

数字逻辑. 第三周周三. 作业4.

$$\begin{aligned}
 1) \quad F &= AC + B\bar{D} + \bar{A}BC \\
 &= AC(\bar{B}+B)(\bar{D}+D) + (\bar{A}+A)(\bar{C}+C)B\bar{D} + \bar{A}BC(D+\bar{D}) \\
 &= ABCD + ABC\bar{D} + AB\bar{C}\bar{D} + \bar{A}B\bar{C}\bar{D} + \bar{A}BC\bar{D} + \bar{A}BCD \\
 &= m_{15} + m_{14} + m_{12} + m_4 + m_6 + m_7
 \end{aligned}$$

$$\begin{aligned}
 2) \quad F &= (A + \bar{C})C + \bar{A} \\
 &= AC + \bar{A}C + \bar{A}\bar{C} \\
 &= m_3 + m_1 + m_0
 \end{aligned}$$

A \ C	0	1
0	1	1
1		1

$$3) \quad F = A + BD + \bar{B}C + \bar{B}\bar{D}$$

A \ CD	00	01	11	10
00	1		1	1
01		1	1	
11	1	1	1	1
10	1	1	1	1

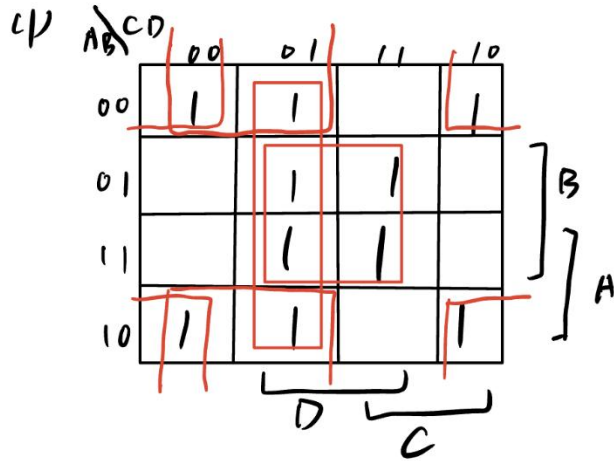
D
C

B
A

4)

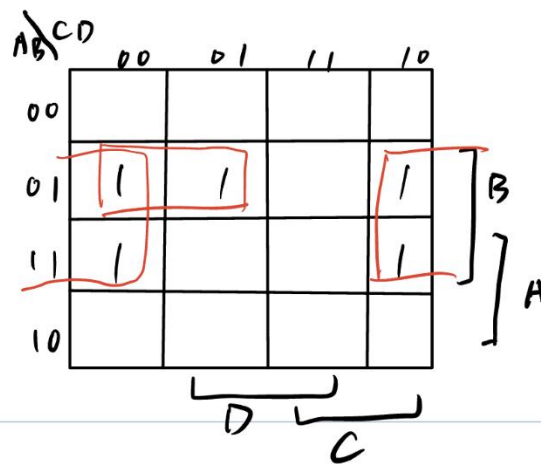
A \ CD	00	01	11	10
00	1	1		1

4)



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

12)



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