HW3. 논리설계

#1. $f(A,B,C) = \Sigma m(1,2,3,5,6)$

(a)

A	B	C	f	
0	0	0	0	m_0
0	0	1	1	m_1
0	1	0	1	m_2
0	1	1	1	m_3
1	0	0	0	m_4
1	0	1	1	m_5
1	1	0	1	m_6
1	1	1	0	m_7

$f(A,B,C) = m_1 + m_2 + m_3 + m_5 + m_6$

(b)

C \ AB	00	01	11	10
0	0	1	1	0
1	1	1	0	1

(c)

$$f(A,B,C) = \sum m(1,2,3,5,6)$$

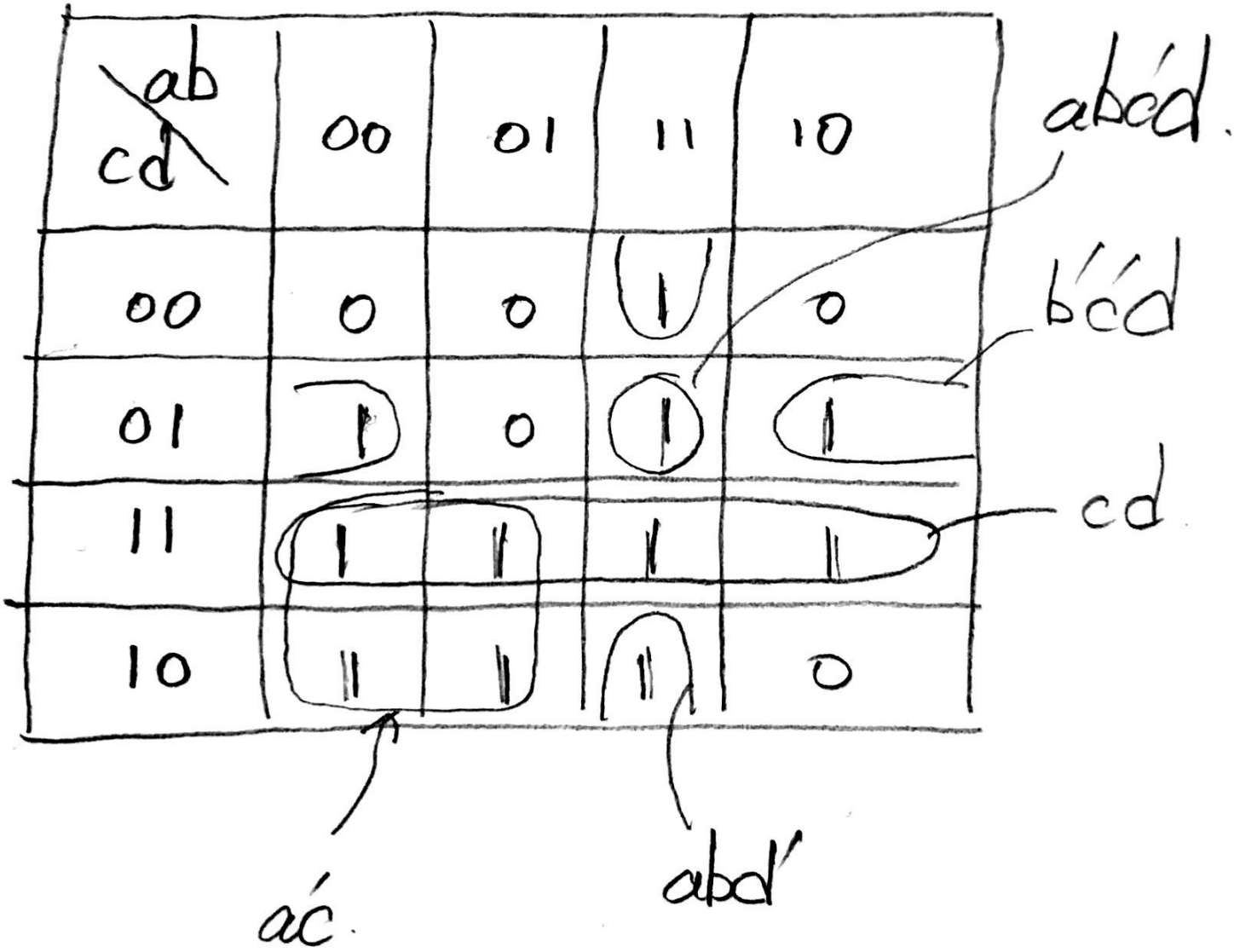
$$= \bar{A}\bar{B}C + \bar{A}B\bar{C} + \bar{A}BC + AB\bar{C} + ABC$$

#3.

(a) $f(a,b,c,d)$

$= a\acute{c} + ab\acute{d} + \acute{b}\acute{c}d + cd$

$+ ab\acute{c}d.$

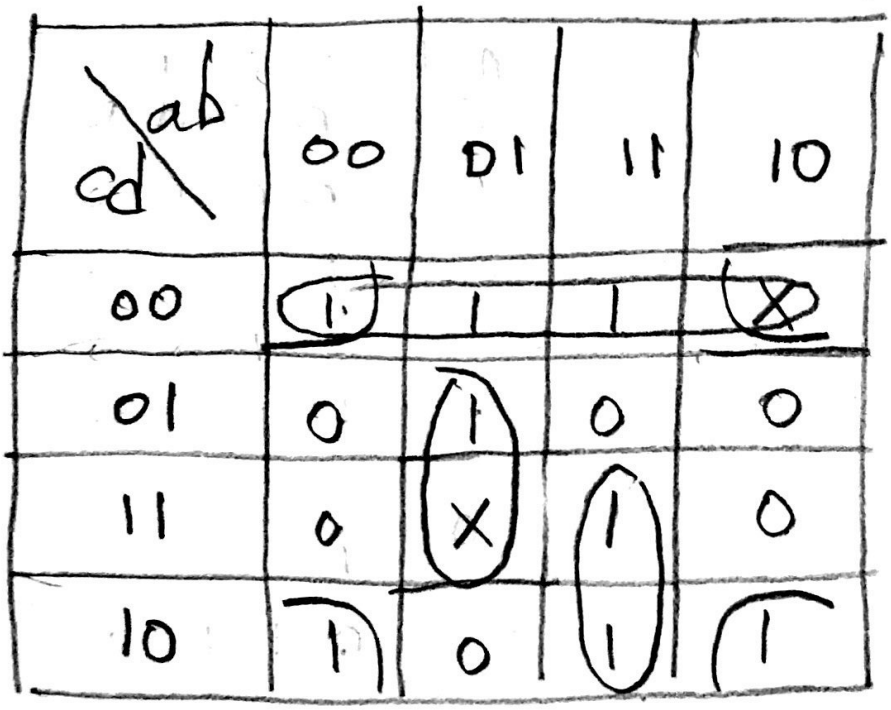


#4.

(b) $f(a,b,c,d)$

$= \sum m(0,2,4,5,10,12,14,15)$

$+ \sum d(7,8)$



$f = c'd' + b'd' + a'bd + abc$

↑ Minimum SOP

(c)

$$f(a,b,c) = \sum m(0,1,3,6,7)$$

c \ ab	00	01	11	10
0	1	0	1	0
1	1	1	1	0

$$f = a'b' + bc + ab$$

#5.

$f = (x \cdot y + w) \cdot z + (x + y) \cdot w$