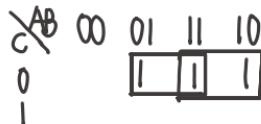
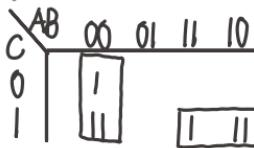


$$120 \quad (1) Y = A\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}C$$



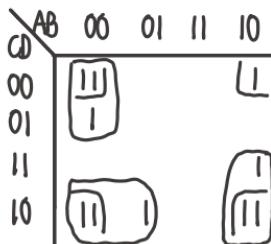
$$\therefore Y = \bar{B}\bar{C} + A\bar{C}$$

$$(2) Y = \bar{A}\bar{B} + AC + \bar{B}C$$



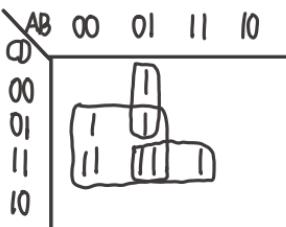
$$\therefore Y = \bar{A}\bar{B} + AC$$

$$(3) Y = \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + \bar{A}C\bar{D} + \bar{B}\bar{D}$$



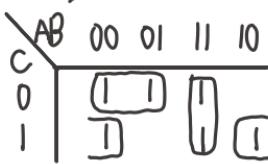
∴ 原式已为最简与或式

$$(4) Y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}CD + \bar{A}\bar{B}\bar{D} + BC\bar{D} + \bar{A}BC$$



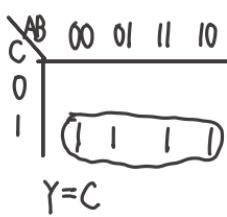
$$\therefore Y = \bar{A}\bar{D} + \bar{A}\bar{B}\bar{C} + BC\bar{D}$$

$$121 \quad (1) Y(ABC) = \sum(m_0, m_1, m_2, m_5, m_6, m_7)$$



$$Y = AB + \bar{B}C + \bar{A}\bar{C}$$

$$(2) Y(A, B, C) = \sum(m_1, m_3, m_5, m_7)$$



$$Y = C$$

$$(3) Y(A, B, C, D) = \sum(m_0 \sim m_4, m_6, m_8 \sim m_{11}, m_{14})$$



$$Y = \bar{B} + \bar{A}\bar{D} + CD$$

$$(4) Y(A, B, C, D) = \sum(m_0 \sim m_2, m_5, m_8 \sim m_{10}, m_{12}, m_{14})$$



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

$$122 (1) Y = A\bar{B} + \bar{A}\bar{C} + \bar{C}\bar{D} + D$$

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

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

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

$$(3) Y = A\bar{B}\bar{D} + \bar{A}\bar{B}\bar{C}\bar{D} + \bar{B}\bar{C}\bar{D} + \bar{A}\bar{B} + C(B+D)$$

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

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

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

$$= [(\bar{A}+C)\bar{B}\bar{D} + \bar{A}\bar{C}\bar{B}\bar{D}] + \bar{B}\bar{C} + \bar{C}\bar{D}$$

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

$$(2) Y = \overline{(\bar{A}+\bar{B})D} + (\bar{A}\bar{B} + BD)\bar{C} + \bar{A}\bar{C}BD + \bar{D}$$

$$= AB + \bar{D} + \bar{ABC} + \bar{BCD} + \bar{AC}BD$$

$$= AB + \bar{D} + \bar{ABC} + \bar{BCD}$$

$$= AB + \bar{D} + \bar{ABC} + \bar{BC}$$

$$= AB + \bar{D} + \bar{AC} + \bar{BC}$$

$$= AB + \bar{D} + \bar{AC}$$

$$(4) Y = \overline{\bar{ABC}D} + \overline{ACDE} + \overline{BDE} + \overline{ACDE}$$

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

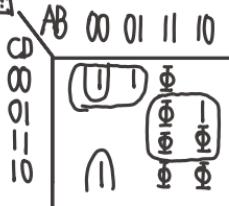
$$= \bar{AD} + \bar{AE} + \bar{CD} + CE + \bar{DE} + BDE$$

$$123 (1) Y = \overline{A+C+D} + \overline{ABC\bar{D}} + \overline{AB\bar{C}D}$$

$$A\bar{B}C\bar{D} + \bar{A}\bar{B}CD + ABC\bar{D} + AB\bar{C}D + ABC\bar{D} + ABC\bar{D} + ABCD = 0$$

$$Y = \overline{AC\bar{D}} + \overline{ABC\bar{D}} + \overline{AB\bar{C}D}$$

卡诺图



$$Y = AD + ABD + AC'D$$

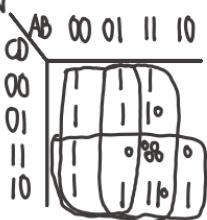
$$(3) Y = (\bar{A}\bar{B} + B)\bar{C}\bar{D} + (\bar{A}+B)(\bar{B}+C)$$

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

约束条件

$$ABC + ABD + ACD + BD = 0$$

卡诺图



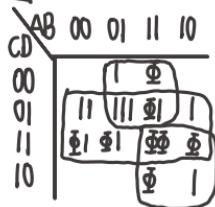
$$Y = \bar{A} + \bar{B} + \bar{C}$$

$$(2) Y = C\bar{D}(A+B) + \bar{A}\bar{B}\bar{C} + \bar{A}\bar{C}\bar{D}$$

$$= \bar{ABC}\bar{D} + A\bar{B}\bar{C}\bar{D} + \bar{ABC} + \bar{AC}\bar{D}$$

约束条件 $AB + CD = 0$

卡诺图

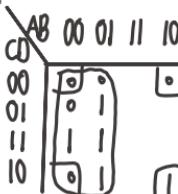


$$Y = B + \bar{A}\bar{D} + AC$$

$$(4) Y(A\cdot B\cdot C\cdot D) = \sum(m_3, m_5, m_6, m_7, m_9)$$

$$\text{约束条件 } m_4 + m_6 + m_8 + m_9 + m_{10} = 0$$

卡诺图



$$Y = \bar{A} + \bar{B} + \bar{D}$$

$$(5) Y(A, B, C) = \sum (m_0, m_1, m_2, m_4)$$

约束条件 $m_3 + m_5 + m_6 + m_7 = 0$

易得 $Y=1$

$$(6) Y(A, B, C, D) = \sum (m_2, m_3, m_7, m_8, m_{11}, m_{14})$$

约束条件 $m_0 + m_6 + m_{10} + m_{15} = 0$

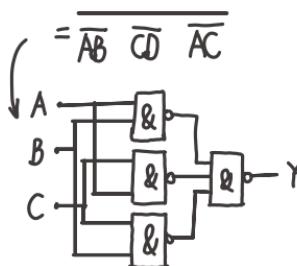
卡诺图



$$Y = CD + AC + \bar{B}\bar{D}$$

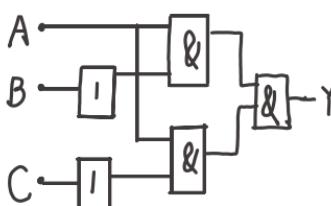
| 24.

$$(1) Y = AB + BC + AC$$



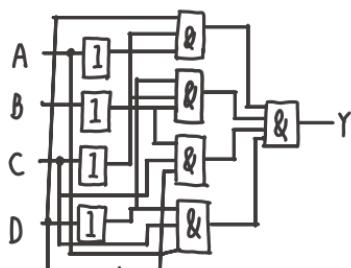
$$(3) Y = ABC + \overline{\overline{AB}} + \overline{\overline{AB}} + BC$$

$$= \overline{\overline{AB}} \quad \overline{\overline{AC}}$$



$$(2) Y(A, B, C, D) = \sum (m_0, m_1, m_3, m_5, m_6, m_8, m_{10}, m_{11}, m_{14})$$

$$= \overline{\overline{BCD}} \quad \overline{\overline{ACD}} \quad \overline{\overline{BCD}} \quad \overline{\overline{ACD}}$$



$$(4) Y(A, B, C, D) = \sum (m_0, m_1, m_3, m_6, m_7, m_8, m_9, m_{11}, m_{12}, m_{15})$$

$$= \overline{\overline{BC}} \quad \overline{\overline{BD}} \quad \overline{\overline{BC}}$$

