5

5.1)

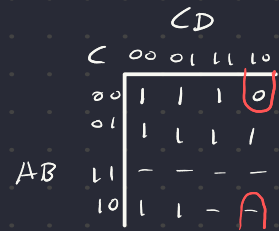| decimal siffra	A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	0	1	1	1	1	1	1	0
1	0	0	0	1	0	1	1	0	0	0	0
2	0	0	1	0	1	1	0	1	1	0	1
3	0	0	1	1	1	1	1	1	0	0	1
4	0	1	0	0	0	1	1	0	0	1	1
5	0	1	0	1	1	0	1	1	0	1	1
6	0	1	1	0	0	0	1	1	1	1	1
7	0	1	1	1	1	1	1	0	0	0	0
8	1	0	0	0	1	1	1	1	1	1	1
9	1	0	0	1	1	1	1	0	0	1	1
Ø	1	0	1	0	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-
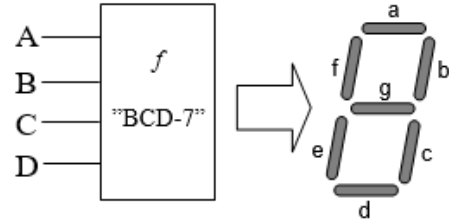
$$a = (A + B + C + \bar{D})(\bar{B} + D)$$

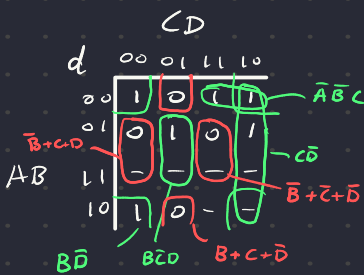$$a = A + BC + BD + \bar{B}\bar{D}$$
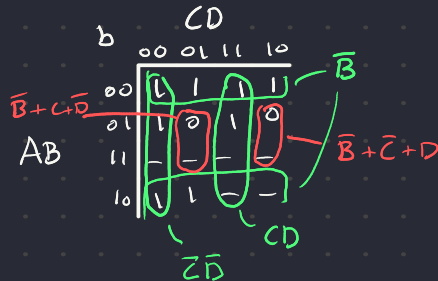
$$b = \bar{B} + CD + \bar{C}\bar{D}$$
$$b = (\bar{B} + C + \bar{D})(\bar{B} + \bar{C} + D)$$
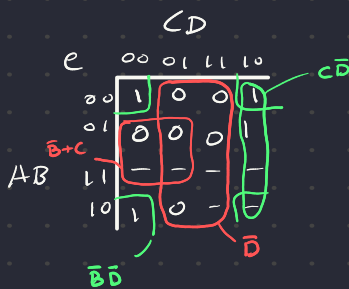$$= \bar{B}(C + \bar{D})(\bar{C} + D)$$

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

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

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