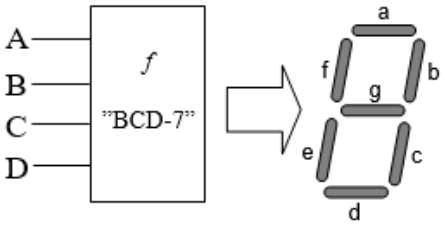
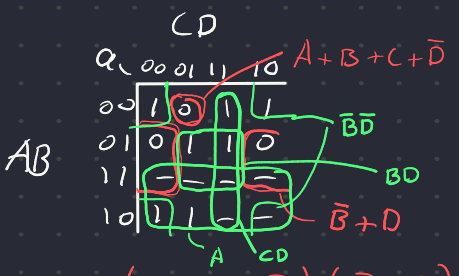
5

5.1)

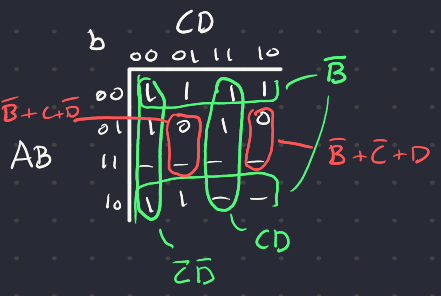
decimal siffra	A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	0	1	1	1	1	1	1	0
1	0	0	0	1	0	1	1	0	0	0	0
2	0	0	1	0	1	1	0	1	1	0	1
3	0	0	1	1	1	1	1	1	0	0	1
4	0	1	0	0	0	1	1	0	0	1	1
5	0	1	0	1	1	0	1	1	0	1	1
6	0	1	1	0	0	0	1	1	1	1	1
7	0	1	1	1	1	1	1	0	0	0	0
8	1	0	0	0	1	1	1	1	1	1	1
9	1	0	0	1	1	1	1	0	0	1	1
Ø	1	0	1	0	-	-	-	-	-	-	-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





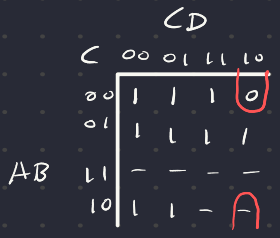
$$q = (A+B+C+\bar{D})(\bar{B}+D)$$

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

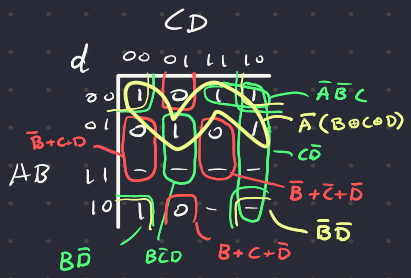


$$b = \bar{B} + CD + \bar{C}\bar{D}$$

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



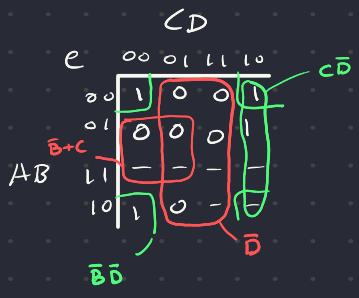
$$c = B + \bar{C} + D$$



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

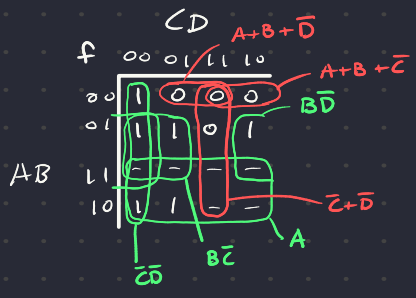
$$d = (B+C+D)(B+C+\bar{D})(\bar{B}+\bar{C}+\bar{D})$$

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



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

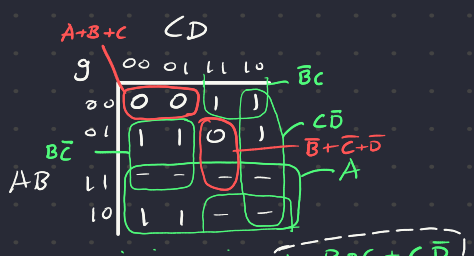
$$e = \bar{D}(\bar{B}+\bar{C}) = \bar{D}\,\overline{BC}$$



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

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

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



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

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

5.2)

a)

Dec	a	b	c	d	e	f	g
0	0	1					
1	0	0					
2	1	1					
3	1	1					
4	1	0					
5	1	1					
6	1	1					
7	0	0					
8	1	1					
9	0	1					
-							
-							
-							
-							
-							
-							