

Mapa de Veitch

m	mintermo	a	b	c	s
0	($\sim a \& \sim b \& \sim c$)	0	0	0	0
1	($\sim a \& \sim b \& c$)	0	0	1	0
2	($\sim a \& b \& \sim c$)	0	1	0	0
3	($\sim a \& b \& c$)	0	1	1	1
4	($a \& \sim b \& \sim c$)	1	0	0	1
5	($a \& \sim b \& c$)	1	0	1	0
6	($a \& b \& \sim c$)	1	1	0	1
7	($a \& b \& c$)	1	1	1	1

SoP (3,4,6,7)

a \ bc	$\sim b$		b	
$\sim a$	$\sim a \& \sim b \& \sim c$	$\sim a \& \sim b \& c$	$\sim a \& b \& c$	$\sim a \& b \& \sim c$
a	$a \& \sim b \& \sim c$	$a \& \sim b \& c$	$a \& b \& c$	$a \& b \& \sim c$
	$\sim c$	c		$\sim c$

Mapa de Karnaugh

m	mintermo	a	b	c	s
0	$\sim a \ \& \ \sim b \ \& \ \sim c$	0	0	0	0
1	$\sim a \ \& \ \sim b \ \& \ c$	0	0	1	0
2	$\sim a \ \& \ b \ \& \ \sim c$	0	1	0	0
3	$\sim a \ \& \ b \ \& \ c$	0	1	1	1
4	$a \ \& \ \sim b \ \& \ \sim c$	1	0	0	1
5	$a \ \& \ \sim b \ \& \ c$	1	0	1	0
6	$a \ \& \ b \ \& \ \sim c$	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	a	b	c	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

$$\text{SoP (3,4,6,7)} = bc+ab+ac'$$

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

c' c c'

$$\text{PoS (0,1,2,5)} = (B+C').(A+C) = BA+BC+C'A+C'C = BA+BC+C'A+0 = BA+BC+C'A$$

$$\text{PoS (0,1,2,5)} = (B+C').(A+B).(A+C) = (BA+BB+C'A+C'B).(A+C) = (B+C'A).(A+C) = BA+BC+C'A$$

$(A+B)$ é redundante (e será desprezado)

		B		B'	
A \ BC		00	01	11	10
		0 00	0 01	0 11	0 10
0		0	0	1	0
1		1	0	1	1

c' c c'

Mapa de Veitch-Karnaugh
para 4 variáveis

m	mintermo	a	b	c	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)

ab\cd		c'		c		
		00	01	11	10	
a'	00	00 00 0	00 01 1	00 11 3	00 10 2	b'
	01	01 00 4	01 01 5	01 11 7	01 10 6	b
a	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	d'		

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

		c'				c			
ab\cd		00		01		11		10	
a'	00	00 00	0	00 01	1	00 11	3	00 10	2
	01	01 00	4	01 01	5	01 11	7	01 10	6
	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
		d'				d			

The Karnaugh map for SoP shows 1s in the following cells: (0,0,0,0), (0,0,1,1), (0,1,0,0), (0,1,1,1), (1,0,1,1), (1,1,0,0), (1,1,1,1), (1,1,1,0), (1,0,0,0), (1,0,1,1). The map is grouped into four prime implicants: $a'b$ (top-left 2x2), $a'b'$ (top-right 2x2), $a'b$ (middle-right 2x2), and $a'b'$ (bottom-right 2x2). The resulting expression is $SoP = bc + cd + a'bd' + b'c'd'$.

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

		C				C'			
AB\CD		00		01		11		10	
A	00	00 00	0	00 01	1	00 11	3	00 10	2
	01	01 00	4	01 01	5	01 11	7	01 10	6
	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
		D				D'			

The Karnaugh map for PoS shows 0s in the following cells: (0,0,0,1), (0,0,1,0), (0,1,0,1), (1,0,0,1), (1,0,1,0), (1,1,0,0), (1,1,0,1), (1,1,1,0). The map is grouped into four prime implicants: $A'B$ (top-right 2x2), $A'B'$ (middle-right 2x2), $A'B$ (bottom-right 2x2), and $A'B'$ (bottom-left 2x2). The resulting expression is $PoS = (C+D') \cdot (B+C'+D) \cdot (A'+B'+C)$.