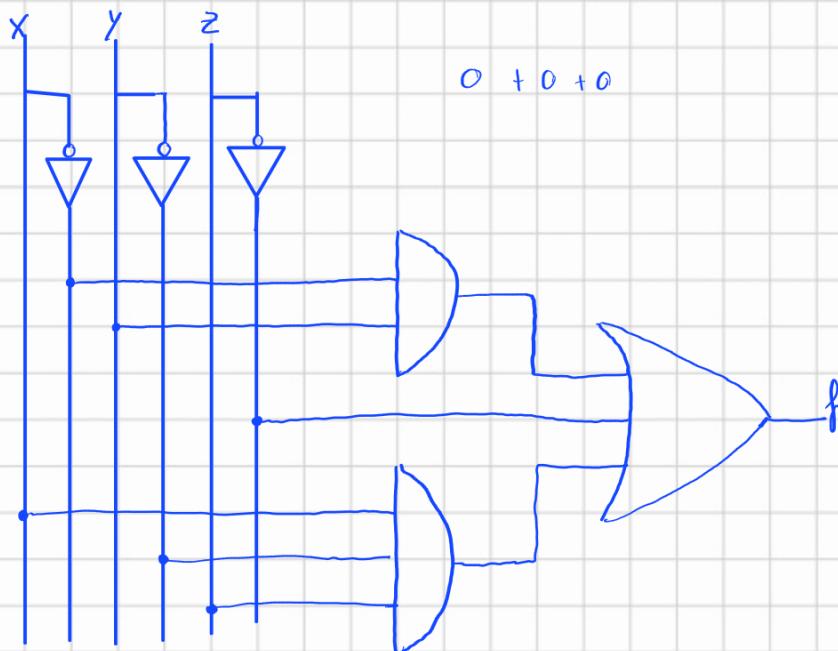


1

a)

$$f(x,y,z) = \overline{x}y + \overline{z} + xy\overline{z}$$



b)

	x	y	z	f
0	0	0	0	1
1	0	0	1	0
2	0	1	0	1
3	0	1	1	1
4	1	0	0	1
5	1	0	1	1
6	1	1	0	1
7	1	1	1	0

c)

$$1^{\text{FC}}: \overline{x}\overline{y}\overline{z} + \overline{x}y\overline{z} + \overline{x}yz + x\overline{y}\overline{z} + x\overline{y}z + xy\overline{z} + xyz$$

$$2^{\text{FC}}: (x+y+\overline{z}) \cdot (\overline{x}+\overline{y}+\overline{z})$$

$$3^{\text{FC}}: \overline{(\overline{x}\overline{y}\overline{z})} \cdot \overline{(\overline{x}y\overline{z})} \cdot \overline{(\overline{x}yz)} \cdot \overline{(x\overline{y}\overline{z})} \cdot \overline{(x\overline{y}z)} \cdot \overline{(xy\overline{z})} \cdot \overline{(xyz)}$$

$$4^{\text{FC}}: \overline{(x+y+\overline{z})} + \overline{(\overline{x}+\overline{y}+\overline{z})}$$

2

 $f:$

$$1^{\text{FC}}: (\overline{x}\overline{y}z) + (\overline{x}y\overline{z}) + (x\overline{y}\overline{z}) + (xyz)$$

$$2^{\text{FC}}: (x+y+z) \cdot (x+\overline{y}+\overline{z}) \cdot (\overline{x}+y+\overline{z}) \cdot (\overline{x}+\overline{y}+z)$$

$$3^{\text{FC}}: \overline{(\overline{x}\overline{y}z)} \cdot \overline{(\overline{x}y\overline{z})} \cdot \overline{(\overline{x}yz)} \cdot \overline{(x\overline{y}\overline{z})}$$

$$4^{\text{FC}}: \overline{(x+y+z)} + \overline{(x+\overline{y}+\overline{z})} + \overline{(\overline{x}+y+\overline{z})} + \overline{(\overline{x}+\overline{y}+z)}$$

$g, h, w \rightarrow$ faziam - se da mesma forma

x	y	z	f	g	h	w
0	0	0	0	1	0	1
0	0	1	1	0	1	0
0	1	0	1	1	1	0
0	1	1	0	0	1	0
1	0	0	1	1	1	1
1	0	1	0	0	1	1
1	1	0	0	1	1	0
1	1	1	1	0	0	1

3

(K1)

K1

ab \ cd	00	01	11	10
00	1	1		
01				
11		1	1	
10	1	1		

$$f = \bar{a} \bar{c} \bar{d} + b c$$

on

$$\underline{f} = (c+d) \cdot (\bar{a}+b) \cdot (b+\bar{c}) \cdot (\bar{a}+c+d)$$

K2

ab \ cd	00	01	11	10
00	1	1	1	1
01				
11				
10				

$$f = \bar{c} \bar{d}$$

on

$$\underline{f} = \bar{d} \cdot \bar{c}$$

K3

ab \ cd	00	01	11	10
00	1			1
01				
11				
10	1			1

$$f = \bar{b} \bar{d}$$

on

$$\underline{f} = \bar{b} \cdot \bar{d}$$

K4

ab \ cd	00	01	11	10
00		1	1	
01			1	
11		1	1	
10	1	1		

$$f(x) = ab + b\bar{c}\bar{d} + bc$$

on

$$f(x) = b \cdot (a+c+\bar{d})$$

4

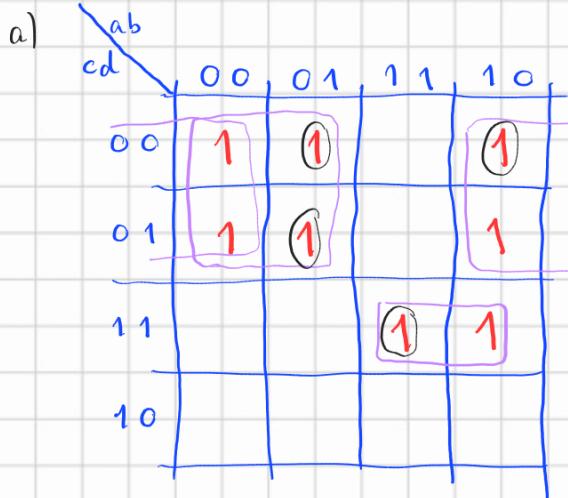
$$f(a, b, c, d)$$

Por exemplo:

ab \ cd	00	01	11	10
00				
01				
11				
10				

5

$$f(a,b,c,d) = \overline{a}\overline{c} + \overline{b}\overline{c} + acd + \overline{a}\overline{b}\overline{c}$$



b)

$$f(a,b,c,d) = \overline{a}\overline{c} + \overline{b}\overline{c} + acd$$

III - IPÉ

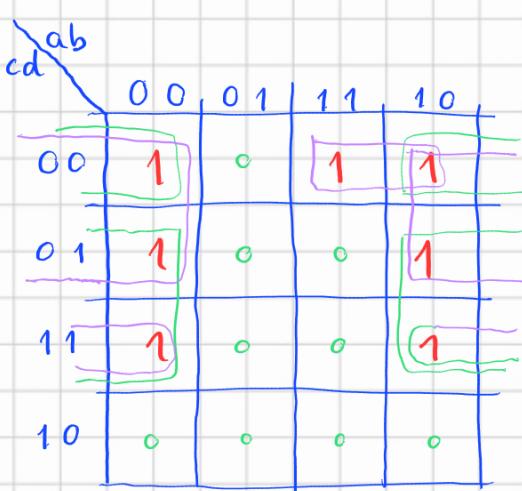
II - IP

IV - alvos "1" distintos

6

$$f(a,b,c,d) = (a + \overline{b}) \cdot (\overline{c} + d) \cdot (\overline{b} + \overline{d})$$

a)



b)

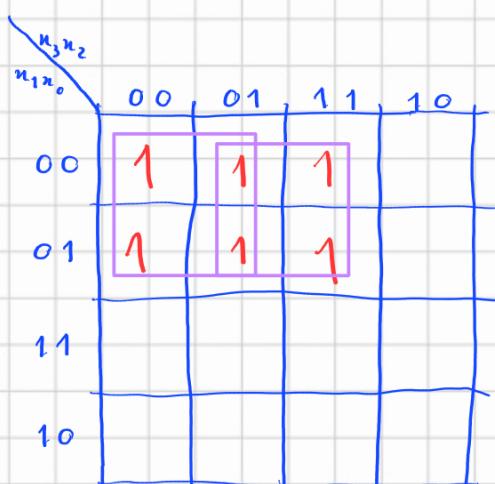
$$f(a,b,c,d) = a\overline{c}\overline{d} + \overline{b}\overline{c} + \overline{b}cd$$

7

a)

$$f(x_3, x_2, x_1, x_0) = \sum m_{x_3, x_2, x_1, x_0} (0, 1, 4, 5, 12, 13)$$

	x_3	x_2	x_1	x_0	f
0	0	0	0	0	1
1	0	0	0	1	1
2	0	0	1	0	0
3	0	0	1	1	0
4	0	1	0	0	1
5	0	1	0	1	1
6	0	1	1	0	0
7	0	1	1	1	0
8	1	0	0	0	0
9	1	0	0	1	0
10	1	0	1	0	0



11	1	0	1	1	c
12	1	1	0	0	1
13	1	1	0	1	1
14	1	1	1	0	0
15	1	1	1	1	0

$$f = \overline{x_3} \overline{x_1} + x_2 \overline{x_1}$$

b) Igual \pm

8 Parecido !

9

K1

ab \ c	00	01	11	10
0		x	x	1
1	1	x	1	

$$f = b + a\bar{c} + \bar{a}c$$

K2

ab \ cd	00	01	11	10
00		1	1	
01	1	x		x
11	1		x	1
10		1	1	

$$f = b\bar{d} + \bar{b}d$$