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AV232

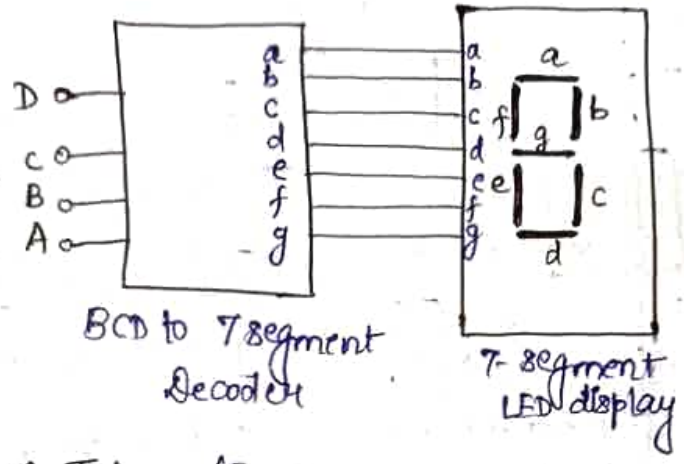
LAB 2 Pre-Labwork

BCD code (4 bit) to Seven Segment Display (8bit)

Types of seven segment display:

① Common Cathode: All cathodes of the 7 LEDs are connected together to the ground or -Vcc and the anodes are supplied with HIGH signal.

② Common Anode: All the anodes are connected to battery or +Vcc and individual cathodes are supplied with LOW signal.

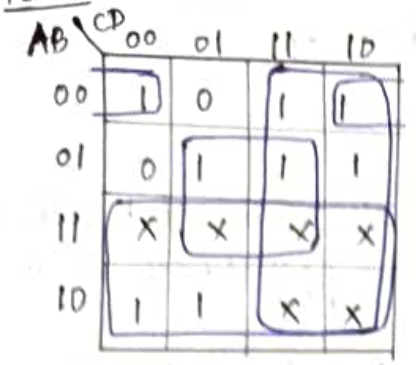


Truth Table: (For common cathode type)

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

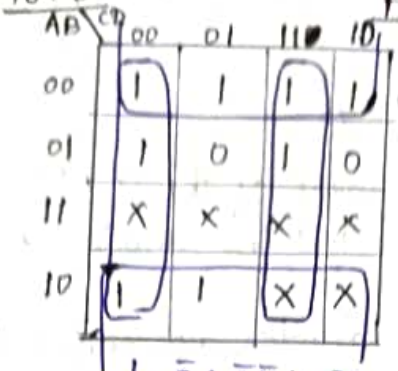
K-Map Deduction

For a:



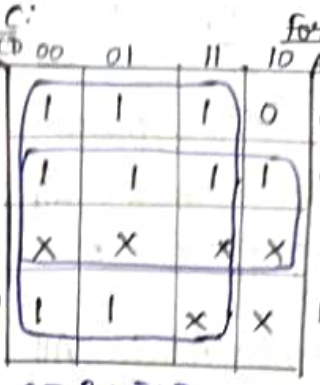
$a = A + C + BD + \bar{B}\bar{D}$

For b:



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

For c:

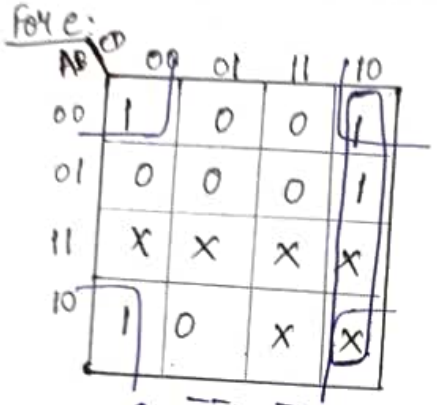


$c = B + \bar{C} + D$

For d:

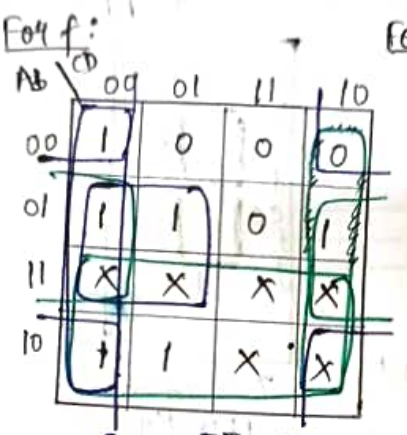
$d = \bar{B}\bar{D} + C\bar{D} + B\bar{C}D + \bar{B}C + A$

For e:



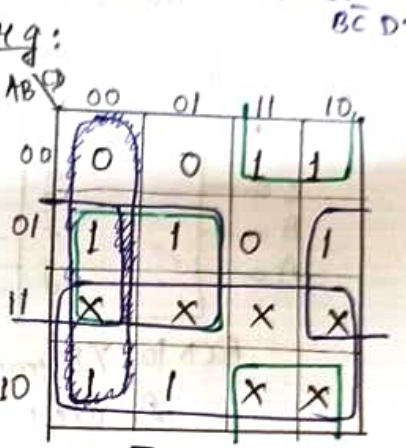
$e = \bar{B}\bar{D} + C\bar{D}$

For f:



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

For g:



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

Logic Circuit