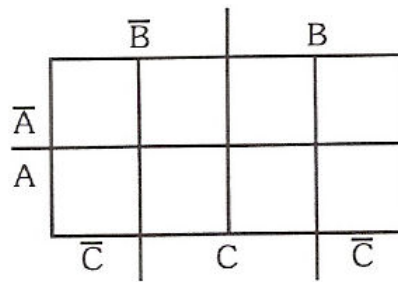
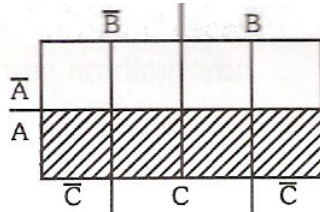


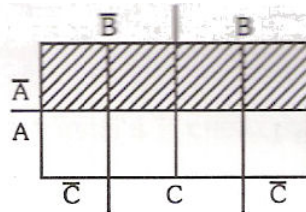
DIAGRAMAS DE VEITCH-KARNAUGH PARA 3 VARIÁVEIS



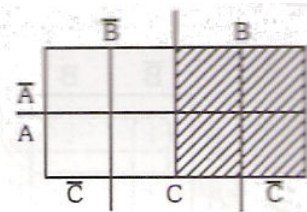
REGIÕES DO MAPA DE VEITCH-KARNAUGH PARA 3 VARIÁVEIS



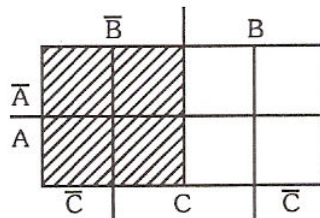
(a)



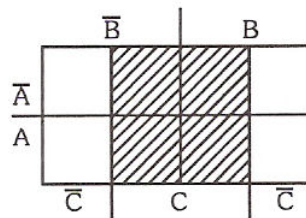
(b)



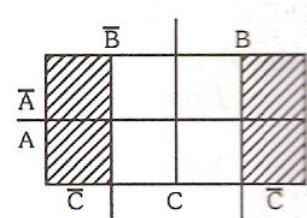
(c)



(d)



(e)



(f)

- (a) Região na qual $A = 1$
- (b) Região na qual $\bar{A} = 1$ ($A = 0$)
- (c) Região na qual $B = 1$
- (d) Região na qual $\bar{B} = 1$ ($B = 0$)
- (e) Região na qual $C = 1$
- (f) Região na qual $\bar{C} = 1$ ($C = 0$)

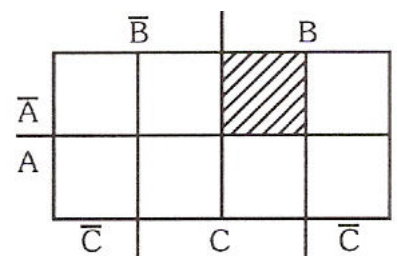
Tabela verdade

Caso	A	B	C
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

Casos para 3 variáveis

	\bar{B}	B
\bar{A}	Caso 0 $\bar{A}\bar{B}\bar{C}$	Caso 1 $\bar{A}\bar{B}C$
A	Caso 4 $A\bar{B}\bar{C}$	Caso 5 $A\bar{B}C$
	\bar{C}	C

Caso 3: $A = 0$; $B = 1$; $C = 1$



Exemplo 1:

A	B	C	S
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	1
1	1	1	0

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

	\bar{B}	B	
\bar{A}	Caso 0 1	Caso 1 0	Caso 3 1
A	Caso 4 1	Caso 5 0	Caso 6 1
	\bar{C}	C	\bar{C}

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

\Leftarrow Par $\bar{A}B$
 \Leftarrow Quadra \bar{C}

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

Exemplo 2:

A	B	C	S
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

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

Agrupamento 1

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

\Leftarrow Par $\bar{A}C$
 \Leftarrow Pares: $A\bar{C}$ e $A\bar{B}$

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

Agrupamento 2

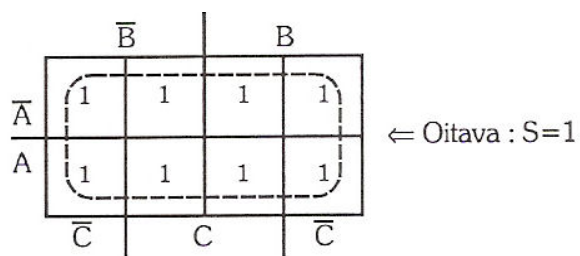
	\bar{B}	B	
\bar{A}	0	1	1
A	1	1	1
	\bar{C}	C	\bar{C}

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

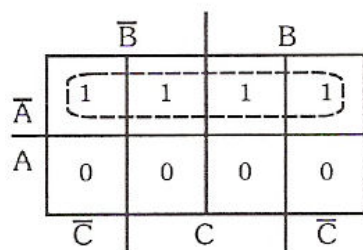
Exercícios:

AGRUPAMENTOS

Oitava

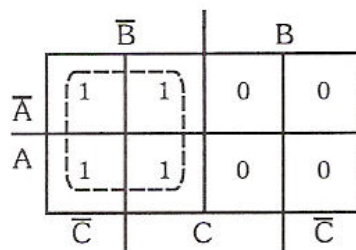


Quadras



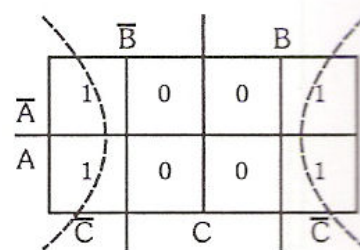
(a)

Quadra \bar{A}



(b)

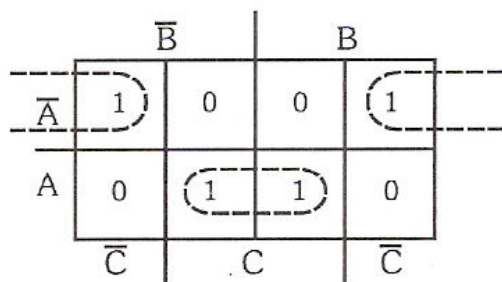
Quadra \bar{B}



(c)

Quadra \bar{C}

Pares

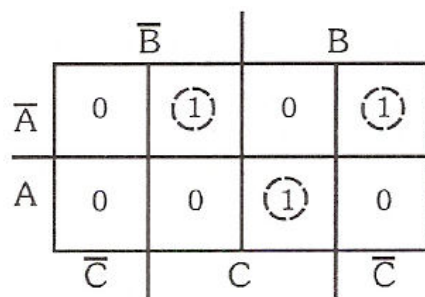


← Par $\bar{A}\bar{C}$ (está localizado na intersecção das regiões \bar{A} e \bar{C})

↑

Par AC (está localizado na intersecção das regiões A e C)

Termos isolados



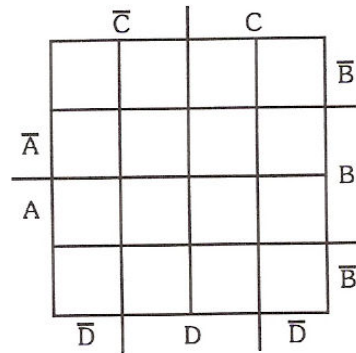
← Termo $\bar{A}\bar{B}\bar{C}$

← Termo ABC

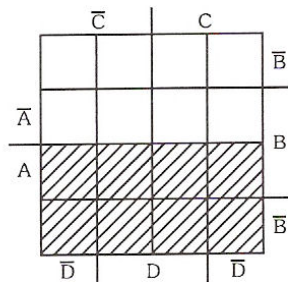
↑

Termo $\bar{A}\bar{B}C$

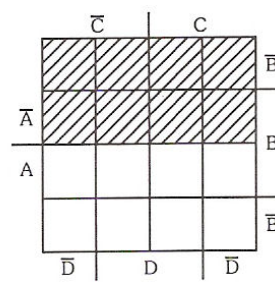
DIAGRAMAS DE VEITCH-KARNAUGH PARA 4 VARIÁVEIS



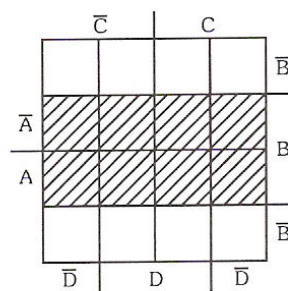
REGIÕES DO MAPA DE VEITCH-KARNAUGH PARA 4 VARIÁVEIS



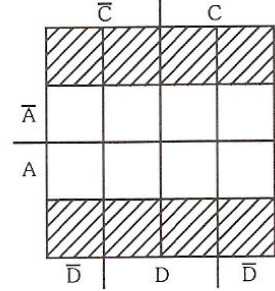
(a) Região onde $A = 1$.



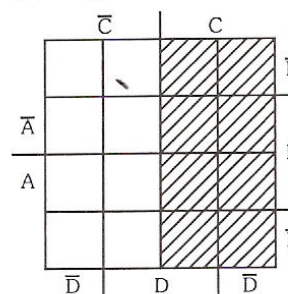
(b) Região onde $\bar{A} = 1$ ($A = 0$).



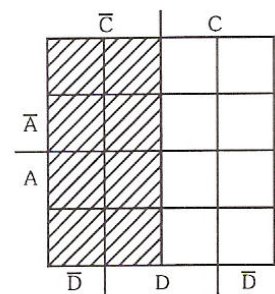
(c) Região onde $B = 1$.



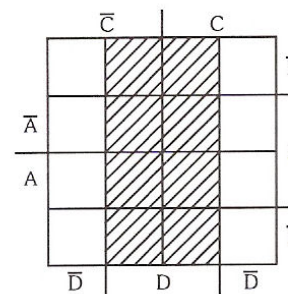
(d) Região onde $\bar{B} = 1$ ($B = 0$).



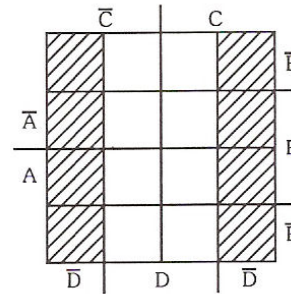
(e) Região onde $C = 1$.



(f) Região onde $\bar{C} = 1$ ($C = 0$).



(g) Região onde $D = 1$.

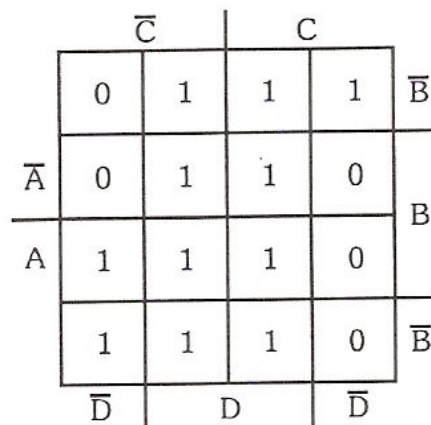


(h) Região onde $\bar{D} = 1$ ($D = 0$).

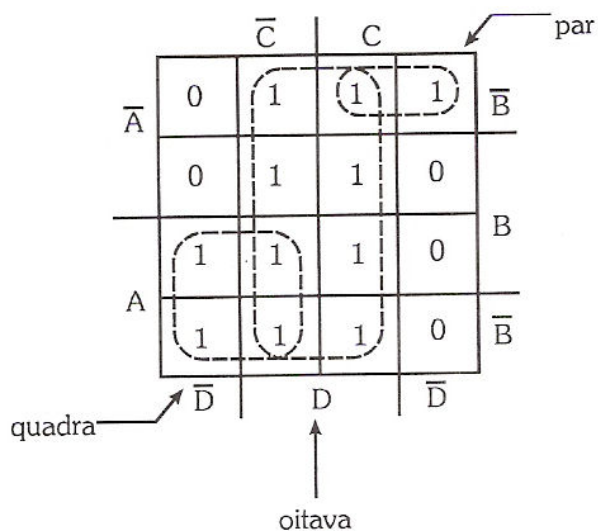
Tabela Verdade					Diagrama Completo					Caso 8: A = 1; B = 0; C = 0; D = 0				
Casos	A	B	C	D										
0	0	0	0	0										
1	0	0	0	1										
2	0	0	1	0										
3	0	0	1	1										
4	0	1	0	0										
5	0	1	0	1										
6	0	1	1	0										
7	0	1	1	1										
8	1	0	0	0										
9	1	0	0	1										
10	1	0	1	0										
11	1	0	1	1										
12	1	1	0	0										
13	1	1	0	1										
14	1	1	1	0										
15	1	1	1	1										

Exemplo 1:

A	B	C	D	S
0	0	0	0	0
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	0
0	1	0	1	1
0	1	1	0	0
0	1	1	1	1
1	0	0	0	1
1	0	0	1	1
1	0	1	0	0
1	0	1	1	1
1	1	0	0	1
1	1	0	1	1
1	1	1	0	0
1	1	1	1	1



$$S = \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}C\bar{D} + \bar{A}\bar{B}CD + \bar{A}B\bar{C}\bar{D} + \bar{A}B\bar{C}D + \bar{A}BC\bar{D} + \bar{A}BCD + A\bar{B}\bar{C}\bar{D} + A\bar{B}C\bar{D} + A\bar{B}CD + AB\bar{C}\bar{D} + ABC\bar{D} + ABCD$$



oitava: D

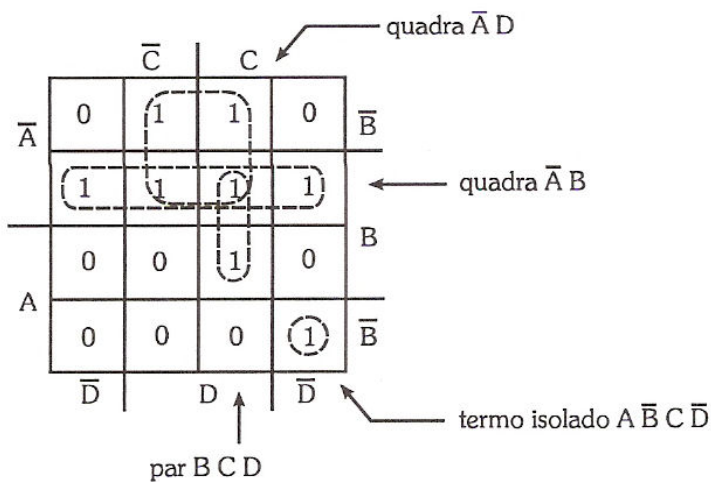
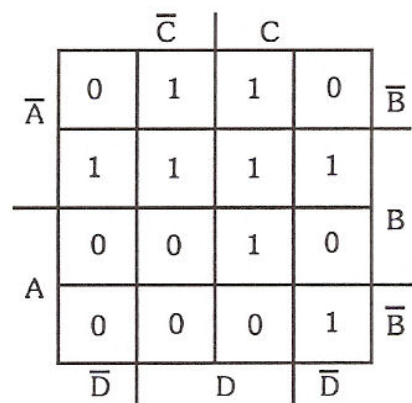
quadra: $A\bar{C}$

par: $\bar{A}\bar{B}C$

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

Exemplo 2:

A	B	C	D	S
0	0	0	0	0
0	0	0	1	1
0	0	1	0	0
0	0	1	1	1
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	0
1	0	1	0	1
1	0	1	1	0
1	1	0	0	0
1	1	0	1	0
1	1	1	0	0
1	1	1	1	1

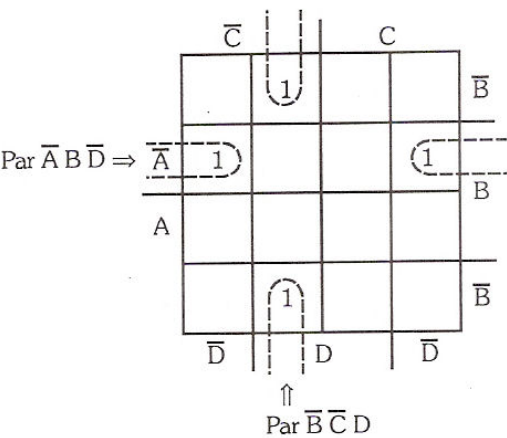


Expressão minimizada de S:

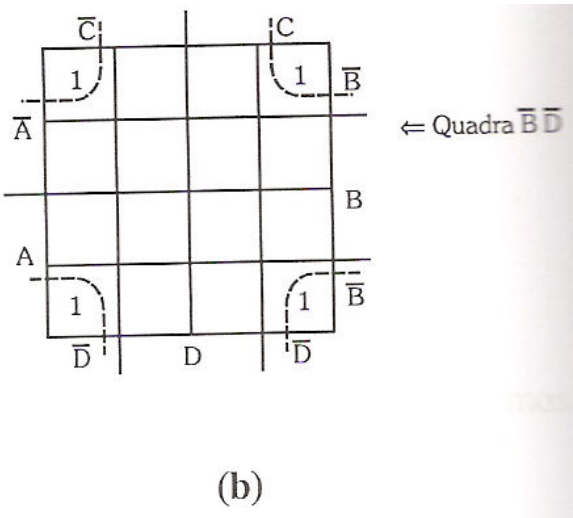
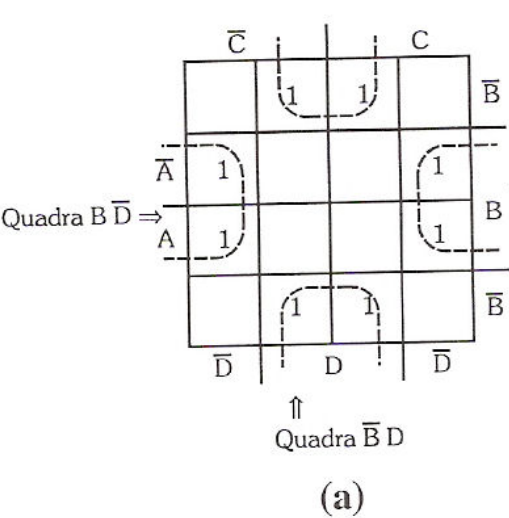
$$S = A\bar{B}C\bar{D} + BCD + \bar{A}B + \bar{A}D$$

AGRUPAMENTOS

PARES



QUADRAS



OITAVAS

