Pontifícia Universidade Católica de Minas Gerais

Disciplina: Arquitetura de Computadores I

Mapa de Veitch

m	mintermo	а	b	С	S
0	(~a&~b&~c)	0	0	0	0
1	(~a&~b& c)	0	0	1	0
2	(~a& b&~c)	0	1	0	0
3	(~a& b& c)	0	1	1	1
4	(a&~b&~c)	1	0	0	1
5	(a&~b& c)	1	0	1	0
6	(a& b&~c)	1	1	0	1
7	(a& b& c)	1	1	1	1

SoP (3,4,6,7)

a \ bc	~b		b			
~a	~a & ~b & ~c	~a & ~b & c	~a & b & c	~a & b & ~c		
a	a & ~b & ~c	a & ~b & c	a&b&c	a & b & ~c		
	~C	С		~C		

Pontifícia Universidade Católica de Minas Gerais

Mapa de Karnaugh

m	mintermo	а	b	С	s
0	~a & ~b & ~c	0	0	0	0
1	~a & ~b & c	0	0	1	0
2	~a & b & ~c	0	1	0	0
3	~a & b & c	0	1	1	1
4	a & ~b & ~c	1	0	0	1
5	a & ~b & c	1	0	1	0
6	a& b&~c	1	1	0	1
7	a& b&c	1	1	1	1

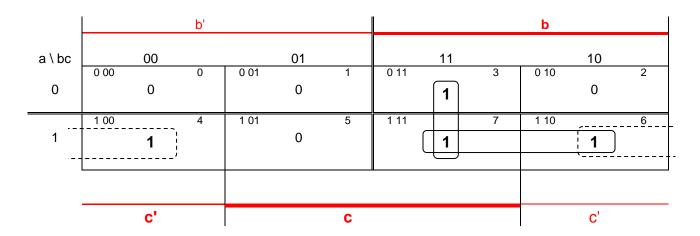
SoP (3,4,6,7)

a\bc	00	01	11	10
0	0	0	1	0
1	1	0	1	1

Mapa de Veitch-Karnaugh para 3 variáveis

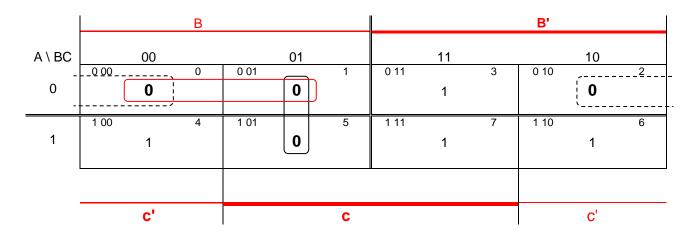
m	mintermo	а	b	С	s
0	a'.b'.c'	0	0	0	0
1	a'.b'.c	0	0	1	0
2	a'.b.c'	0	1	0	0
3	a'.b .c	0	1	1	1
4	a .b'.c'	1	0	0	1
5	a .b'.c	1	0	1	0
6	a .b .c'	1	1	0	1
7	a .b .c	1	1	1	1

SoP(3,4,6,7) = bc+ab+ac'



PoS(0,1,2,5) = (B+C').(A+C) = BA+BC+C'A+C'C = BA+BC+C'A+0 = BA+BC+C'A

PoS (0,1,2,5) = (B+C').(A+B).(A+C) = (BA+BB+C'A+C'B).(A+C) = (B+C'A).(A+C) = BA+BC+C'A (A+B) é redundante (e será desprezado)



Pontifícia Universidade Católica de Minas Gerais

Mapa de Veitch-Karnaugh para 4 variáveis

m	mintermo	а	b	С	d	S
0	a'.b'.c'.d'	0	0	0	0	1
1	a'.b'.c'.d	0	0	0	1	0
2	a'.b'.c .d'	0	0	1	0	0
3	a'.b' .c .d	0	0	1	1	1
4	a'.b .c'.d'	0	1	0	0	1
5	a'.b .c'.d	0	1	0	1	0
6	a'.b .c.d'	0	1	1	0	1
7	a'.b .c.d	0	1	1	1	1
8	a .b'.c'.d'	1	0	0	0	1
9	a .b'.c'.d	1	0	0	1	0
10	a .b'.c .d'	1	0	1	0	0
11	a .b' .c .d	1	0	1	1	1
12	a .b .c'.d'	1	1	0	0	0
13	a .b .c'.d	1	1	0	1	0
14	a .b .c.d'	1	1	1	0	1
15	a .b .c.d	1	1	1	1	1

SoP (0,3,4,6,7,8,11,14,15)

PoS (0,1,2,5,9,10,12,13)

			C'							
	ab\cd		00		01		11	1	0	
	00	00 00	0	00 01	1	00 11	3	00 10	2	b'
a'	01	01 00	4	01 01	5	01 11	7	01 10	6	b
а	11	11 00	12	11 01	13	11 11	15	11 10	14	
	10	10 00	8	10 01	9	10 11	11	10 10	10	b'
			d'		d			C	<u>'</u>	

SoP (0,3,4,6,7,8,11,14,15) SoP = bc+cd+a'bd'+b'c'd'

		c'				
	ab\cd	00	01	11	10	
	00	00 00 0	00 01 1	00 11 3	00 10 2	b'
a'	01 -	1	01 01 5	01 11 7	01 10 6	b
а	11	11 00 12 0	11 01 13	11 11 15 1 5	11 10 14 14	
	10	10 00 8	10 01 9	10 11 11	0 10 10	b'
	_	!!!				
		d'	d		d'	

PoS (0,1,2,5,9,10,12,13) = (C+D').(B+C'+D).(A'+B'+C)

		С					C'							
	AB\CD		00			01			11		10	ı		
	00	00 00	1	0	00 01	0	1	00 11	1	3	00 10	2		В
A	01	01 00	1	4	01 01	0	5	01 11	1	7	01 10 1	6		B'
Α'	11	11 00	0	12	11 01	0	13	11 11	1	15	11 10	14		
	10	10 00	1	8	10 01	0	9	10 11	1	11	10 10	. 10		В
											,	ı		
			D				D'				D		•	