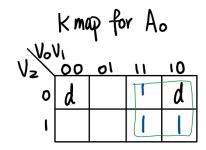
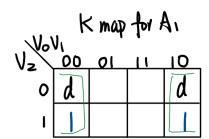
• truth table for the Circuit A outputs

Decimal	V2	V1	VO	A2	A1	A0
	0	0	x	d	d	d
10	0	1	0	0	0	0
11	0	1	1	0	0	1
12	1	0	0	0	1	0
13	1	0	1	0	1	1
14	1	1	0	1	0	0
15	1	1	1	1	0	1

minimal Boolean logic expressions

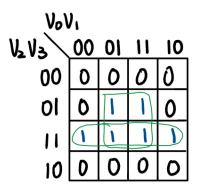




$$A_1 = \overline{V_1}$$

• the logic function z

Binary value	Decimal digits			
	63			
0000	0	0		
0001	0	1		
0010	0	2		
1001	0	9		
1010	1	0		
1011	1	1		
1100	1	2		
1101	1	3		
1110	1	4		
1111	1 /	5		
	11			



$$Z = V_1 \cdot V_3 + V_2 \cdot V_3$$

• the logic expressions for each segment

Z	HEX0(0)	HEX0(1)	HEX0(2)	HEX0(3)	HEX0(4)	HEX0(5)	HEX0(6)
0	0	0	0	0	0	0	1
1	1	0	0	1	1	1	1

HEXO(0) = z

HEXO(1) = '0'

HEXO(2) = '0'

HEXO(3) = z

HEXO(4) = z

HEXO(5) = z

HEXO(6) = '1'