

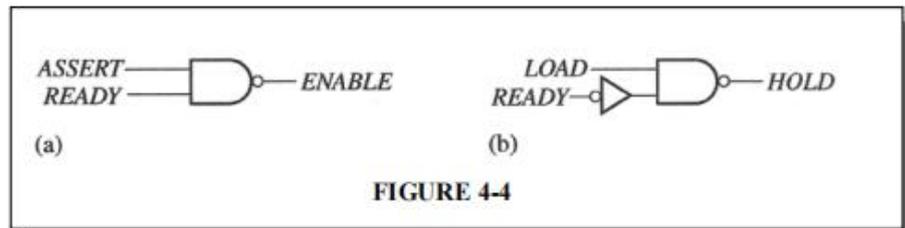
提取码: 4L5A

10. (a) $\overline{AB(C+D)} = \overline{AB} + \overline{(C+D)} = \overline{A} + \overline{B} + \overline{C} + \overline{D}$
 (b) $\overline{AB(CD+EF)} = \overline{AB} + \overline{(CD+EF)} = \overline{A} + \overline{B} + \overline{(CD)(EF)}$
 $= \overline{A} + \overline{B} + (\overline{C} + \overline{D})(\overline{E} + \overline{F})$
 (c) $\overline{(A+\overline{B}+C+\overline{D})+ABC\overline{D}} = \overline{ABC\overline{D}} + \overline{A} + \overline{B} + \overline{C} + \overline{D}$

或者 (c) $\overline{A} + \overline{B} + \overline{C} + \overline{D}$

部分误批没有在原处修改, 但誊写成绩时会改正, 不影响作业成绩

16. (a) See Figure 4-4(a).
 (b) See Figure 4-4(b).

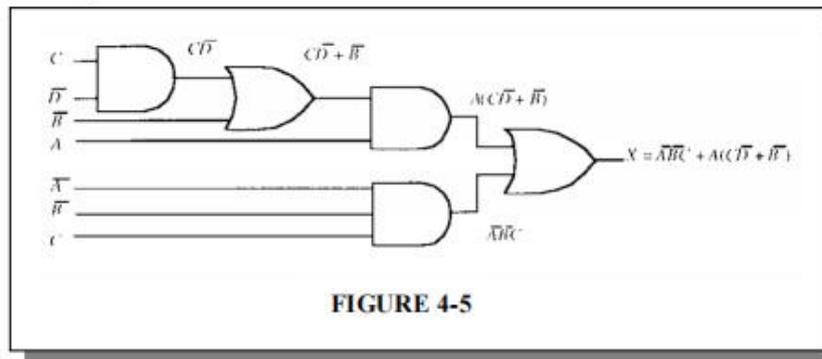


20. (a) $(\overline{A} + B)(A + C) =$ It is in simplified form only.
 (b) $\overline{AB} + A\overline{B}C + A\overline{B}CD + A\overline{B}CDE = \overline{AB}(1 + C + CD + CDE)$
 $= \overline{AB}$
 (c) $BC + \overline{BCD} + B = BC + \overline{B} + \overline{C} + \overline{D} + B = (BC + B) + \overline{B} + \overline{C} + \overline{D}$
 $B(C + 1) + \overline{B} + \overline{C} + \overline{D} = (B + \overline{B}) + \overline{C} + \overline{D} = 1 + \overline{C} + \overline{D}$
 $= 1$
 (d) $(B + \overline{B})(BC + BC\overline{D}) = BC + BC\overline{D}$
 $= BC + BC\overline{D} = BC(1 + \overline{D}) = BC$

(e) $BC + (B' + C')D$ 或 $BC + D$

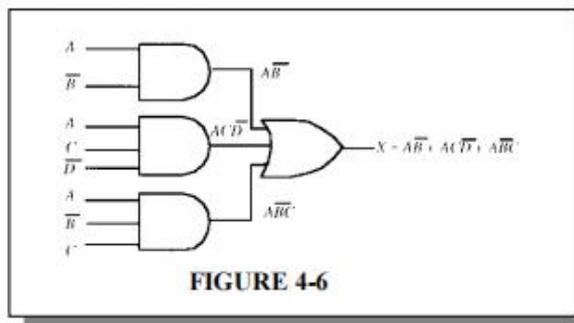
22. First develop the Boolean expression for the output of each gate network and simplify.

(a) See Figure 4-5.



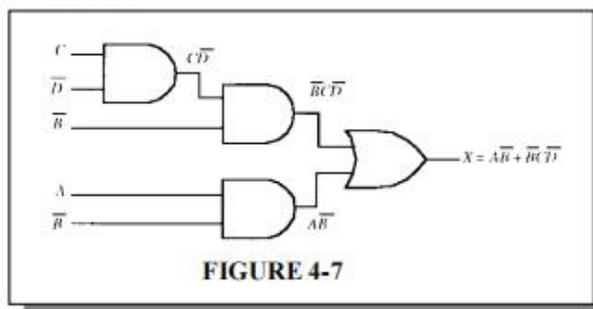
$$\begin{aligned}
 X &= \bar{A}\bar{B}C + A(C\bar{D} + \bar{B}) = \bar{A}\bar{B}C + AC\bar{D} + A\bar{B} = \bar{B}(A + \bar{A}C) + AC\bar{D} \\
 &= \bar{B}(A + C) + AC\bar{D} = \bar{A}\bar{B} + \bar{B}C + AC\bar{D}
 \end{aligned}$$

(b) See Figure 4-6.



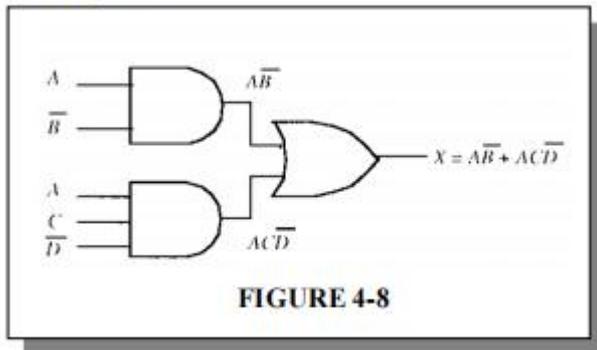
$$X = \bar{A}\bar{B} + AC\bar{D} + \bar{A}B\bar{C} = \bar{A}\bar{B}(1 + C) + AC\bar{D} = \bar{A}\bar{B} + AC\bar{D}$$

(c) See Figure 4-7.



$$X = \bar{A}\bar{B} + \bar{B}C\bar{D} \quad \text{No further simplification is possible.}$$

(d) See Figure 4-8.



$X = \overline{A}B + A\overline{C}D$ No further simplification is possible.

注意：得分需要解题过程

26. (a) $AB + CD = ABCD + ABC\overline{D} + AB\overline{C}D + ABC\overline{D} + \overline{A}BCD + \overline{A}BCD + \overline{A}BCD$

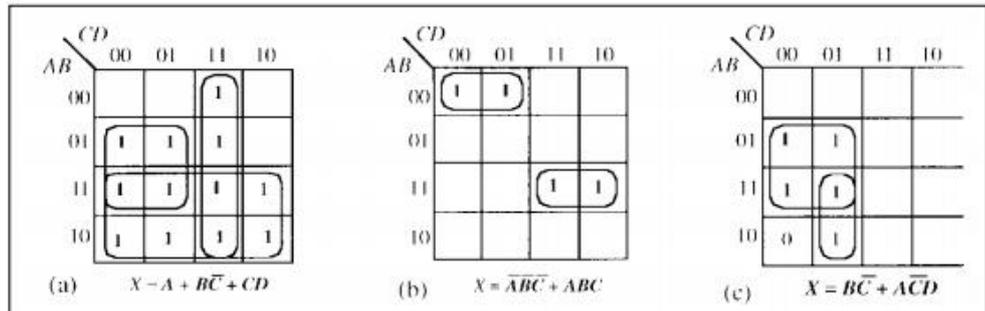
28. (a) $ABCD + ABC\overline{D} + AB\overline{C}D + ABC\overline{D} + \overline{A}BCD + \overline{A}BCD + \overline{A}BCD$:
 $1111 + 1110 + 1101 + 1100 + 0011 + 0111 + 1011$

32. (a)

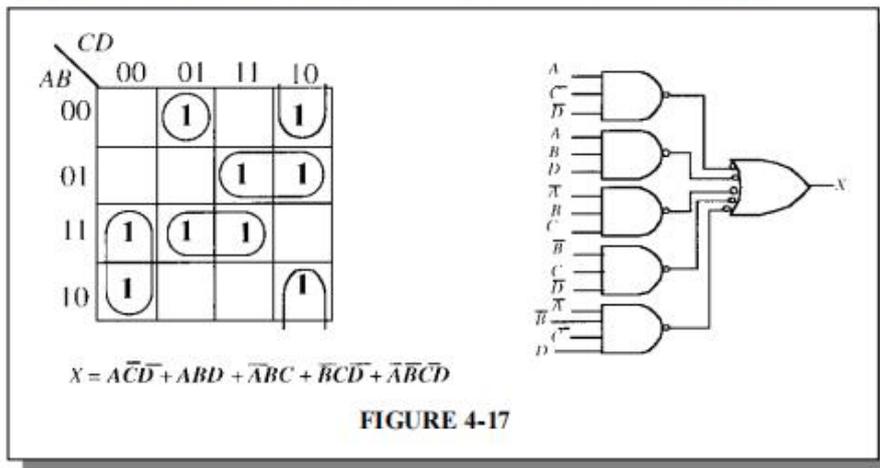
A	B	C	D	F
0	0	0	0	1
0	0	0	1	0
0	0	1	0	0
0	0	1	1	1
0	1	0	0	0
0	1	0	1	0
0	1	1	0	0
0	1	1	1	0
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	1
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

36. (c) $X = \overline{A}B\overline{C}D + \overline{A}B\overline{C}D + \overline{A}B\overline{C}D + \overline{A}B\overline{C}D + \overline{A}B\overline{C}D + \overline{A}B\overline{C}D + \overline{A}B\overline{C}D$
 $X = (A + B + \overline{C} + D)(A + \overline{B} + C + D)(A + \overline{B} + \overline{C} + D)(\overline{A} + B + C + D)(\overline{A} + B + \overline{C} + D)$
 $(\overline{A} + B + \overline{C} + D)(\overline{A} + \overline{B} + C + D)(\overline{A} + \overline{B} + \overline{C} + D)(\overline{A} + \overline{B} + \overline{C} + D)$

44. See Figure 4-15.



46. Plot the 1's from Figure 4-12 in the text on the map as shown in Figure 4-17 and simplify.



注意：是否符合框选标准？