Ejercicio 2

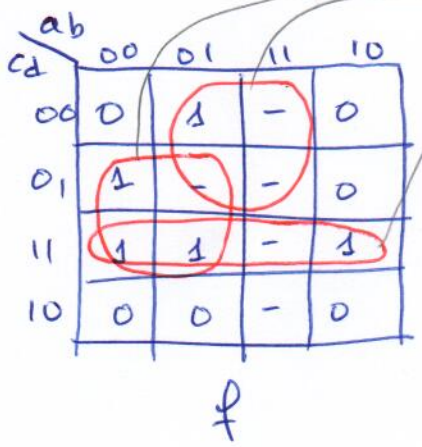
$$f(a,b,c,d) = \Sigma(1,3,4,7,11) + d(5,12,13,14,15)$$

El mapa es:

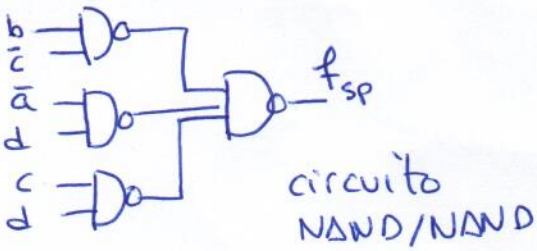
cd \ ab	00	01	11	10
00	0	1	-	0
01	1	-	-	0
11	1	1	-	1
10	0	0	-	0

f

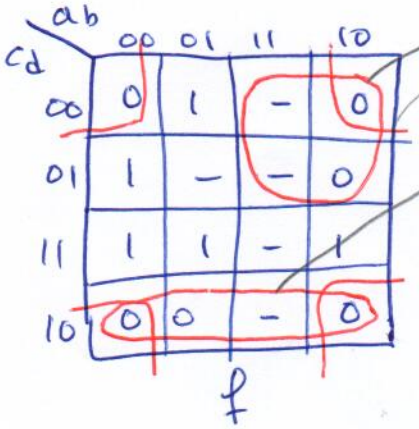
Expresión mínima en suma de productos:



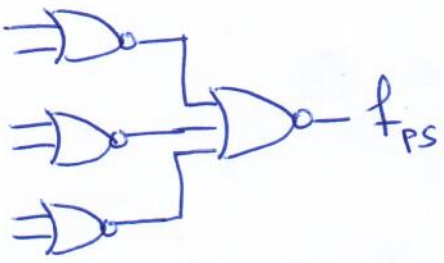
$f_{sp} = b\cdot\bar{c} + \bar{a}d + cd$



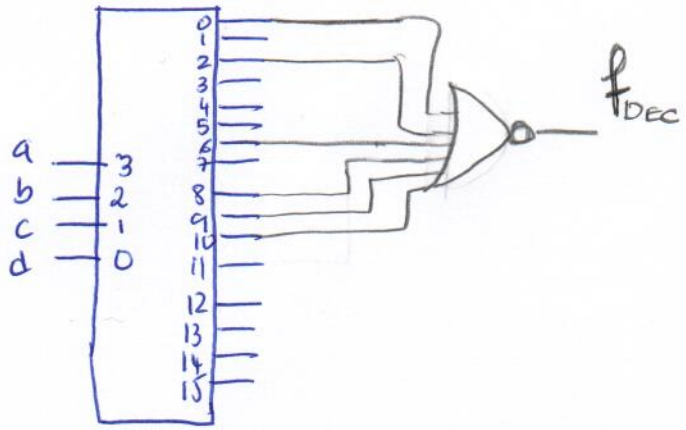
Expresión mínima en producto de sumas:



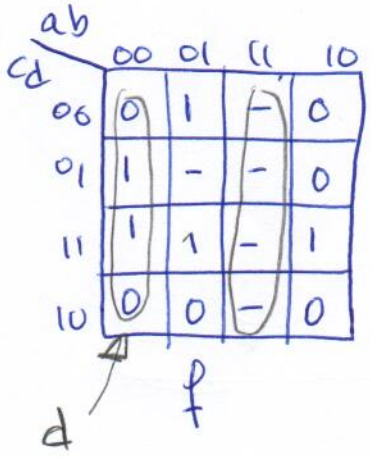
$f_{ps} = (b+d)(\bar{a}+c)(\bar{c}+d)$

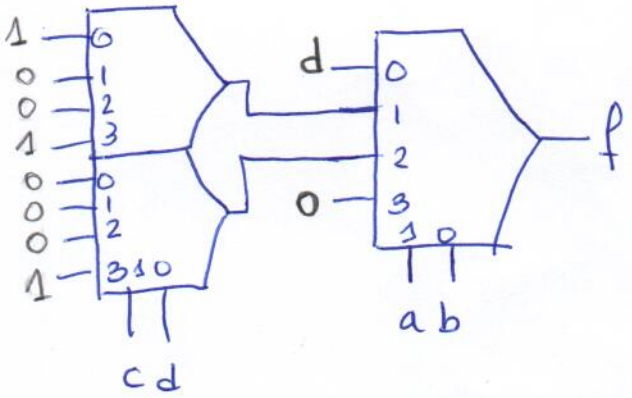


Con DEC 4:16 y una NOR:

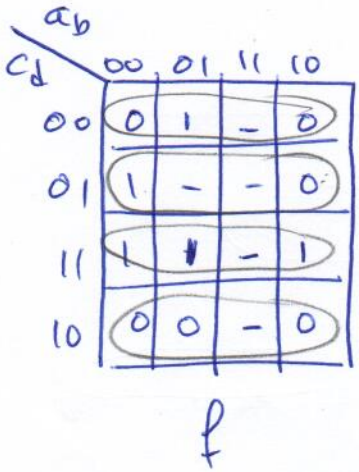


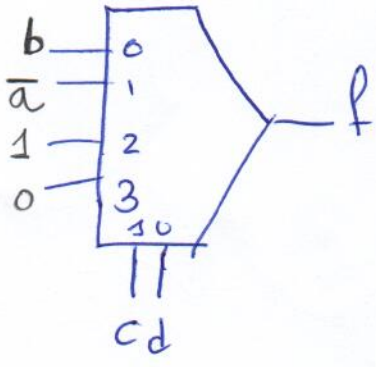
Con MUX2 (MUX4:1):



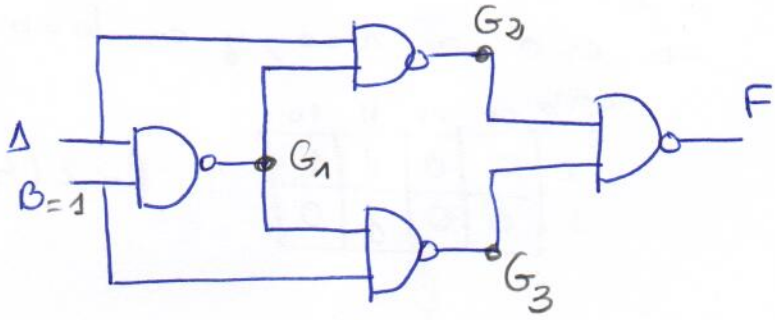


o bien:





Ejercicio 3



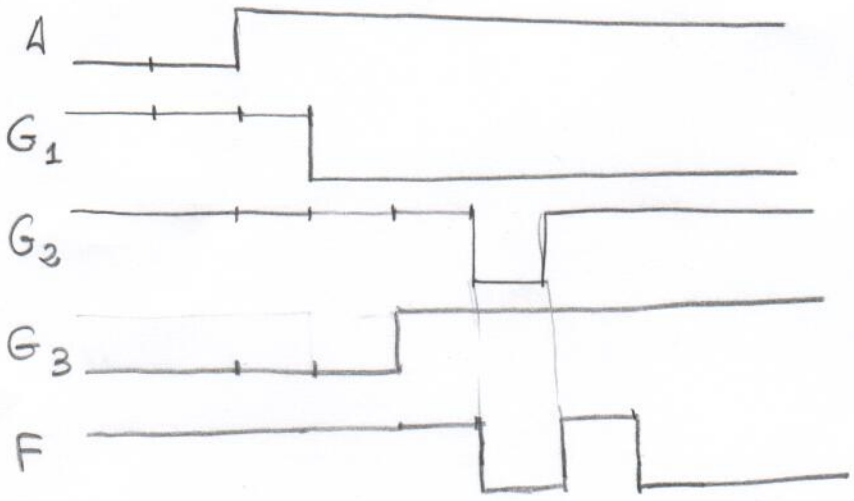
$F = a \oplus b$

Como $b = 1 \Rightarrow F = a \oplus 1 \Rightarrow$

$\Rightarrow F = \bar{a}$

Idealmente:

Análisis con retrasos:



Apartado 1.3

$f = \overline{\bar{a} + \bar{b}c}$ → es 0 en $a=0$, y en $b=0$ $c=1$

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

f

$f = \Sigma(4,6,7)$