Exercícios Portas Lógicas

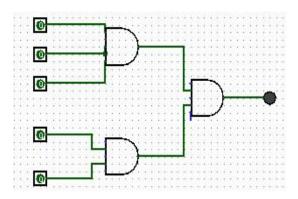
Álgebra Booleana – parte 2

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Professora: Marise

1)Dado o circuito abaixo faça a tabela verdade e a expressão booleana

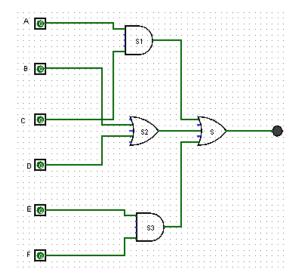


$$S = S1*S2$$
 $S = (A*B*C) * (D*E)$

A	В	С	D	E	S1	\$2	S
0	0	0	0	0	0	0	0
0	0	0	0	1.	0	0	0
0	0	0	1	. 0	0	0	0
0	0	0	.1	1	0	1	0
0	0	1	0	- 0	0	0	0
0	0	1	0	1	0	- 0	0
0	0	1	1	0.	0	0	0
0	0	- 1	1	- 1-	0	1	0
0	_ 1	0	0	. 0	0	- 0	0
. 0	- 1	0	0	1	0	0	0
0	1 0	0	1	0	0	0	0
0	1	0	.1	1	0	1	0
0	1	1	0	0	0	0	0
0	1	1	0	9	0	0	0
0	1	1	1	.0	0	0	0
0	1	1	1	1	0	1	0
1	0	0	0	0	0	0	0
1	0	0	0	1.	0	0	0
1	0	0	1	. 0	0	0	0
1.	0	0	1	1	0	1	0
1	0	1	0	. 0	0	0	0
1	0	1	0	1	0	0	0
1	0	1	1	0	0	0	0
1	0	1	1	- 1-	0	1	0
1	_ 1	0	0	. 0	0	- 0	0
1	1	0	0	1	0	0	0
1	1 0	0	1	0	0	0	0
1	1	0	.1	4	0	1	0
1	1	1	0	0	1	0	0
1	1	1	0	1	1	0	0
1	1	1	1	0	1	0	0
1	1	- 1	1	-1-	1	1	1

2)Dada a expressão booleana apresente o circuito e a tabela verdade

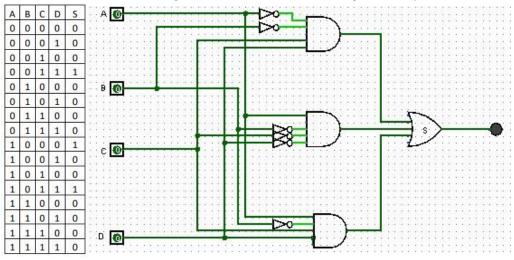
$$S = (AC) + (B+D) + (EF)$$



Α	С	В	D	E	F	S1	S2	S 3	S4
0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0	0
0	0	0	0	1	0	0	0	0	0
0	0	0	0	1	1	0	0	1	1
0	0	0	1	0	0	0	1	0	1
0	0	0	1	0	1	0	1	0	1
0	0	0	1	1	0	0	1	0	1
0	0	0	1	1	1	0	1	1	1
0	0	1	0	0	0	0	1	0	1
0	0	1	0	0	1	0	1	0	1
0	0	1	0	1	0	0	1	0	1
0	0	1	0	1	1	0	1	1	1
0	0	1	1	0	0	0	1	0	1
0	0	1	1	0	1	0	1	0	1
0	0	1	1	1	0	0	1	0	1
0	0	1	1	1	1	0	1	1	1
0	1	0	0	0	0	0	0	0	0
0	1	0	0	0	1	0	0	0	0
0	1	0	0	1	0	0	0	0	0
0	1	0	0	1	1	0	0	1	1
0	1	0	1	0	0	0	1	0	1
0	1	0	1	0	1	0	1	0	1
0	1	0	1	1	0	0	1	0	1
0	1	0	1	1	1	0	1	1	1
0	1	1	0	0	0	0	1	0	1
0	1	1	0	0	1	0	1	0	1
0	1	1	0	1	0	0	1	0	1
0	1	1	0	1	1	0	1	1	1
0	1	1	1	0	0	0	1	0	1
0	1	1	1	0	1	0	1	0	1
0	1	1	1	1	0	0	1	0	1
0	1	1	1	1	1	0	1	1	1

1	0	0	0	0	0	0	0	0	0
1	0	0	0	0	1	0	0	0	0
1	0	0	0	1	0	0	0	0	0
1	0	0	0	1	1	0	0	1	1
1	0	0	1	0	0	0	1	0	1
1	0	0	1	0	1	0	1	0	1
1	0	0	1	1	0	0	1	0	1
1	0	0	1	1	1	0	1	1	1
1	0	1	0	0	0	0	1	0	1
1	0	1	0	0	1	0	1	0	1
1	0	1	0	1	0	0	1	0	1
1	0	1	0	1	1	0	1	1	1
1	0	1	1	0	0	0	1	0	1
1	0	1	1	0	1	0	1	0	1
1	0	1	1	1	0	0	1	0	1
1	0	1	1	1	1	0	1	1	1
1	1	0	0	0	0	1	0	0	1
1	1	0	0	0	1	1	0	0	1
1	1	0	0	1	0	1	0	0	1
1	1	0	0	1	1	1	0	1	1
1	1	0	1	0	0	1	1	0	1
1	1	0	1	0	1	1	1	0	1
1	1	0	1	1	0	1	1	1	1
1	1	0	1	1	1	1	1	1	1
1	1	1	0	0	0	1	1	0	1
1	1	1	0	0	1	1	1	0	1
1	1	1	0	1	0	1	1	0	1
1	1	1	0	1	1	1	1	1	1
1	1	1	1	0	0	1	1	0	1
1	1	1	1	0	1	1	1	0	1
1	1	1	1	1	0	1	1	0	1
1	1	1	1	1	1	1	1	1	1

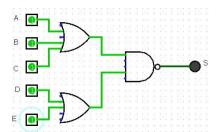
3)Dada a tabela verdade a seguir, desenhe o seu circuito lógico e a expressão booleana



S = S1+S2+S3

$$S = (!A*!B*C*D) + (A*!B*!C*!D) + (A*!B*C*D)$$

1)Dado o circuito abaixo faça a tabela verdade e a expressão booleana



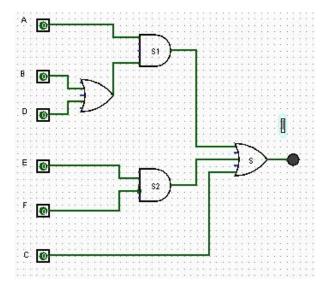
$$S = !((A+B+C) * (D+E))$$

A	В	C	D	E	S1	52	S
0	0	0	0	0	0	0	1
0	0	0	0	1	0	1	1
0	0	0	1	0	0	1	1
0	0	0	1	1	0	1	1
0	0	1	0	0	1	0	1
0	0	1	0	1	1	1	0
0	0	1	1	0	1	1	0
0	0	1	1	1	1	1	0
0	1	0	0	0	1	0	1
0	1	0	0	1	1	1	0
0	1	0	1	0	1	1	0
0	1	0	1	1	1	1	0
0	1	1	0	0	1	0	1
0	1	1	0	1	1	1	0
0	1	1	1	0	1	1	0
0	1	1	1	1	1	1	0
1	0	0	0	0	1	0	1
1	0	0	0	1	1	1	0
1	0	0	1	0	1	1	0
1	0	0	1	1	1	1	0
1	0	1	0	0	1	0	1
1	0	1	0	1	1	1	0
1	0	1	1	0	1	7	0
1	0	1	1	1	1	1	0
1	1	0	0	0	1	0	1
1	1	0	0	1	1	1	0
1	1	0	1	0	1	1	0
1	1	0	1	1	1	1	0
1	1	1	0	0	1	0	1
1	1	1	0	1	1	1	0
1	1	1	1	0	1	1	0
1	1			1		1	0

2) Dada a expressão booleana apresente o circuito e a tabela verdade

S = A(B+D) + (EF) + C

A									
O		В	D	1,500		C	S1	52	
O		0	0	0	0		0	0	
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O				-					
O		100			-	700	- 10		
O			the state of the s						
O						100000000000000000000000000000000000000			
0									
0		0			1	1			
0 0 1 0 1 0				-					
0						100000000000000000000000000000000000000			
0							0		
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0						14 (11)			
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0									
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0									
0									
0 1 0 1 1 1 0 0 1 1 1 0 1 1 1 0 1 1 1 0 1 1 0									
0						100000000000000000000000000000000000000			
0 1 1 0	Contract Laboratory								
0 1 1 0 0 1 0						-			
0 1 1 0								1000	
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1 0									
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1 0 0 1 0 0 0 0 0 1	1	0	0	0	0 0 1	1 0	0	0 0	1 0
1 0 0 1 1 0 1 1 1 0 0 1 1 0 0 1 1 1 0 1 0 0 1	1 1 1	0	0 0	0 0	0 0 1	1 0 1	0 0 0	0 0 0	1 0 1
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1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 1 1 1 0 0 0 1 1 1 1 1 0 0 0 1 1 1 1 1 1 0 0 0 1 0 1	1 1 1 1 1 1 1 1	0 0 0 0 0 0	0 0 0 0 0 0 0 1	0 0 0 1 1 1 1 0	0 0 1 1 0 0 1 1 1 0	1 0 1 0 1 0 1 0 1 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1	1 0 1 0 1 0 1 1 1 1
1 0 1 1 0 1 0 1 1 0 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 1	0 0 0 1 1 1 1 1 0 0	0 0 1 1 0 0 1 1 1 0	1 0 1 0 1 0 1 0 1 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1	1 0 1 0 1 0 1 1 1 1
1 0 1	1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1	0 0 0 1 1 1 1 0 0	0 0 1 1 1 0 0 1 1 1 0	1 0 1 0 1 0 1 0 1 0 1 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 1 0 0	1 0 1 0 1 0 1 1 1 1 1 1
1 0 1	1 1 1 1 1 1 1 1 1 1 1 1 1	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 1 1 1	0 0 0 1 1 1 1 0 0 0	0 0 1 1 1 0 0 1 1 1 0 0	1 0 1 0 1 0 1 0 1 0 1 0 1 0 1 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 1 1 1 0 0	1 0 1 0 1 0 1 1 1 1 1 1 1
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3) Dada a tabela verdade a seguir, desenhe o seu circuito lógico e a expressão booleana

