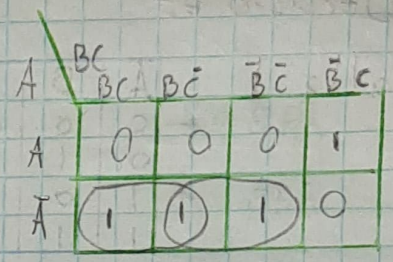
López Pérez Alberto Andrei

Problemas de mapas de Karnaugh para resolver en casa.

A	B	C	Y	
0	0	0	1	→ $\bar{A}\bar{B}\bar{C}$
0	0	1	0	
0	1	0	1	→ $\bar{A}B\bar{C}$
0	1	1	0	
1	0	0	0	
1	0	1	1	→ $A\bar{B}C$
1	1	0	0	
1	1	1	1	→ ABC

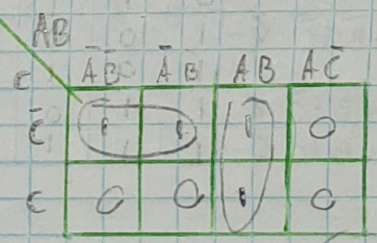
$Y = \bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + A\bar{B}C + ABC$



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

2.- $ABC + \bar{A}BC + \bar{A}\bar{B}C + AB\bar{C}$

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

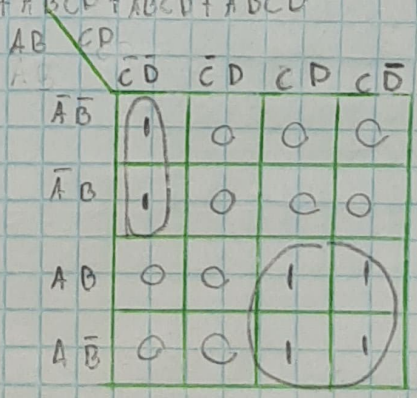


$Y = \bar{A}\bar{C} + AB$

3.-

A	B	C	D	Y	
0	0	0	0	1	→ $\bar{A}\bar{B}\bar{C}\bar{D}$
0	0	0	1	0	
0	0	1	0	0	
0	0	1	1	0	
0	1	0	0	1	→ $\bar{A}B\bar{C}\bar{D}$
0	1	0	1	0	
0	1	1	0	0	
0	1	1	1	0	
1	0	0	0	0	
1	0	0	1	0	
1	0	1	0	1	→ $A\bar{B}C\bar{D}$
1	0	1	1	1	→ $A\bar{B}CD$
1	1	0	0	0	
1	1	0	1	0	
1	1	1	0	1	→ $ABC\bar{D}$
1	1	1	1	1	→ $ABCD$

$Y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}B\bar{C}\bar{D} + A\bar{B}\bar{C}\bar{D} + A\bar{B}CD + ABC\bar{D} + ABCD$



$Y = \bar{A}\bar{C}\bar{D} + A.C$

4:-

$Y = \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}CD + \bar{A}B\bar{C}\bar{D} + \bar{A}BC\bar{D} + ABCD$

A	B	C	D	Y	
0	0	0	0	1	→ $\bar{A}\bar{B}\bar{C}\bar{D}$
0	0	0	1	0	
0	0	1	0	1	→ $\bar{A}\bar{B}C\bar{D}$
0	0	1	1	0	
0	1	0	0	1	→ $\bar{A}B\bar{C}\bar{D}$
0	1	0	1	0	
0	1	1	0	1	→ $\bar{A}BC\bar{D}$
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	1	→ $ABCD$

AB \ CD	$\bar{C}\bar{D}$	$\bar{C}D$	CD	$C\bar{D}$
$\bar{A}\bar{B}$	1	0	0	1
$\bar{A}B$	1	0	0	1
AB	0	0	1	0
$A\bar{B}$	0	0	0	0

$Y = \bar{A}\bar{D} + ABCD$

Problemas de Karnaugh con Maxterm

1:-

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

A	B	C	Y	
0	0	0	1	
0	0	1	0	→ $\bar{A}+\bar{B}+C$
0	1	0	1	
0	1	1	1	
1	0	0	1	
1	0	1	0	→ $A+\bar{B}+C$
1	1	0	0	→ $A+B+\bar{C}$
1	1	1	0	→ $A+B+C$

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

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

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

2-

A	B	C	D	Y	
0	0	0	0	0	→ $\bar{A}+\bar{B}+\bar{C}+\bar{D}$
0	0	0	1	0	→ $\bar{A}+\bar{B}+\bar{C}+D$
0	0	1	0	0	→ $\bar{A}+\bar{B}+C+\bar{D}$
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	→ $A+\bar{B}+\bar{C}+\bar{D}$
1	0	0	1	1	
1	0	1	0	0	→ $A+\bar{B}+C+\bar{D}$
1	0	1	1	1	
1	1	0	0	1	
1	1	0	1	1	
1	1	1	0	1	
1	1	1	1	1	

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

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

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

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

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

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