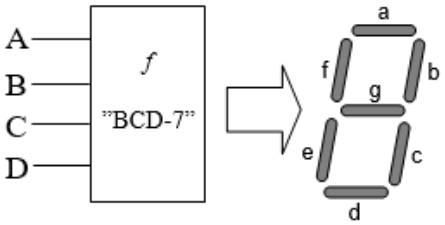
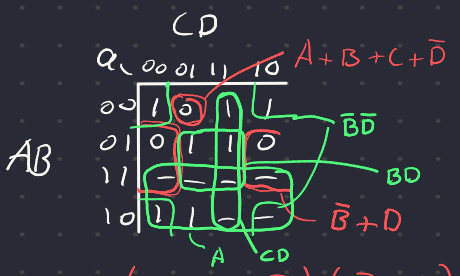
5

5.1)

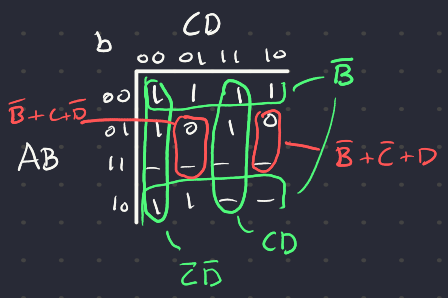
decimal siffra	A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	0	1	1	1	1	1	1	0
1	0	0	0	1	0	1	1	0	0	0	0
2	0	0	1	0	1	1	0	1	1	0	1
3	0	0	1	1	1	1	1	1	0	0	1
4	0	1	0	0	0	1	1	0	0	1	1
5	0	1	0	1	1	0	1	1	0	1	1
6	0	1	1	0	0	0	1	1	1	1	1
7	0	1	1	1	1	1	1	0	0	0	0
8	1	0	0	0	1	1	1	1	1	1	1
9	1	0	0	1	1	1	1	0	0	1	1
Ø	1	0	1	0	-	-	-	-	-	-	-
Ø	1	0	1	1	-	-	-	-	-	-	-
Ø	1	1	0	0	-	-	-	-	-	-	-
Ø	1	1	0	1	-	-	-	-	-	-	-
Ø	1	1	1	0	-	-	-	-	-	-	-
Ø	1	1	1	1	-	-	-	-	-	-	-





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

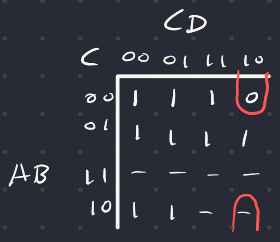
$q = A + BD + \bar{B}\bar{D} + C$



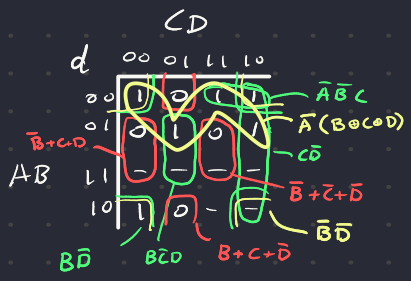
$b = \bar{B} + CD + \bar{C}\bar{D}$

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

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



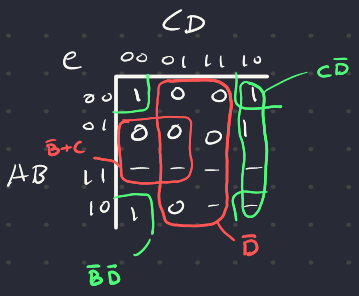
$c = B + \bar{C} + D$



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

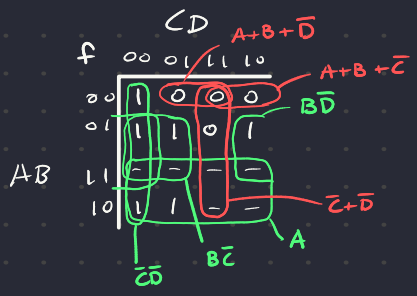
$d = (B+C+D)(B+C+\bar{D})(\bar{B}+\bar{C}+\bar{D})$

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



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

$e = \bar{D}(\bar{B}+\bar{C}) = \bar{D}\,\overline{BC}$



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

$= A + B\,\overline{CD} + \overline{C+D}$

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