

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	
$\sim a$	000 $\sim a \& \sim b \& \sim c$	001 $\sim a \& \sim b \& c$	011 $\sim a \& b \& c$	010 $\sim a \& b \& \sim c$
a	100 $a \& \sim b \& \sim c$	101 $a \& \sim b \& c$	111 $a \& b \& c$	110 $a \& b \& \sim c$
	$\sim c$		c	
			$\sim c$	

$$\text{SoP (3,4,6,7)} = \sum m (3,4,5,7) = (\sim a \& b \& c) \mid (a \& \sim b \& \sim c) \mid (a \& b \& \sim c) \mid (a \& b \& c)$$

a \ bc	$\sim b$		b	
0	000 0 0	001 0 1	011 1 3	010 0 2
1	100 1 4	101 0 5	111 1 7	110 1 6
	$\sim c$		c	
			$\sim c$	

$$\text{SoP (3,4,6,7)} = (b \& c) \mid (a \& \sim c)$$

O grupo (a & b) é redundante (e será desprezado).

Mapa de Karnaugh

m	MAXTERMO	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

PoS (0,1,2,5)

A \ BC	B		~B	
	000	001	011	010
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	~C		C

$$\text{PoS } (0,1,2,5) = \prod M(0,1,2,5) = (A|B|C) \& (A|B|\sim C) \& (A|\sim B|C) \& (\sim A|\sim B|\sim C)$$

A \ BC	B		~B	
	000	001	011	010
A	0	1	3	2
~A	4	5	7	6
	C	~C		C

$$\text{PoS } (0,1,2,5) = (A | C) \& (B | \sim C)$$

O grupo $(A | B)$ é redundante (e será desprezado).

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

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

$\textcolor{red}{(ab)}$ é redundante (e será descartado)

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

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

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

$\textcolor{red}{(A+B)}$ é redundante (e será descartado)

A \ BC		B		B'	
		00	01	11	10
0	0 00 0 0 0 01 1 0 11 3 1 0 10 2	0	0	1	0
1	1 00 4 1 01 5 1 11 7 1 10 6	1	0	1	1
		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 (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	1	0	00 01	0	1	00 11	3	00 10	2
	01	01 00	4	1	01 01	0	5	01 11	7	01 10	6
a	11	11 00	0	12	11 01	0	13	11 11	15	11 10	14
	10	10 00	8	1	10 01	0	9	10 11	11	10 10	10
		d'				d				d'	