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1 {
2     'nombre': 'Barrera Peña Víctor Miguel',
3     'tipo': 'Tarea',
4     'no': '35',
5     'grupo': '6',
6     'materia': '1645 Diseño Digital Moderno',
7     'semestre': '2022-1',
8     'enunciado': 'Minimizar la función de 7 segmentos ',
9     'fecha': '15-10-2021'
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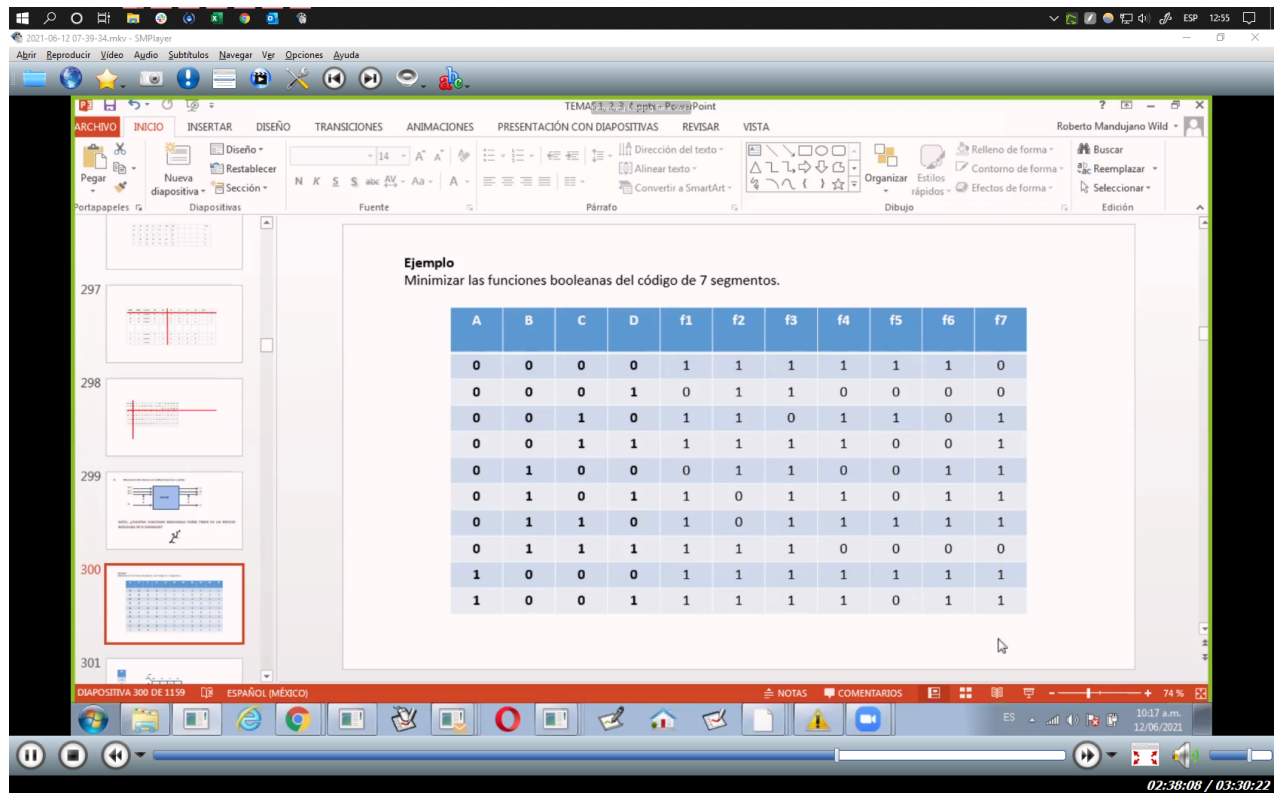
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Minimizar la función de 7 segmentos

Para f_1

CD \ AB	00	01	11	10
00	1	0	*	1
01	0	1	*	1
11	1	1	*	*
10	1	1	*	*

$f_1 = C + B'D' + A + BD$



A	B	C	D	f1	f2	f3	f4	f5	f6	f7
0	0	0	1	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	1	1	0	0	1	1
0	1	0	1	1	0	1	1	0	1	1
0	1	1	0	1	0	1	1	1	1	1
0	1	1	1	1	1	1	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	1	0	1	1

La tabla donde dibujar

f1

	00	01	11	10
00	1	0	*	1
01	0	1	*	1
11	1	1	*	*
10	1	1	*	*

f2

	00	01	11	10
00	1	1	*	1
01	1	0	*	1
11	1	1	*	*
10	1	0	*	*

f3

	00	01	11	10
00	1	1	*	1
01	1	1	*	1
11	1	1	*	*
10	0	1	*	*

f4

	00	01	11	10
00	1	0	*	1
01	0	1	*	1
11	1	1	*	*
10	1	0	*	*

f5

	00	01	11	10
00	1	0	*	1
01	0	0	*	0
11	0	0	*	*
10	1	1	*	*

f₆

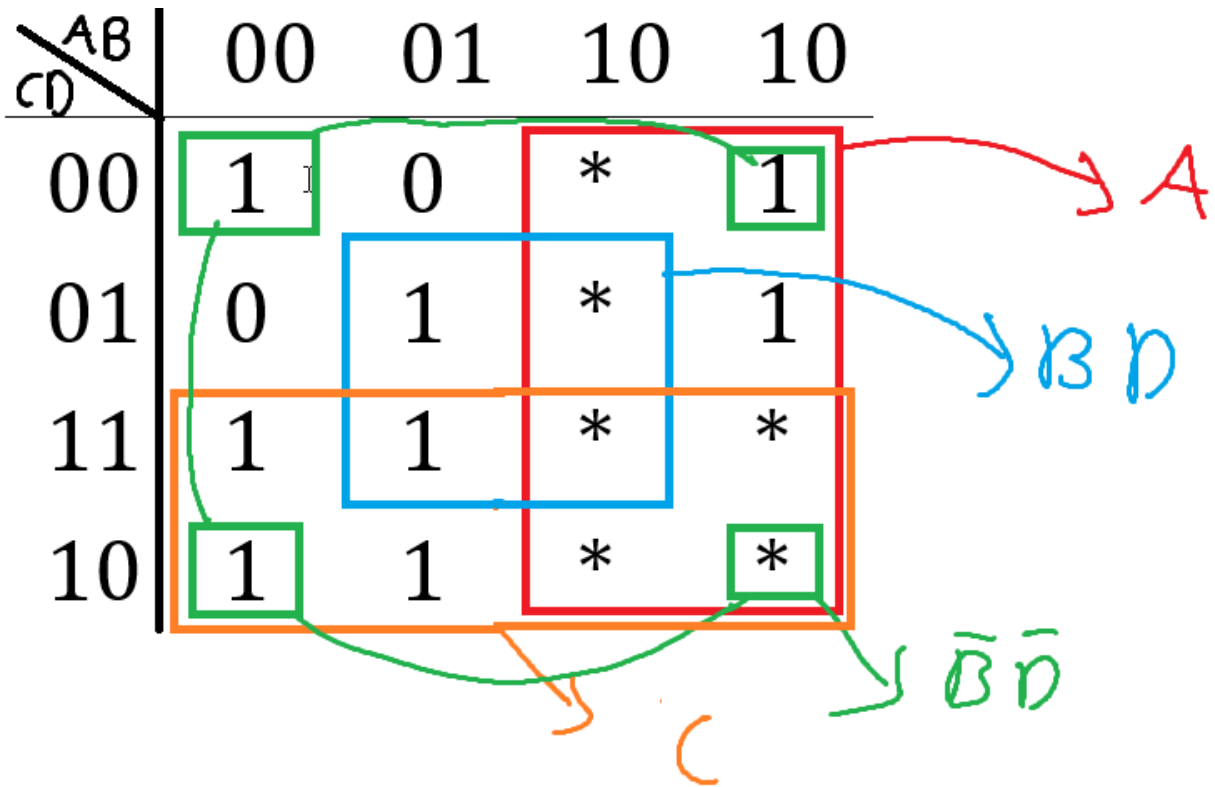
	00	01	11	10
00	1	1	*	1
01	0	1	*	1
11	0	0	*	*
10	0	1	*	*

f₇

	00	01	11	10
00	0	1	*	1
01	0	1	*	1
11	1	0	*	*
10	1	1	*	*

Minimizando las funciones

f₁



$$F_L = A + B\bar{D} + \bar{B}\bar{D} + C$$



f2


AB \ CD	00	01	10	10
00	1	1	*	1
01	1	0	*	1
11	1	1	*	*
10	1	0	*	*

The Karnaugh map shows four groupings: a blue horizontal group for $\bar{C}\bar{D}$ (top row), a green horizontal group for CD (third row), a red vertical group for \bar{B} (first column), and a red L-shaped group for \bar{B} (first column and bottom-right cell).

$$F_2 = \bar{C}\bar{D} + CD + \bar{B}$$

f3

<div>AB CD</div>		00		01		10		10	
00	1	1	1	*	1	<div></div>			
01	1	1	1	*	1				
11	1	1	1	*	*	<div></div>			
10	0	1	1	*	*				



B

$$F_3 = B + D + \bar{C}$$

f4

AB \ CD	00	01	10	11	
00	1	0	*	1	A
01	0	1	*	1	
11	1	1	*	*	
10	1	0	*	*	

$\bar{B}\bar{D}$ (purple box around cells (01,01), (01,11), (11,01), (11,11))
 CD (blue box around cells (11,00), (11,01), (11,10), (11,11))
 $\bar{B}\bar{D}$ (red box around cells (00,00), (00,10), (10,00), (10,10))

$$F_4 = A + CD + \bar{B}\bar{D}$$

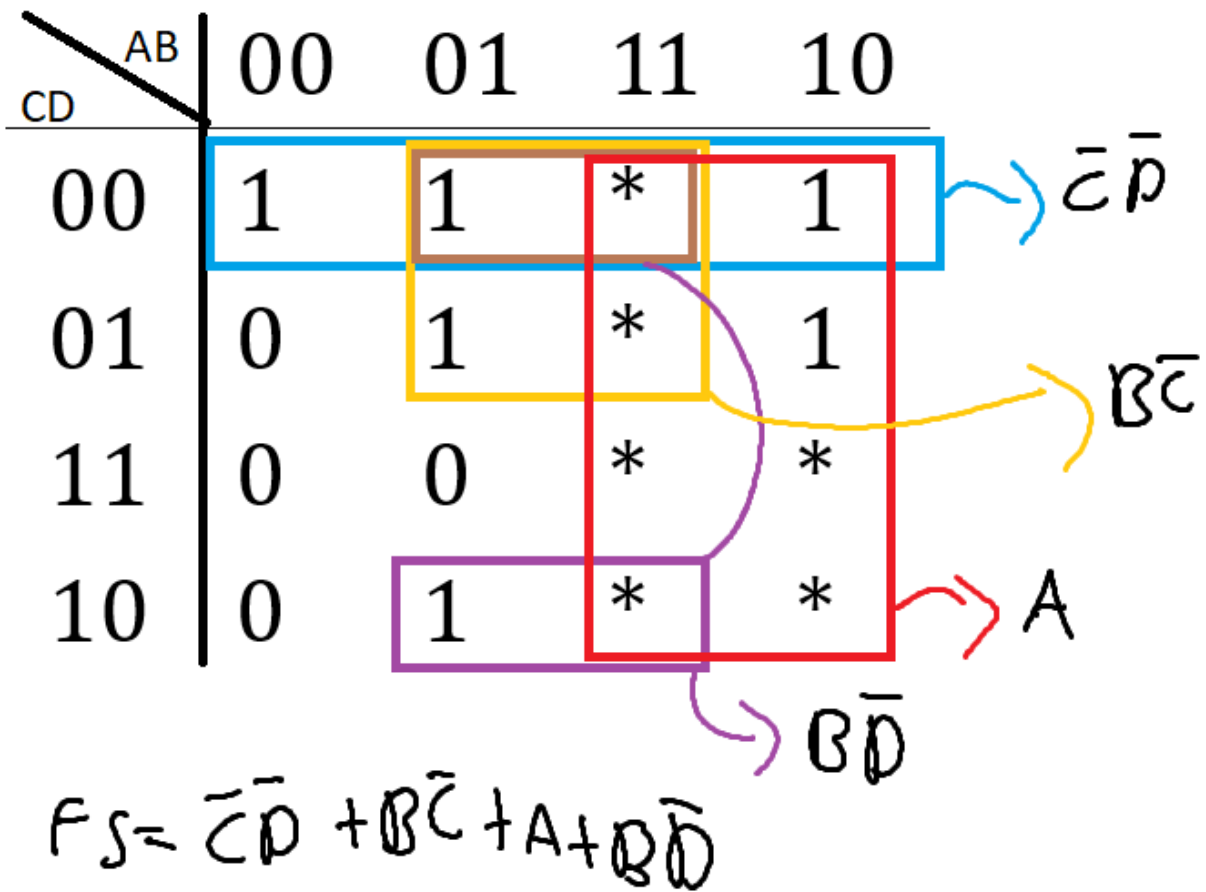
f5

AB \ CD	00	01	10	10
00	1	0	*	1
01	0	0	*	0
11	0	0	*	*
10	1	1	*	*

$\bar{B}\bar{D}$
 $c\bar{D}$

$F = s = \bar{B}\bar{D} + c\bar{D}$

f6



f7

AB \ CD	00	01	11	10	
00	0	1	*	1	A $B\bar{C}$
01	0	1	*	1	
11	1	0	*	*	$\bar{B}C$ $C\bar{D}$
10	1	1	*	*	

$$F = A + B\bar{C} + \bar{B}C + C\bar{D}$$