ED-6 Mapas de Karnaugh

ED S-2

Alexandre Raggi

a) $S = A\bar{B}C + A\bar{C} + A\bar{B}$

	$\bar{B}$		B	
$\bar{A}$	0	0	0	0
A	1	1	1	1
	$\bar{C}$	C		$\bar{C}$

$S = A$

b) $S = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}C$

	$\bar{B}$		B	
$\bar{A}$	1	0	0	1
A	0	1	0	0
	$\bar{C}$	C		$\bar{C}$

$S = \bar{A}\bar{C} + A\bar{B}C$

c) $S = \bar{A}\bar{B}\bar{C} + \bar{A}BC + \bar{A}B\bar{C} + A\bar{B}\bar{C} + AB\bar{C}$

	$\bar{B}$		B	
$\bar{A}$	1	0	1	1
A	1	0	0	1
	$\bar{C}$	C		$\bar{C}$

$S = \bar{C} + \bar{A}B$

ED S - Q2 - c)

Alexander Rozgu

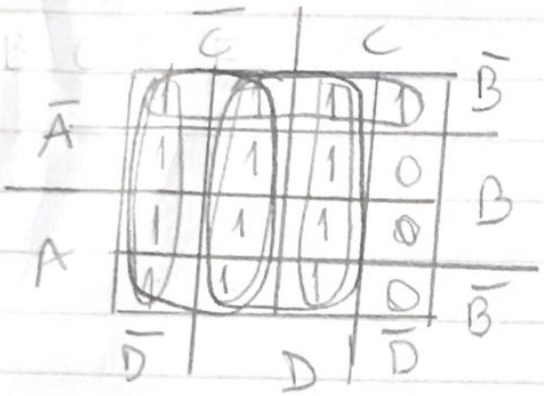
A	B	C	D	Y
0	0	0	0	0
0	0	0	1	0
0	0	1	0	0
0	0	1	1	0
0	1	0	0	0
0	1	0	1	0
0	1	1	0	1
0	1	1	1	0
1	0	0	0	0
1	0	0	1	0
1	0	1	0	0
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

$$Y = \bar{A}BC\bar{D}$$ //

Como só existe 1 possibilidade, não há necessidade de simplificar

Al: Alexandre Roque

EDS - Q2-D) $Y = [\overline{(\overline{A}+B)\cdot C}+D]\cdot E$



$Y = E\cdot[\overline{C}+D+\overline{A}\,\overline{B}]$

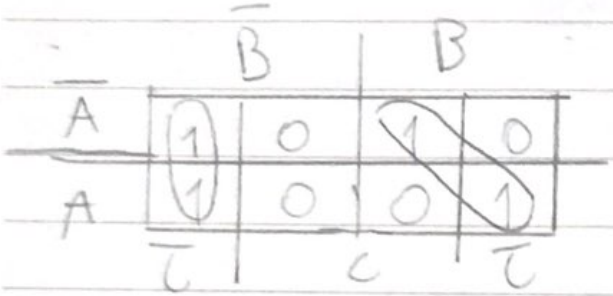
Fizemos somente o mapa de Karnaugh, para isso adicionar o E·, devido a porta AND.

Al: Alexandre Roque Silva de Paula

EDS - Q3 - a)

a)

A	B	C	S	Y
0	0	0	(1)	(1)
0	0	1	0	(1)
0	1	0	0	0
0	1	1	(1)	0
1	0	0	(1)	(1)
1	0	1	0	(1)
1	1	0	(1)	(1)
1	1	1	0	0

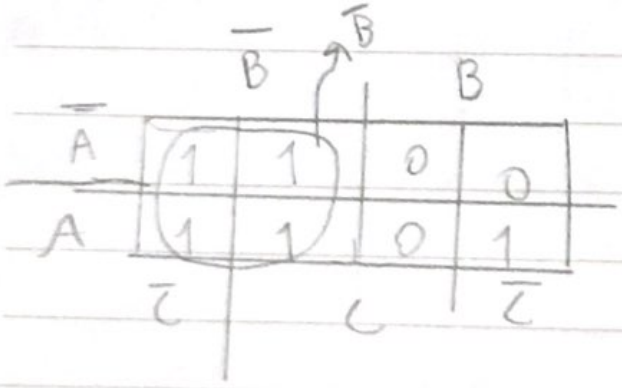


$$S = \bar{C} \cdot \bar{B} + B(A \oplus C)$$ //

$\bar{A}BC + \bar{A}B\bar{C}$

$B(\bar{A}C + A\bar{C})$

$B(A \oplus C)$



$$Y = \bar{B} + AB\bar{C}$$ //

ED S - Q 3) b)

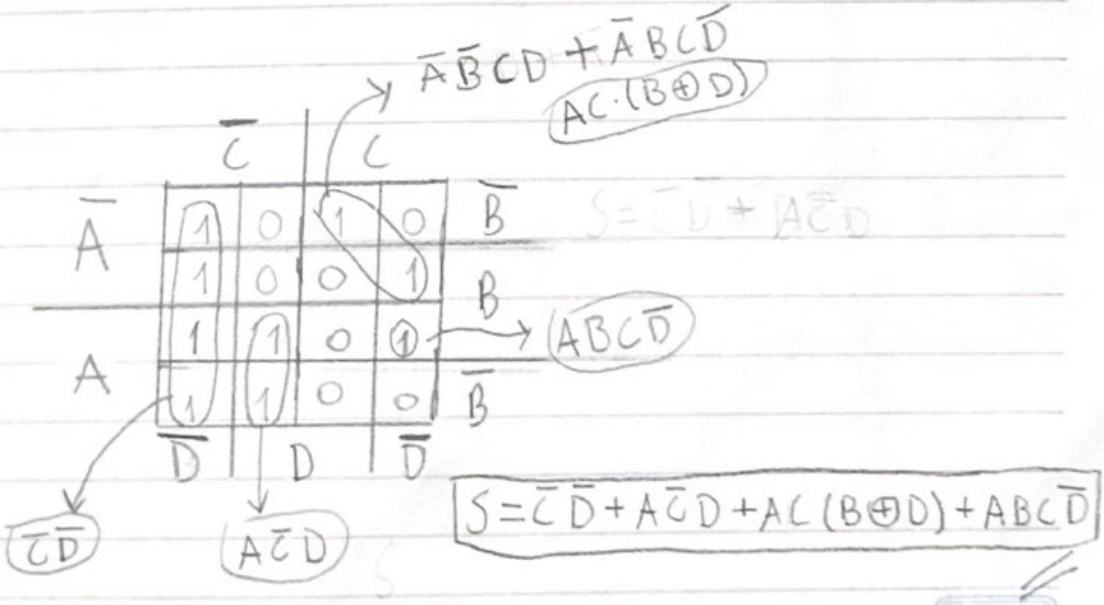
Alexandre Rogue

	A	B	C	D	S	Y	
0	0	0	0	0	1		0
1	0	0	0	1	0		1
2	0	0	1	0	0		2
3	0	0	1	1	1		3
4	0	1	0	0	1		4
5	0	1	0	1	0		5
6	0	1	1	0	1		6
7	0	1	1	1	0		7
8	1	0	0	0	1		8
9	1	0	0	1	1		9
10	1	0	1	0	0		10
11	1	0	1	1	0		11
12	1	1	0	0	1		12
13	1	1	0	1	1		13
14	1	1	1	0	1		14
15	1	1	1	1	0		15

$\bar{A}\bar{B}CD + \bar{A}B\bar{C}\bar{D}$

$\bar{A}C(\bar{B}D + B\bar{D})$

$\bar{A}C(B \oplus D)$



$S = \bar{C}\bar{D} + A\bar{C}D + AC(B \oplus D) + ABC\bar{D}$