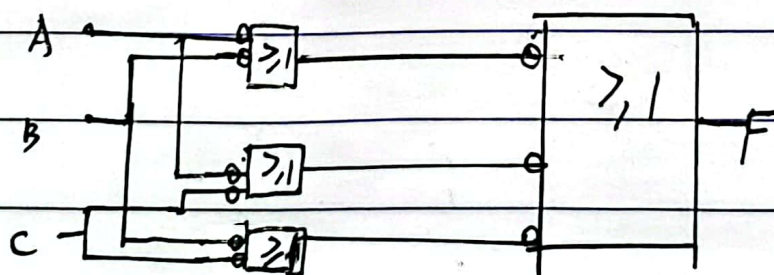
2.4. $F = AB + AC + BC$

(1) 与非 $F = \overline{\overline{AB + AC + BC}} = \overline{\overline{AB} \cdot \overline{AC} \cdot \overline{BC}}$



(2) 或非 $F = \overline{\overline{AB + AC + BC}} = \overline{(\overline{A+B}) \cdot (\overline{A+C}) \cdot (\overline{B+C})}$

$= \overline{\overline{A+B}} + \overline{\overline{A+C}} + \overline{\overline{B+C}}$

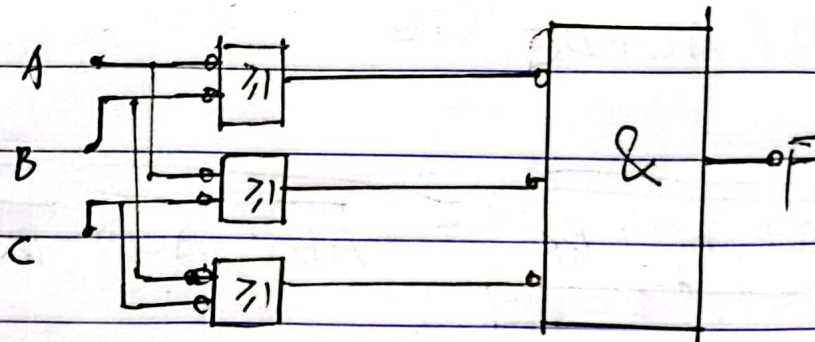


(3) 5 或非门

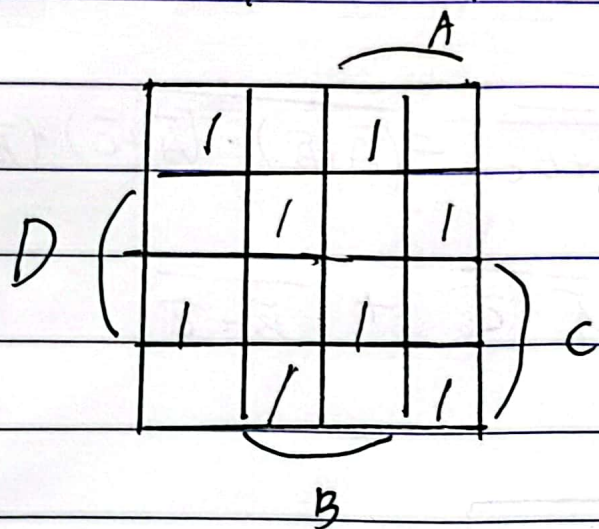
$$F = AB + AC + BC$$

$$= \overline{\overline{AB + AC + BC}}$$

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



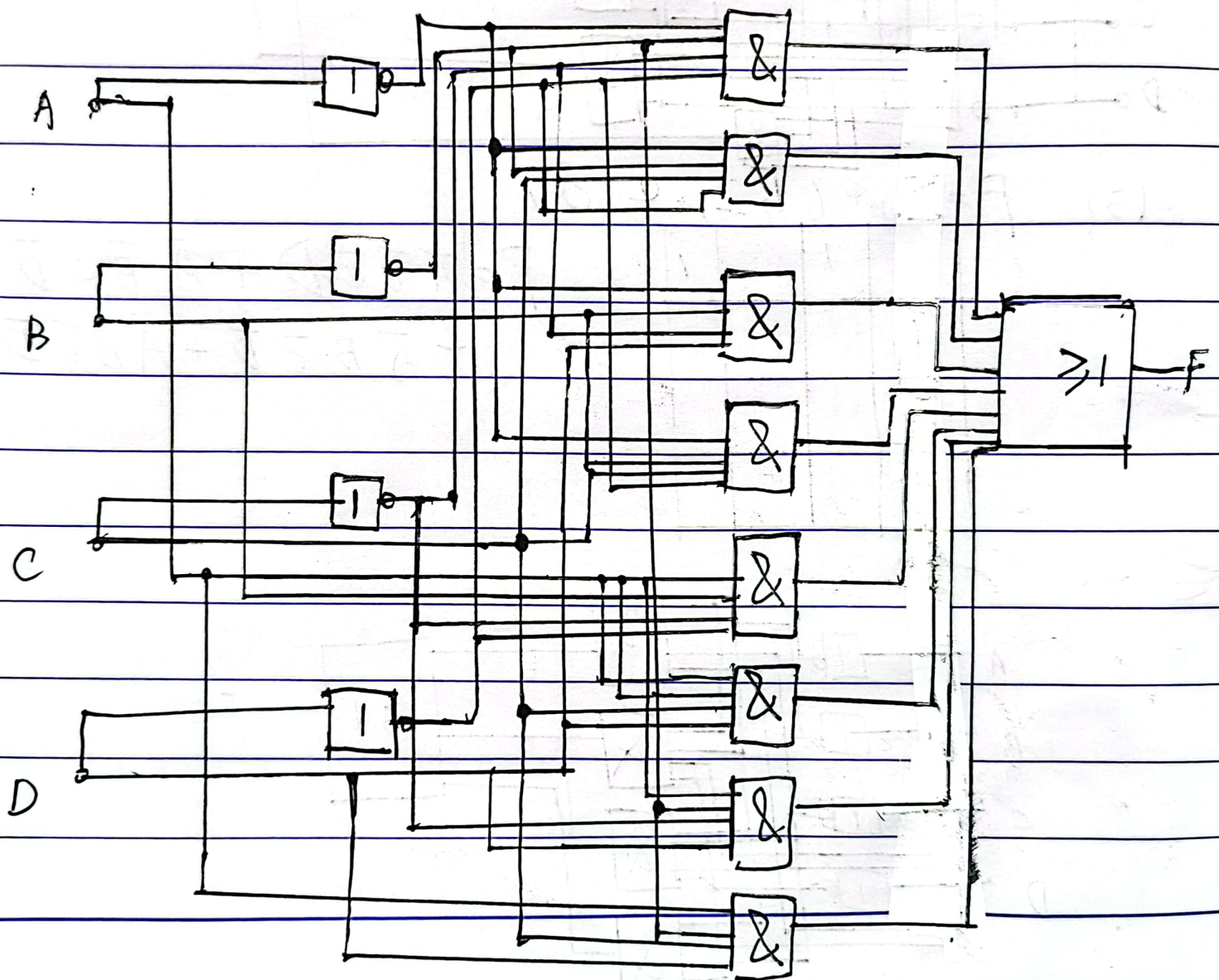
2.5. 11) $F = \sum m^3(0, 3, 5, 6, 9, 10, 12, 15)$



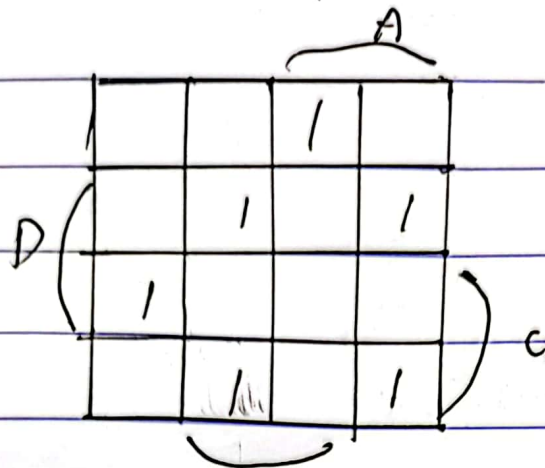
$$F = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}C\bar{D} + \bar{A}B\bar{C}\bar{D} + \bar{A}BC\bar{D} + A\bar{B}\bar{C}\bar{D} + A\bar{B}C\bar{D} + A\bar{B}\bar{C}D + A\bar{B}CD$$



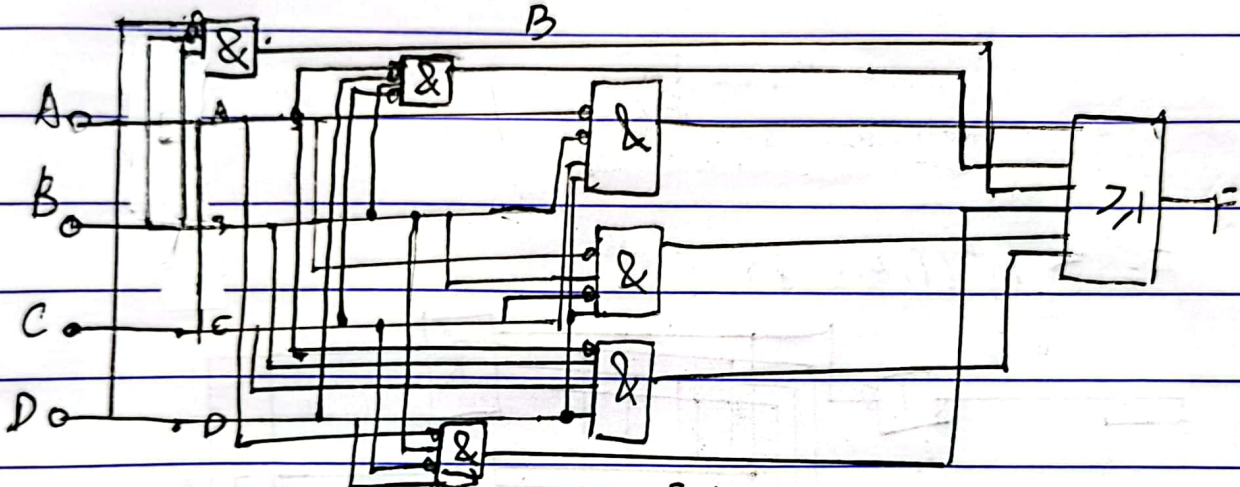
137 $F = \sum m^4(1, 2, 4, 8)$



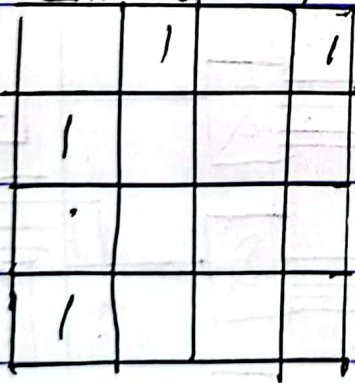
12) $F = \sum m^4(3, 5, 6, 9, 10, 12)$



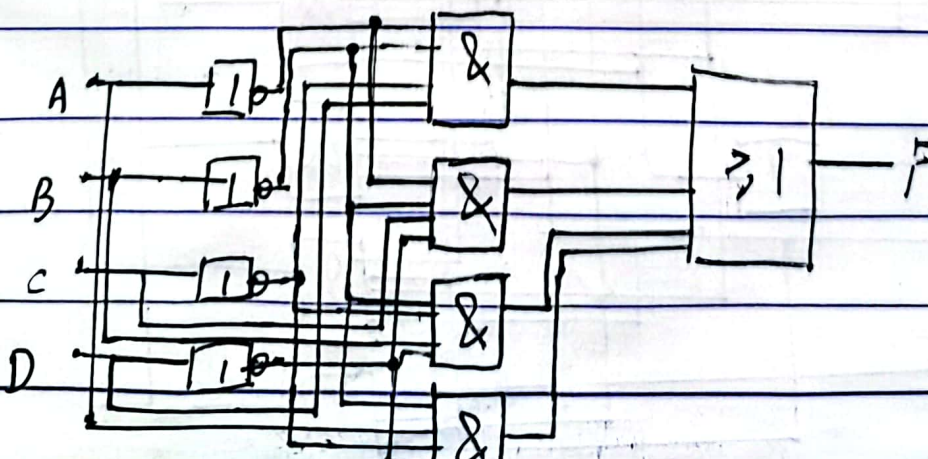
$$F = \bar{A}\bar{B}CD + \bar{A}B\bar{C}D + \bar{A}BCD + AB\bar{C}\bar{D} + \bar{A}B\bar{C}\bar{D} + \bar{A}B\bar{C}D$$



13) $F = \sum m^4(1, 2, 4, 8)$



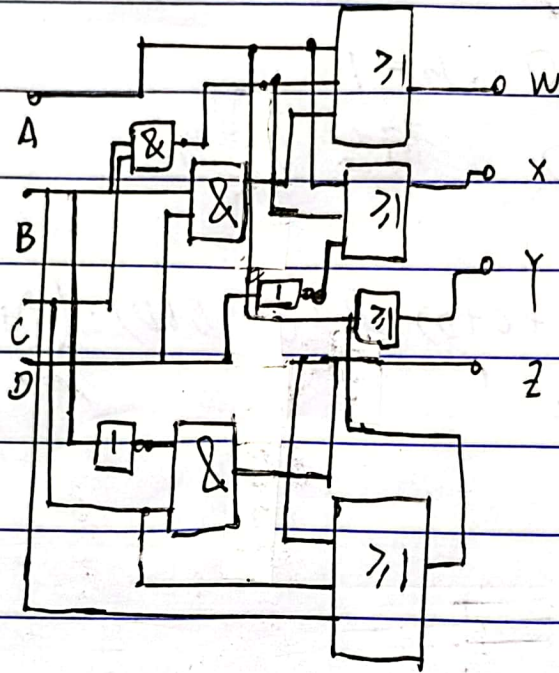
$$F = \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}C\bar{D} + \bar{A}B\bar{C}\bar{D} + A\bar{B}\bar{C}\bar{D}$$



2.8 设8421码为ABCD, 2421码为WXYZ

$$W = A + Bc + BD$$

$$X = A + Bc + B\bar{D}, Y = A + \bar{B}C + B\bar{C}D, Z = D$$



2.11. (1) 存在逻辑险象

① $B=1, C=1$ 时, $F = \bar{A} + A$ 静态1险象

② $A=0, C=0$ 时, $F = \bar{B} + B$ 静态1险象

③ $A=1, B=0$ 时, $F = \bar{C} + C$ 静态1险象

$$F = \bar{A}B + \bar{B}C + AC + \bar{A}\bar{C} + BC + A\bar{B}$$



(2) ① $A=0, D=1, B=1$ 时.

$$F = C \cdot \bar{C} \quad \text{静态 0 险象}$$

② $D=0, C=0,$

$$F = B \cdot \bar{B} \quad \text{静态 0 险象}$$

③ $A=0, C=0, B=1$

$$F = \bar{D} \cdot D \quad \text{静态 0 险象}$$

$$F = (A + C + \bar{D})(\bar{B} + C + D)(\bar{B} + \bar{C})(B + D) \cdot (A + \bar{D} + \bar{B})(C + D) \cdot (A + C + \bar{B})$$

