

Digital Logic Design Assignment 5

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

TABLE 0.0.1: Truth table for display decoder.

The boolean equation for b is:

$$b = AB'CD' + A'BCD'$$

		<i>CD</i>			
		00	01	11	10
<i>AB</i>	00	0	0	0	0
	01	0	0	0	1
	11	0	0	0	0
	10	0	0	0	1

Fig. 0.0.1: K-map for *b*.