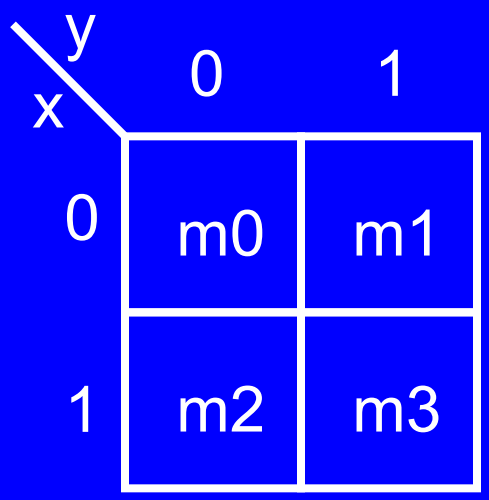
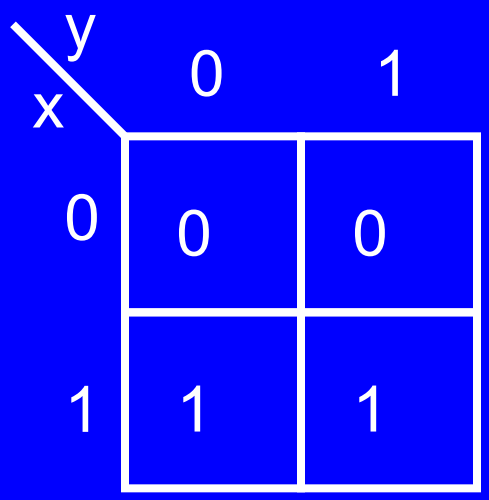
Minterms and maxterms

x	y	z	term	name	term	name
0	0	0	x'y'z'	m_0	x+y+z	M_0
0	0	1	x'y'z	m_1	x+y+z'	M_1
0	1	0	x'yz'	m_2	x+y'+z	M_2
0	1	1	x'yz	m_3	x+y'+z'	M_3
1	0	0	xy'z'	m_4	x'+y+z	M_4
1	0	1	xy'z	m_5	x'+y+z'	M_5
1	1	0	xyz'	m_6	x'+y'+z	M_6
1	1	1	xyz	m_7	x'+y'+z'	M_7

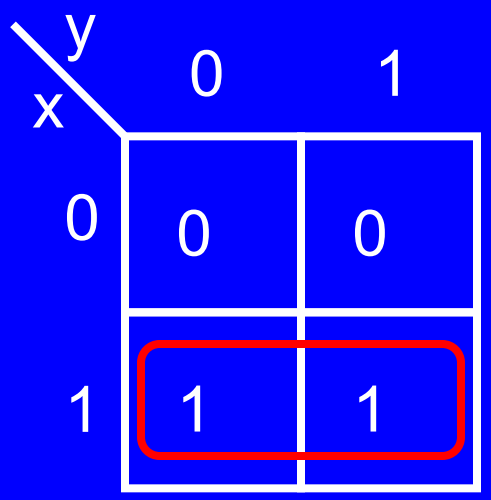
Two-variable Karnaugh map



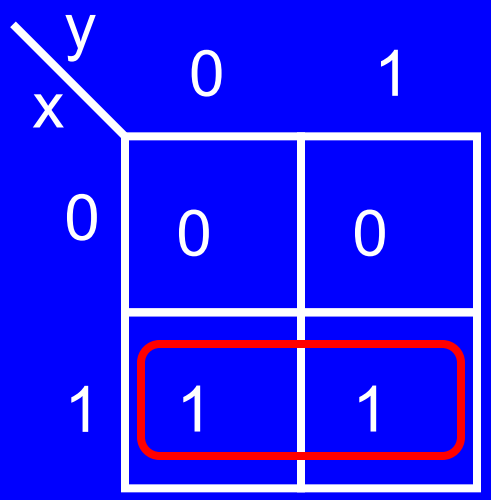
Two-variable Karnaugh map



Two-variable Karnaugh map

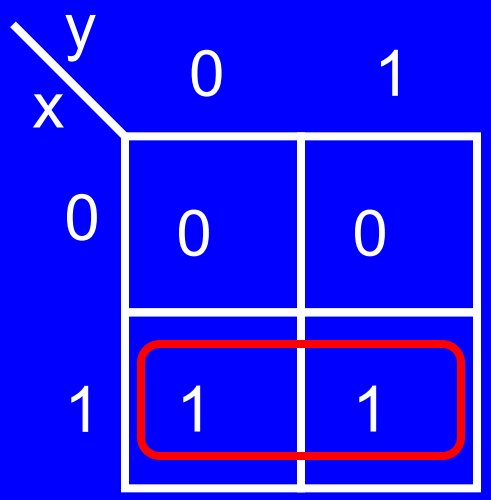


Two-variable Karnaugh map



F = x

Two-variable Karnaugh map



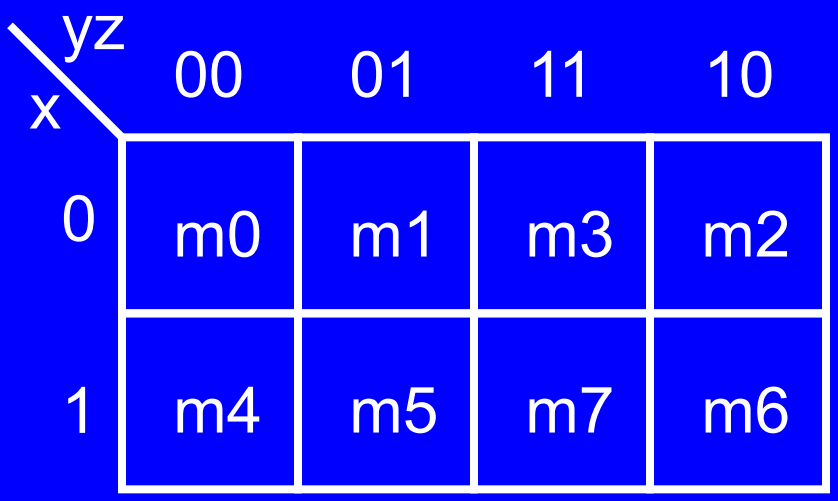
F = x

xy'+xy=

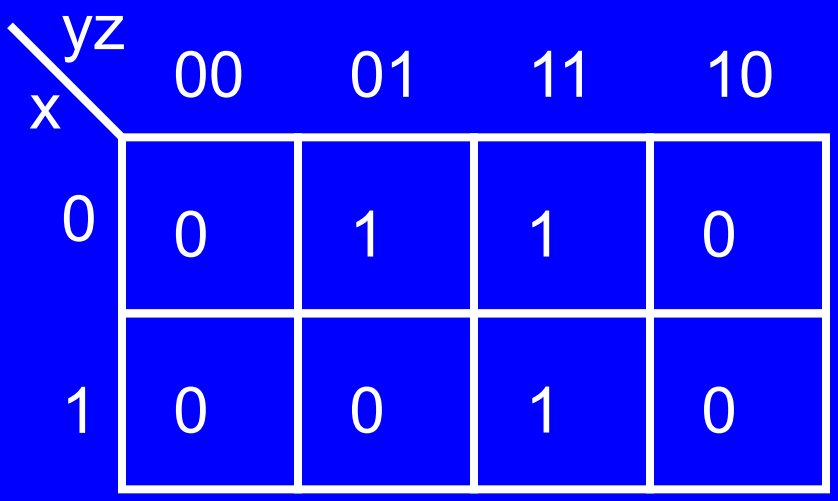
x(y+y')=

x

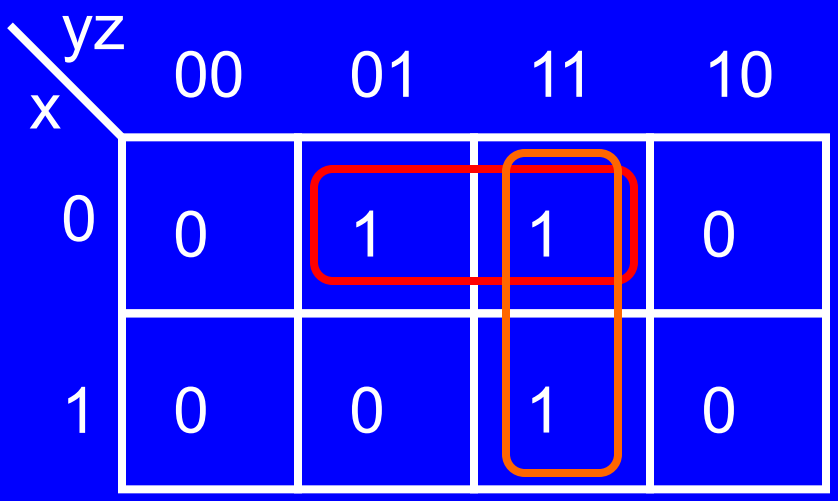
Three-variable Karnaugh map



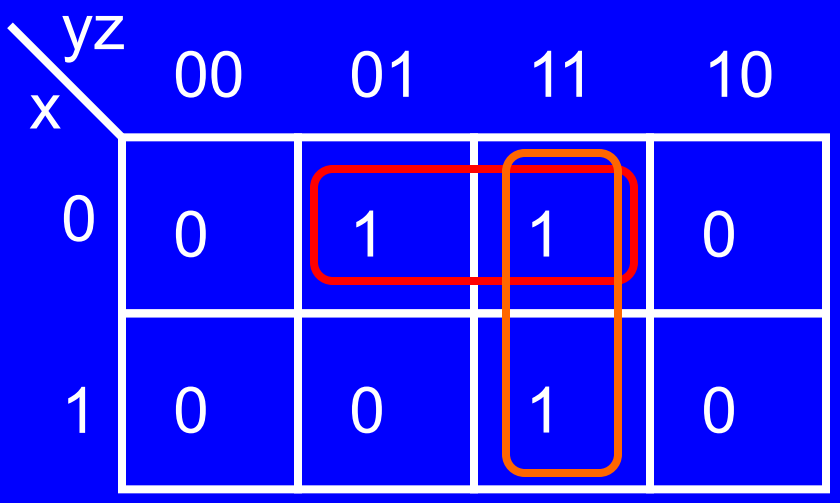
Three-variable Karnaugh map



Three-variable Karnaugh map

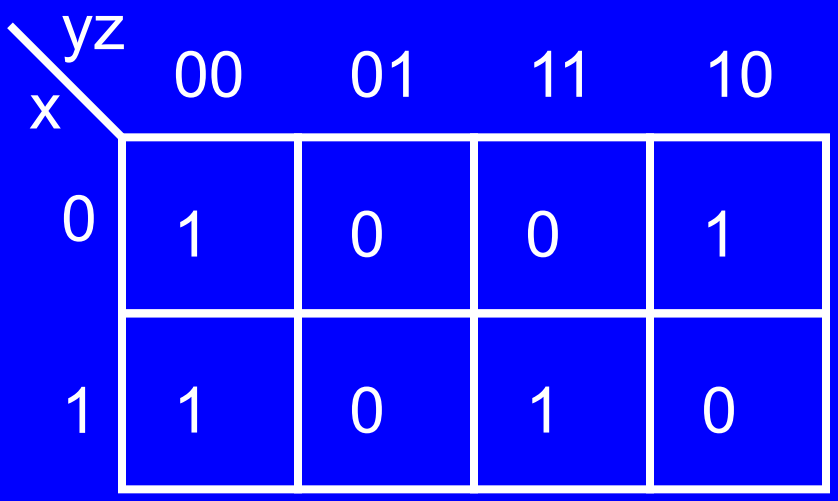


Three-variable Karnaugh map

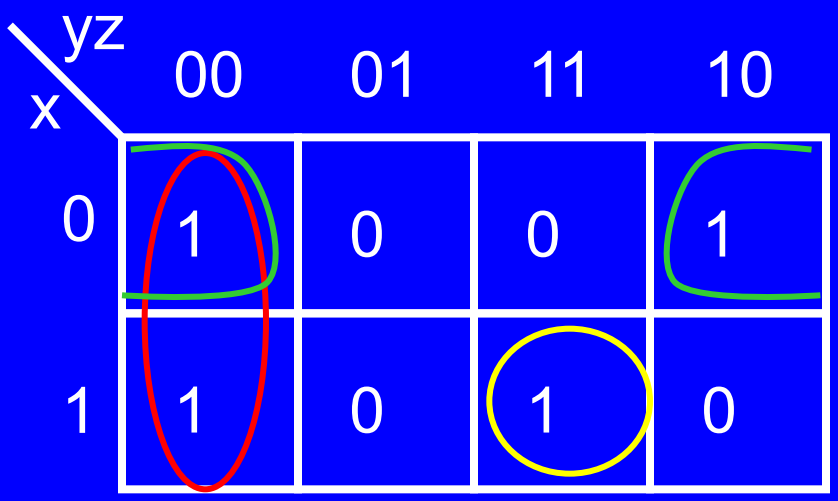


F=x'z+yz

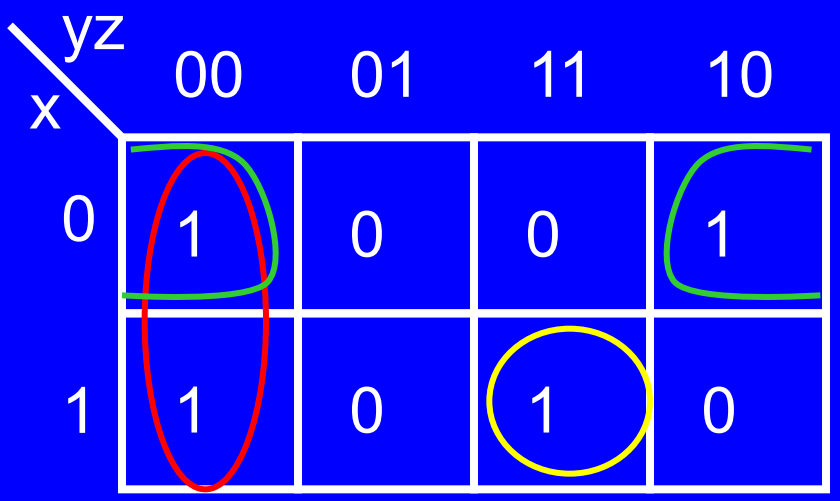
Three-variable Karnaugh map



Three-variable Karnaugh map

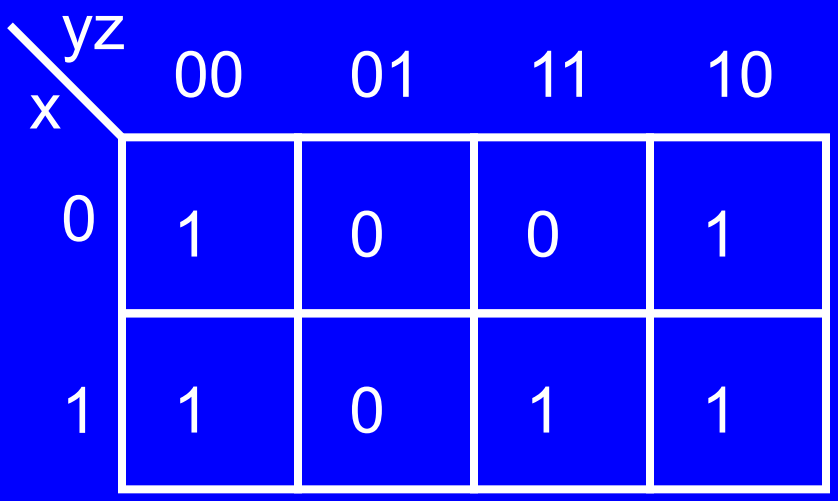


Three-variable Karnaugh map

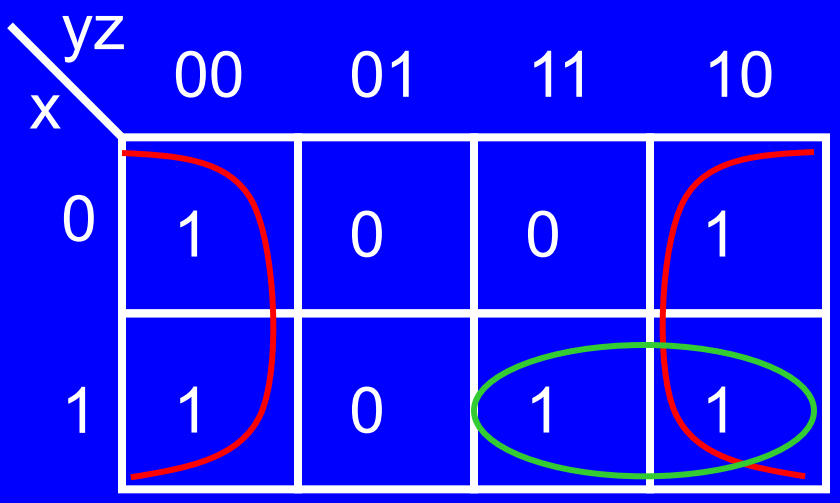


F=y'z'+x'z'+xyz

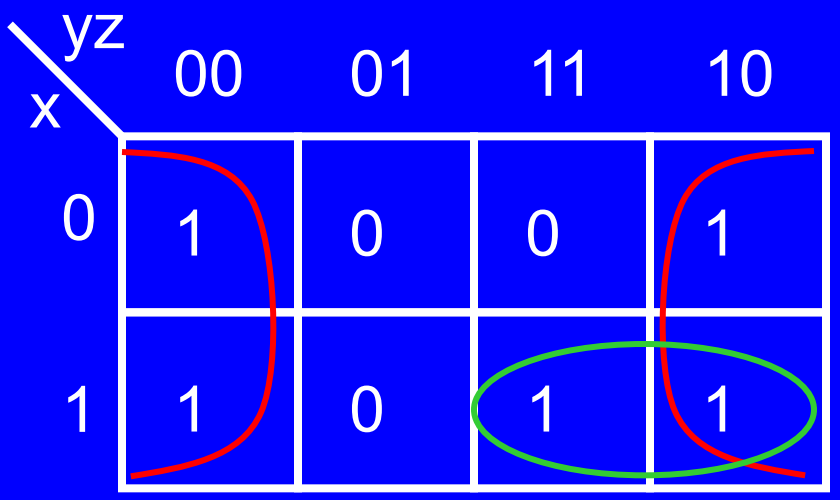
Three-variable Karnaugh map



Three-variable Karnaugh map



Three-variable Karnaugh map

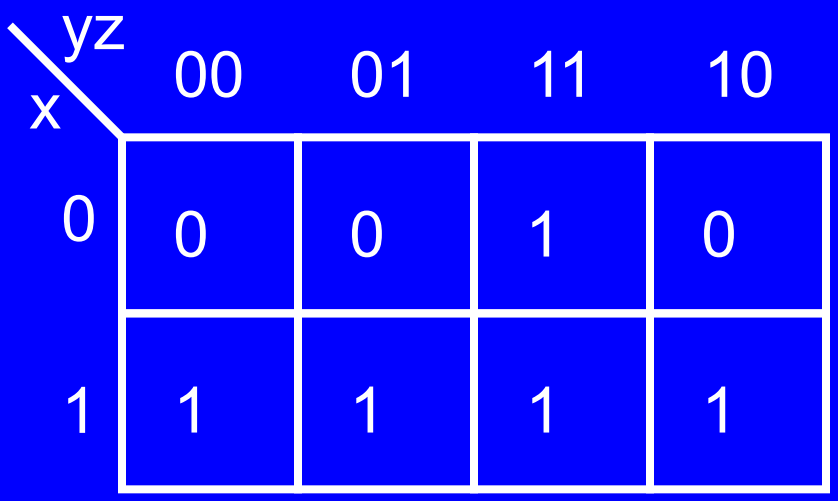


F=z'+xy

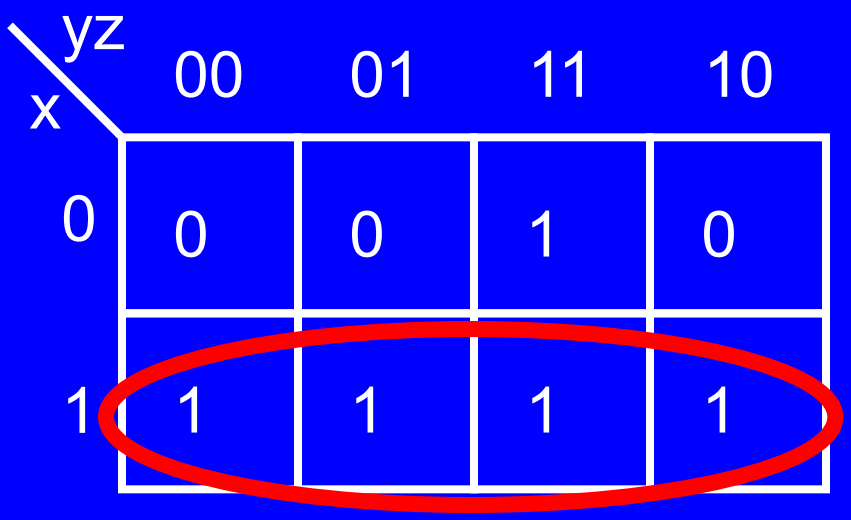
Truth tables

x	y	z	F_1	F_2	F_3	F_4
0	0	0	0	0	0	1
0	0	1	0	0	1	0
0	1	0	0	0	1	1
0	1	1	1	1	0	0
1	0	0	1	0	1	1
1	0	1	1	1	0	0
1	1	0	1	1	0	1
1	1	1	1	1	1	1

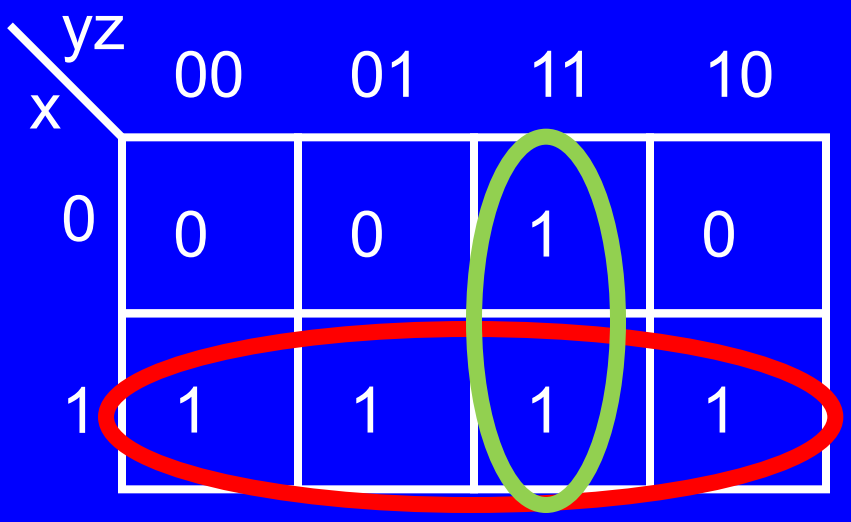
Three-variable Karnaugh map



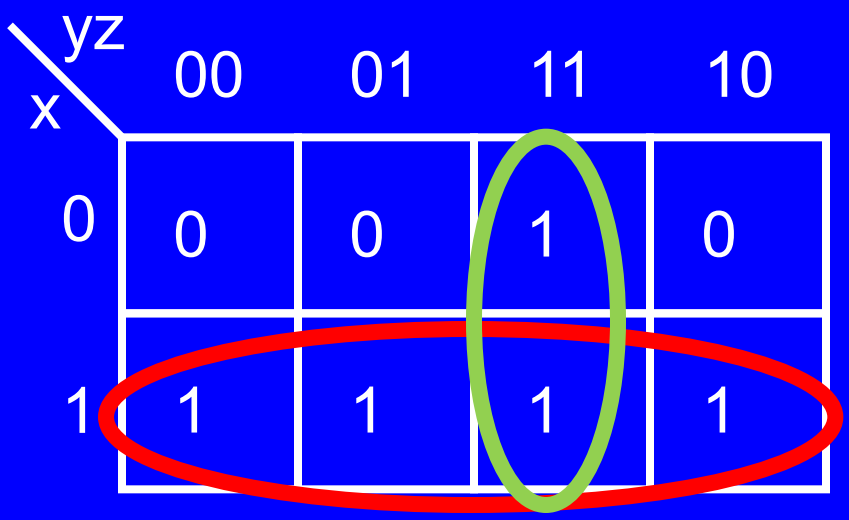
Three-variable Karnaugh map



Three-variable Karnaugh map

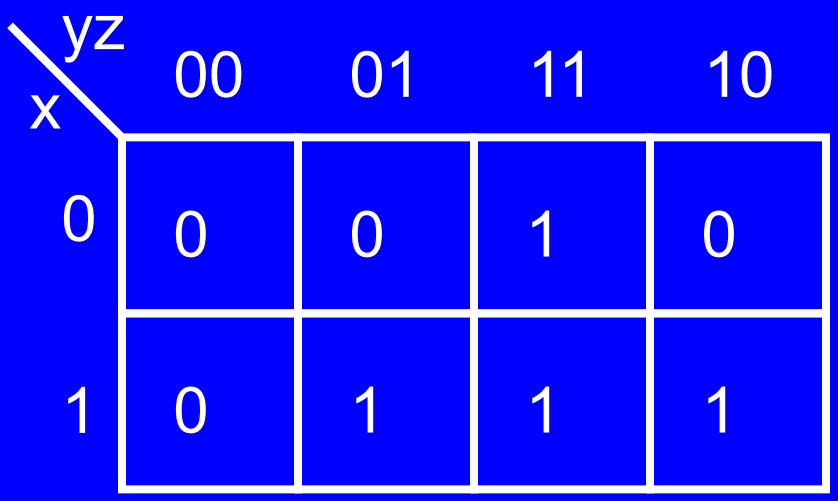


Three-variable Karnaugh map

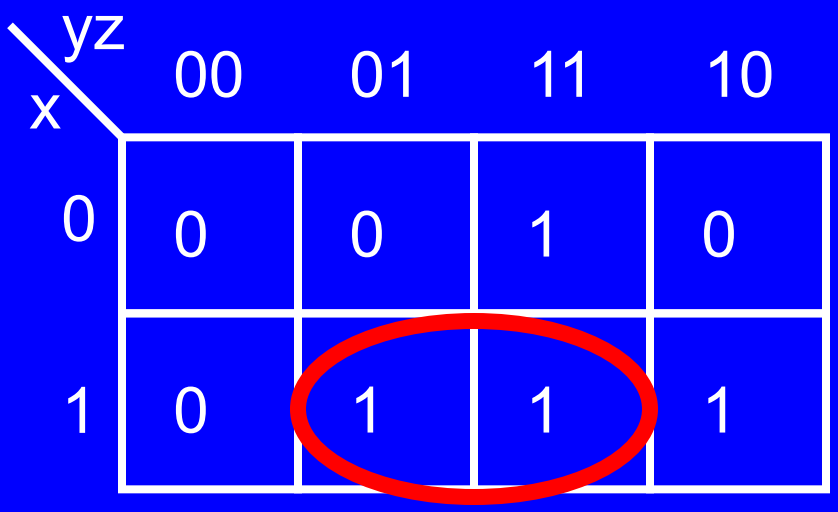


F=x+yz

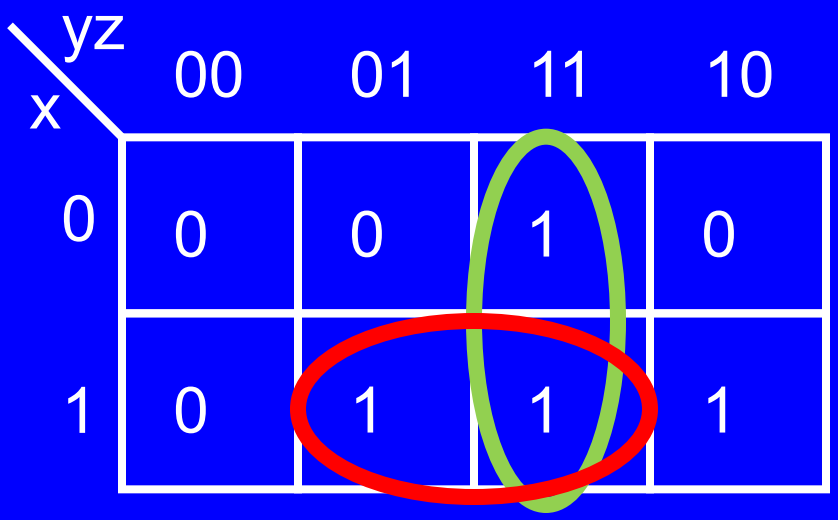
Three-variable Karnaugh map



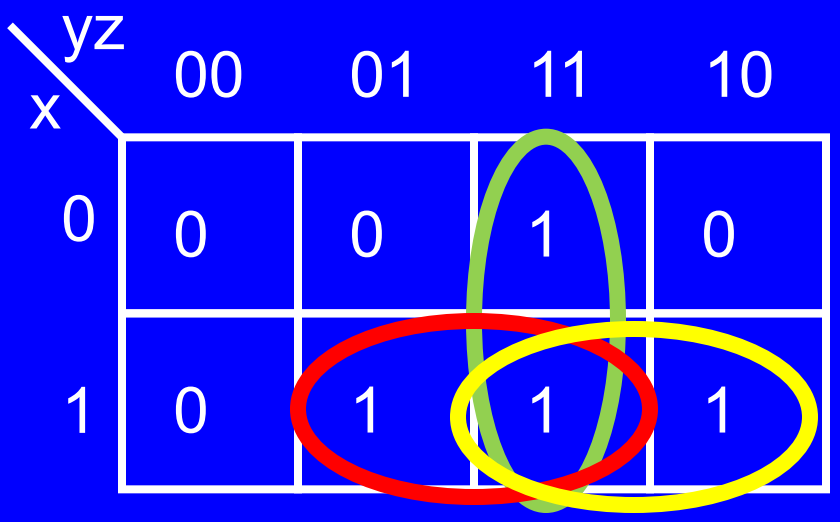
Three-variable Karnaugh map



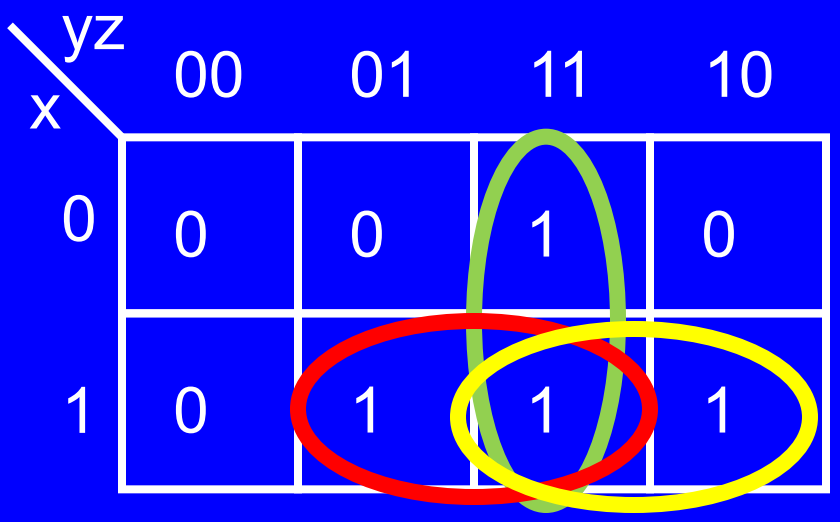
Three-variable Karnaugh map



Three-variable Karnaugh map

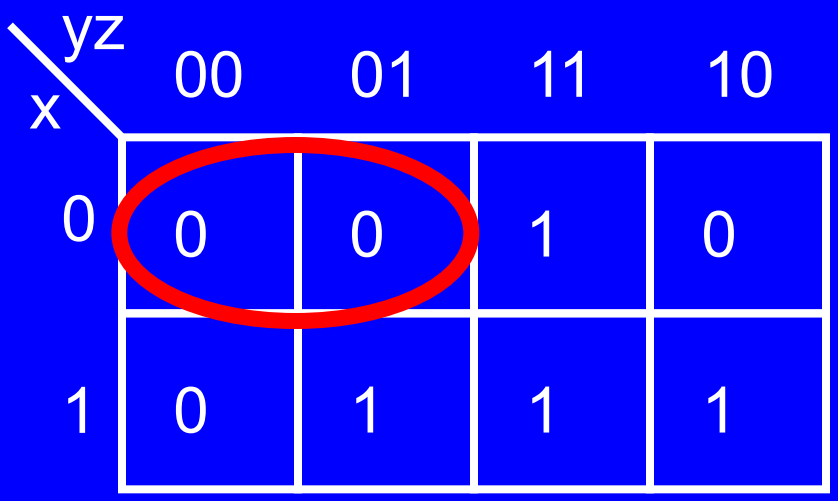


Three-variable Karnaugh map

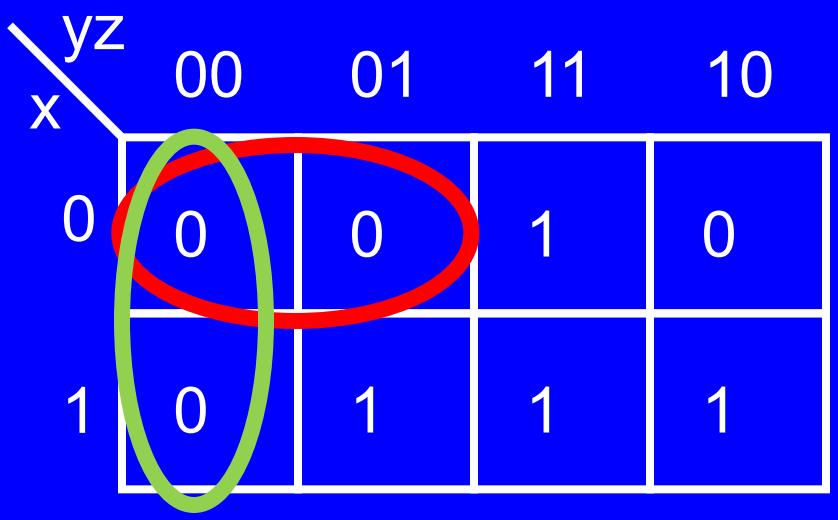


F=xz+yz+xy

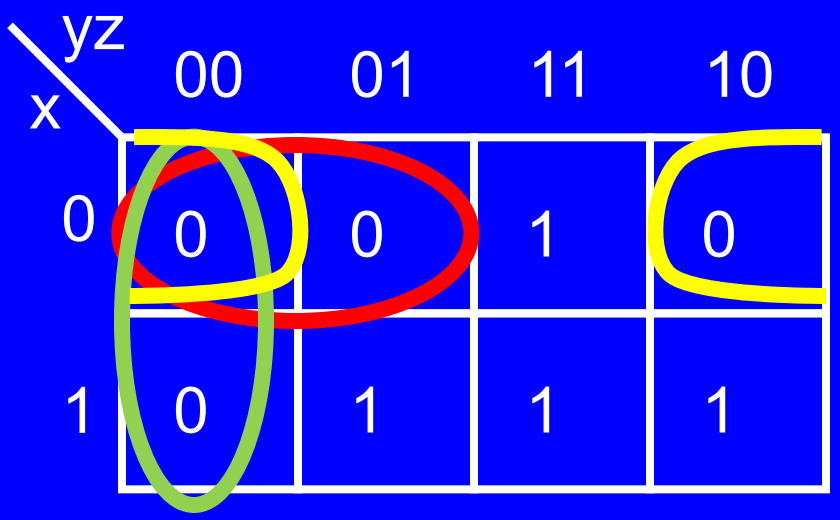
Finding the complement



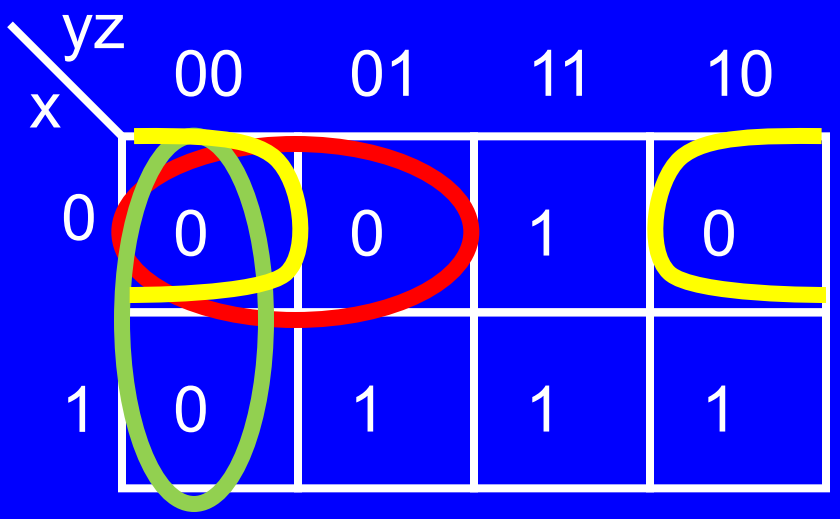
Finding the complement



Finding the complement

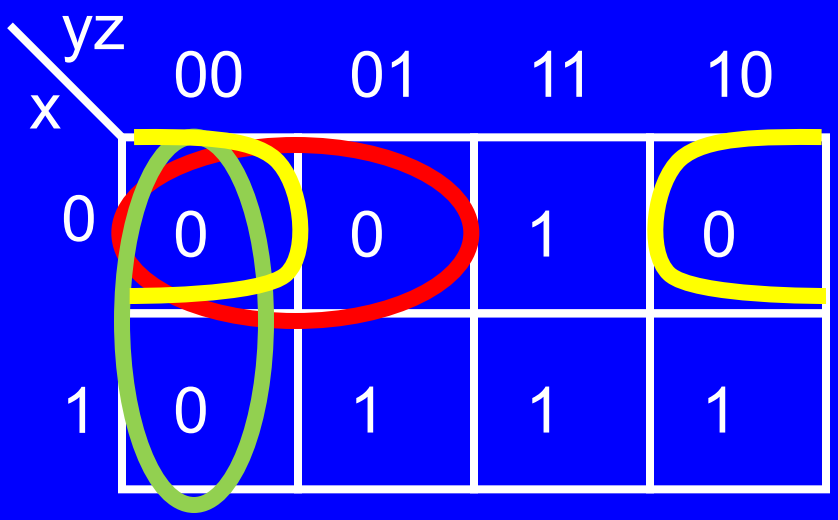


Finding the complement



F'=x'y'+y'z'+x'z'

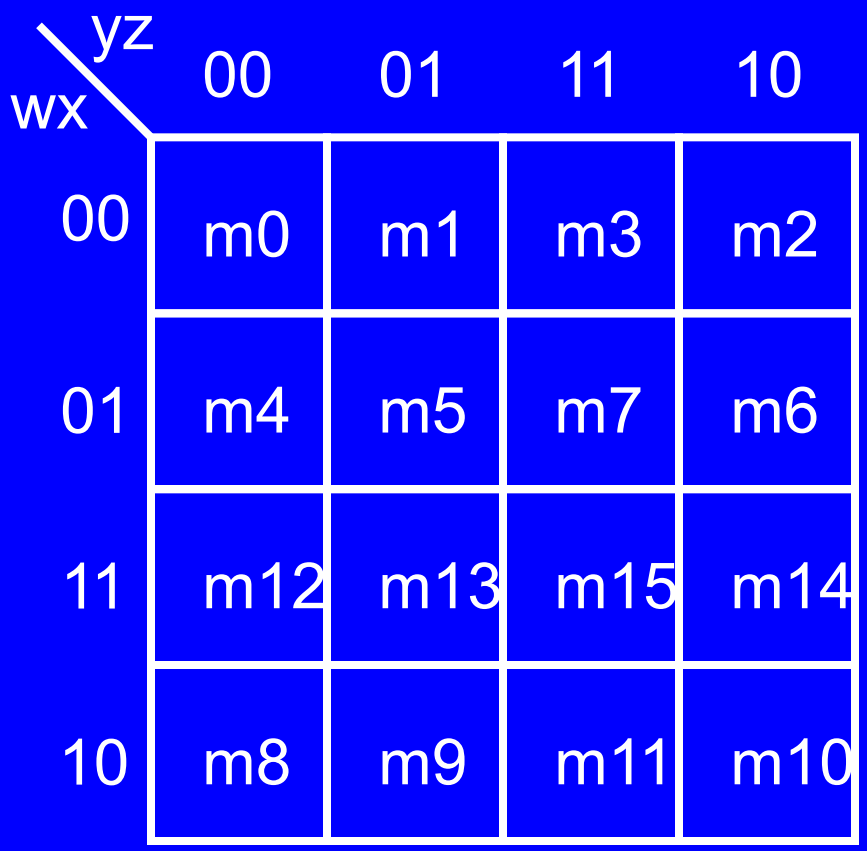
Finding the complement



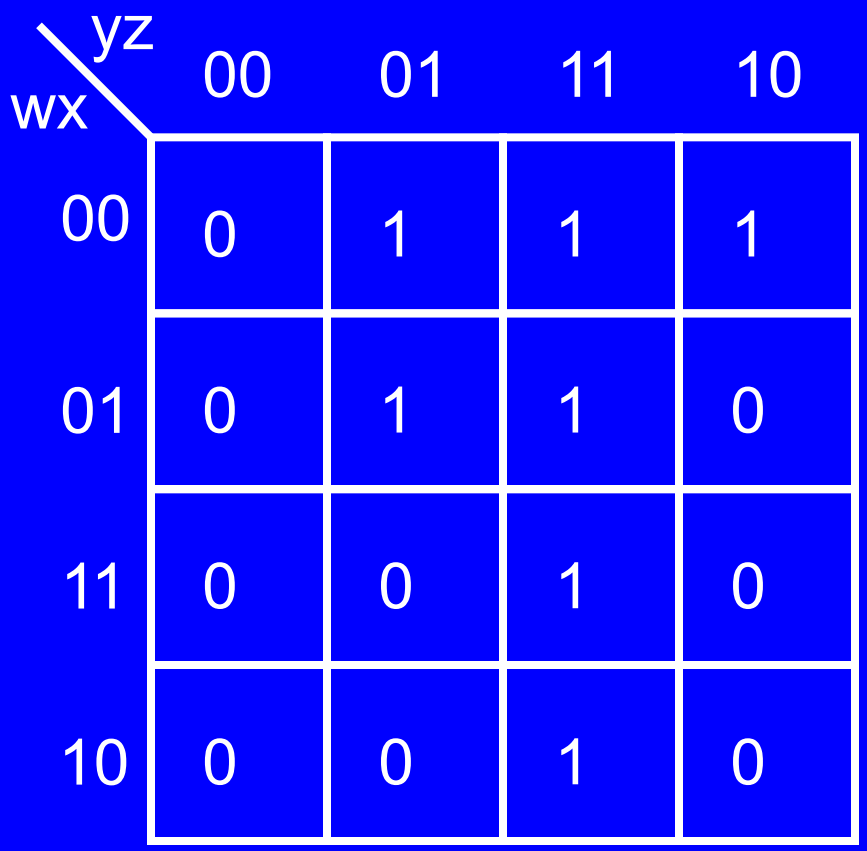
F'=x'y'+y'z'+x'z'

F=(x+y)(y+z)(x+z)

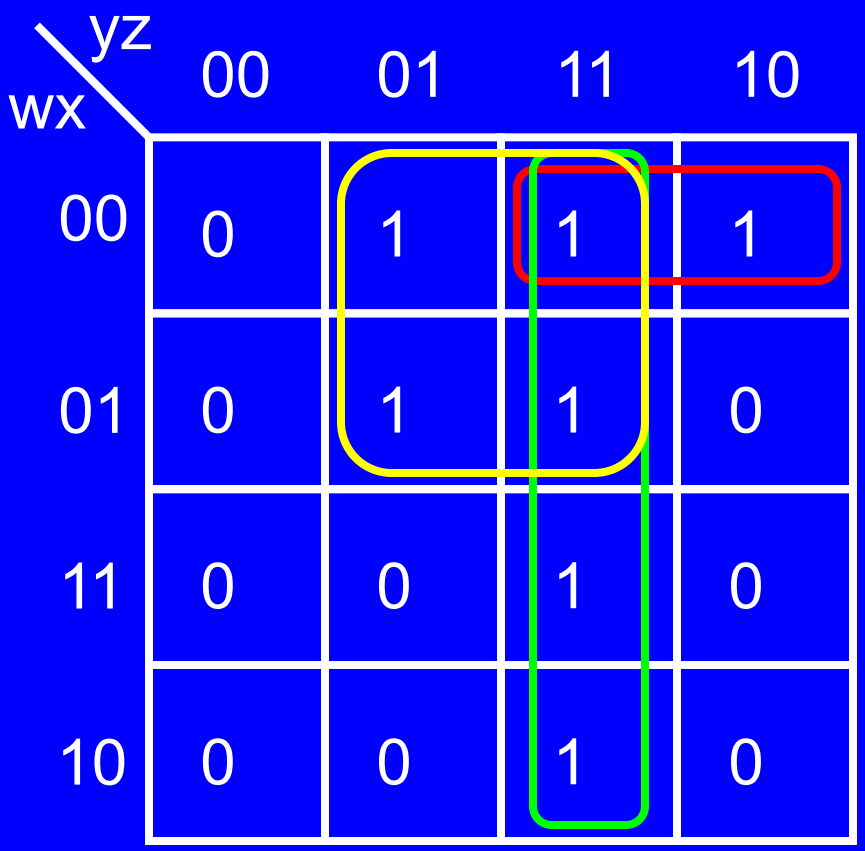
Four-variable Karnaugh map



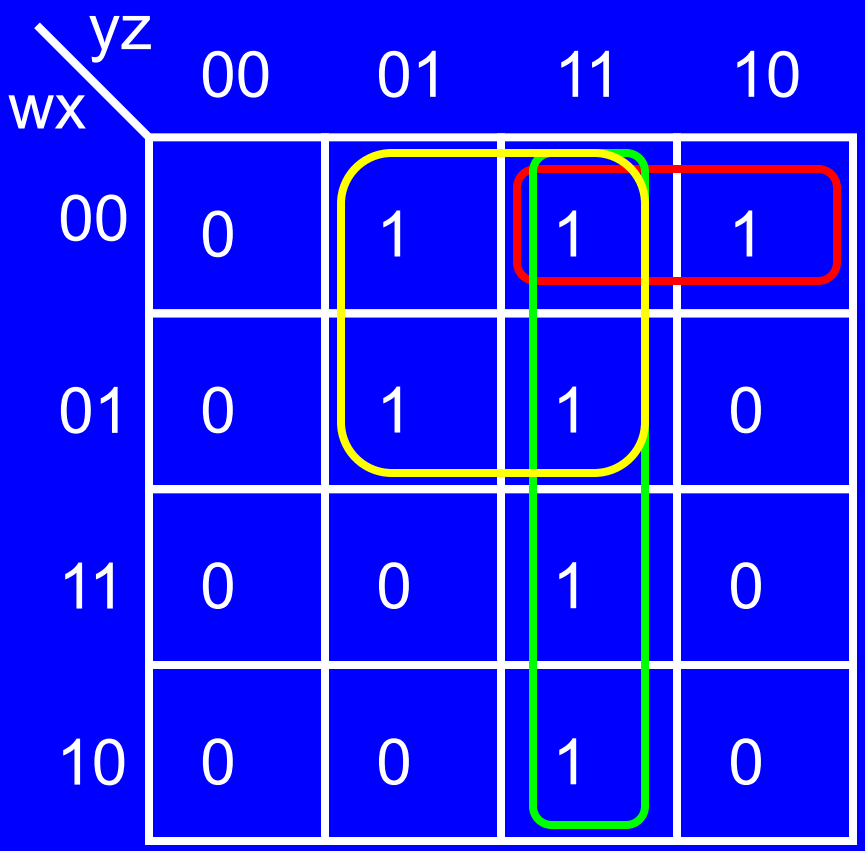
Four-variable Karnaugh map



Four-variable Karnaugh map

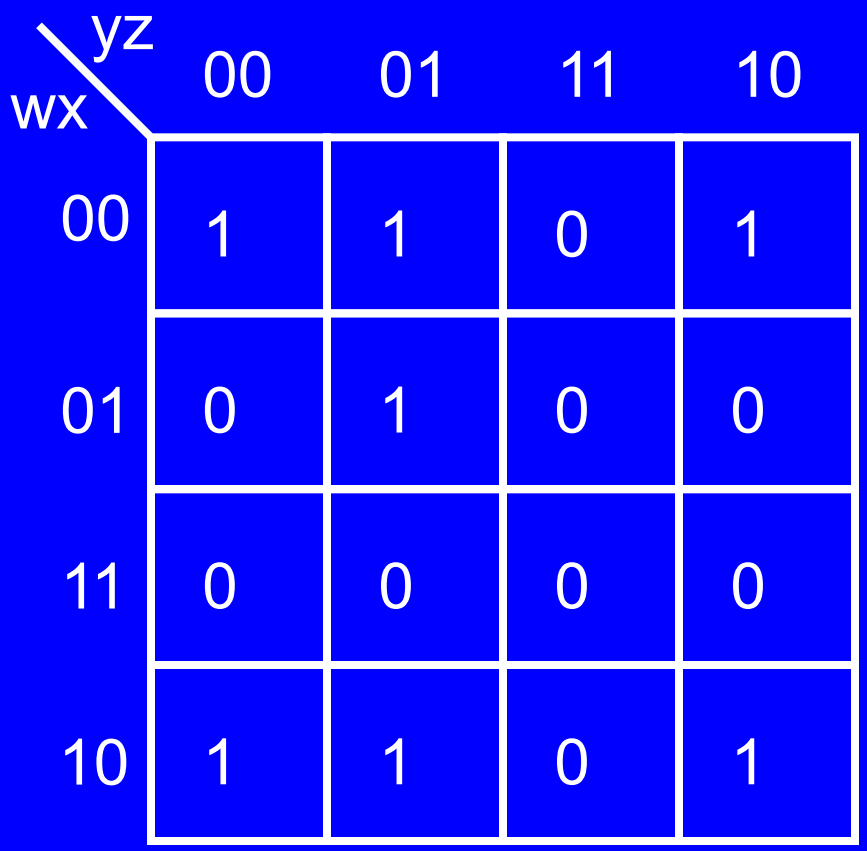


Four-variable Karnaugh map

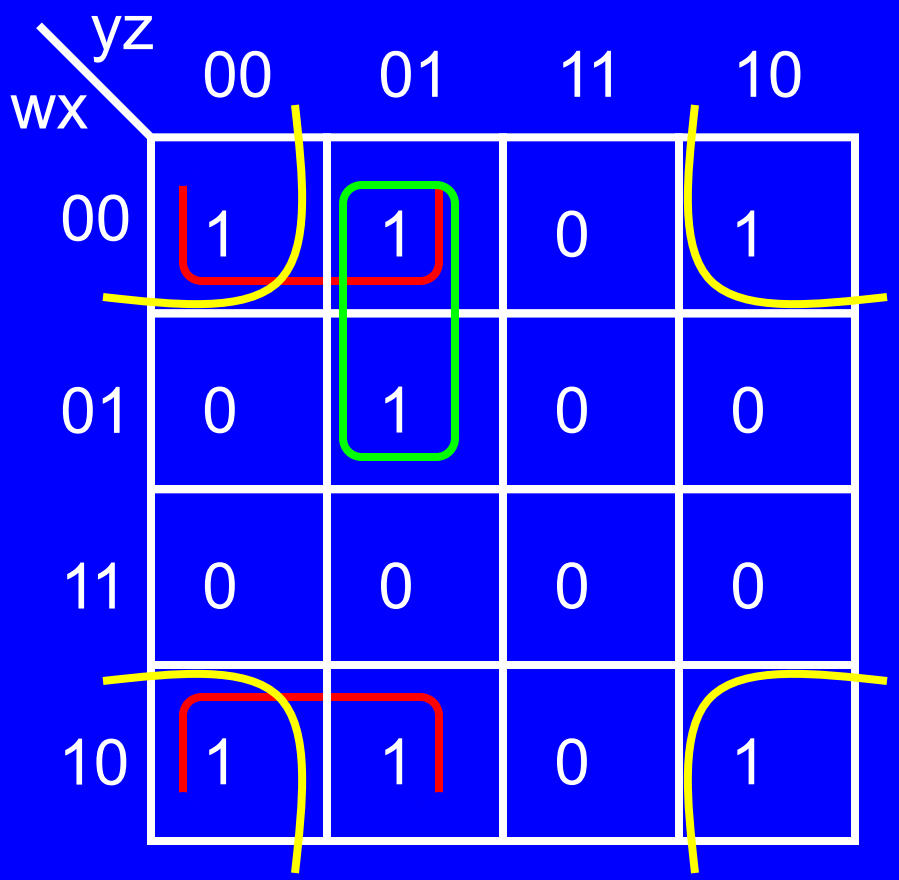


F=w'z+yz+w'x'y

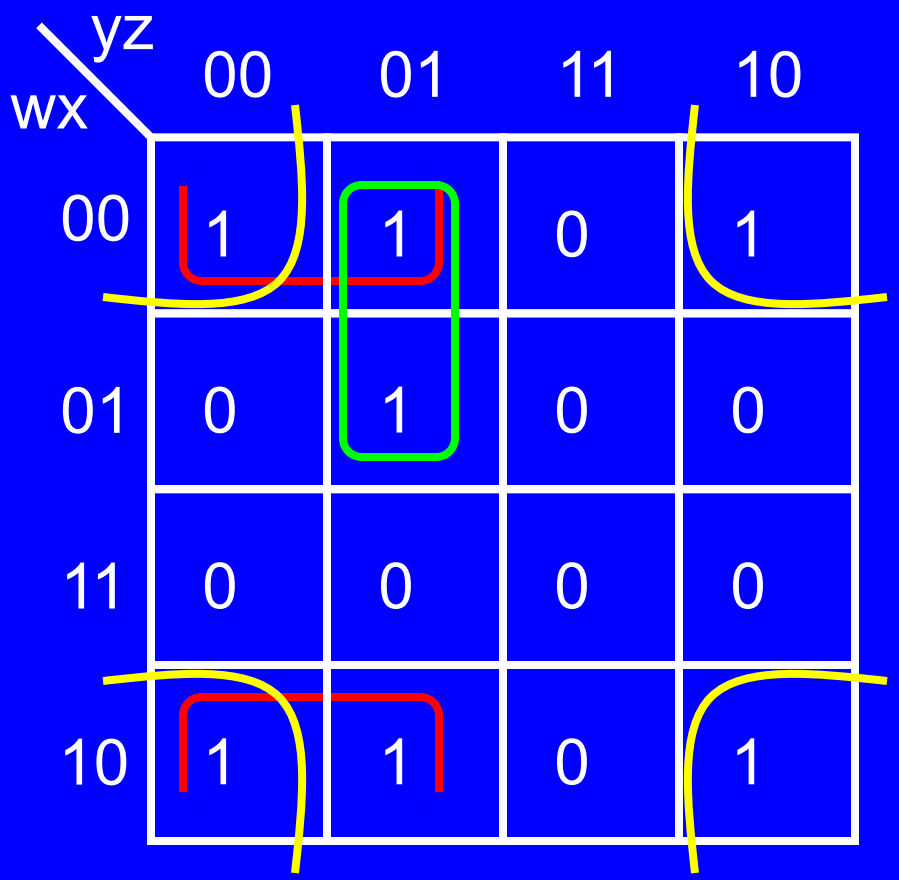
Example



Example



Example

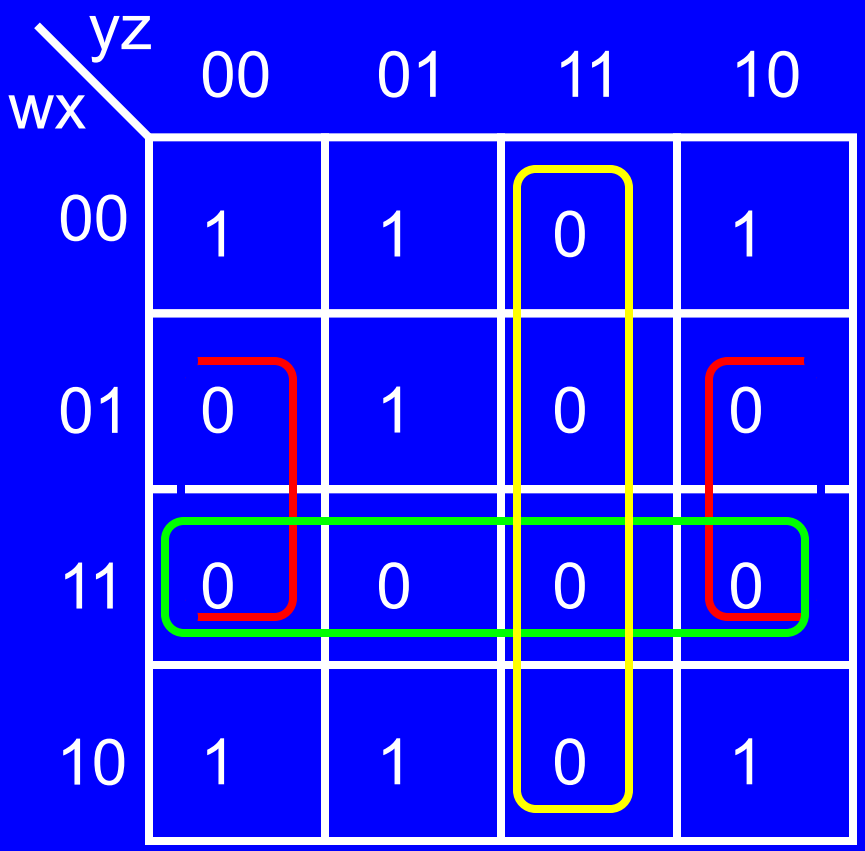


F =
x'y' +
x'z' +
w'y'z

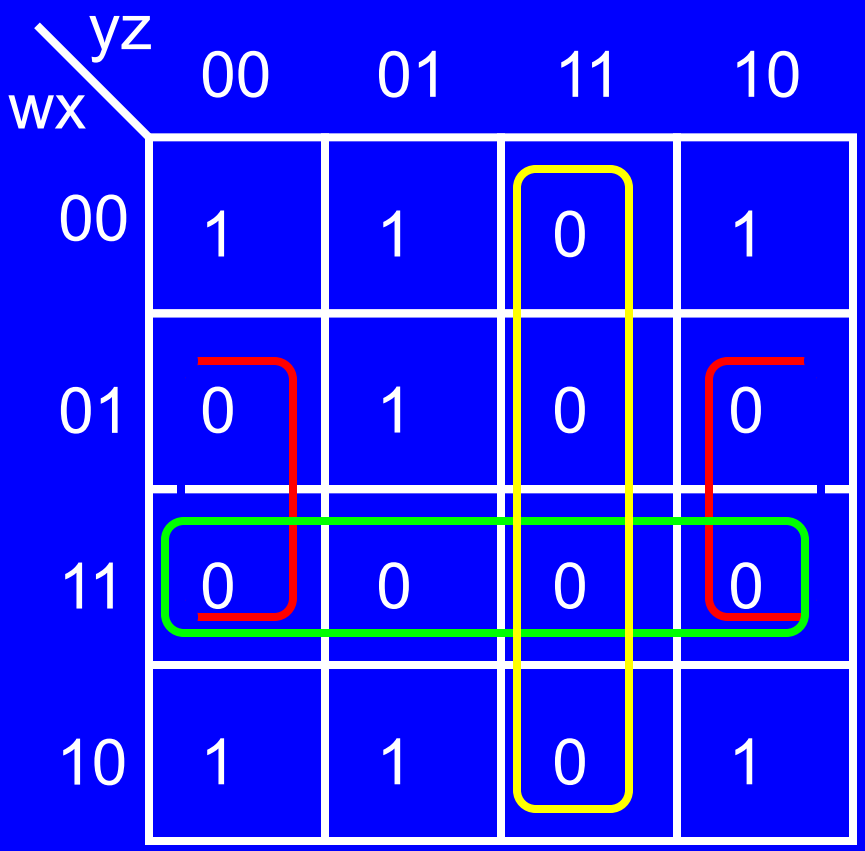
Finding the complement

wx \ yz	00	01	11	10
00	1	1	0	1
01	0	1	0	0
11	0	0	0	0
10	1	1	0	1

Finding the complement

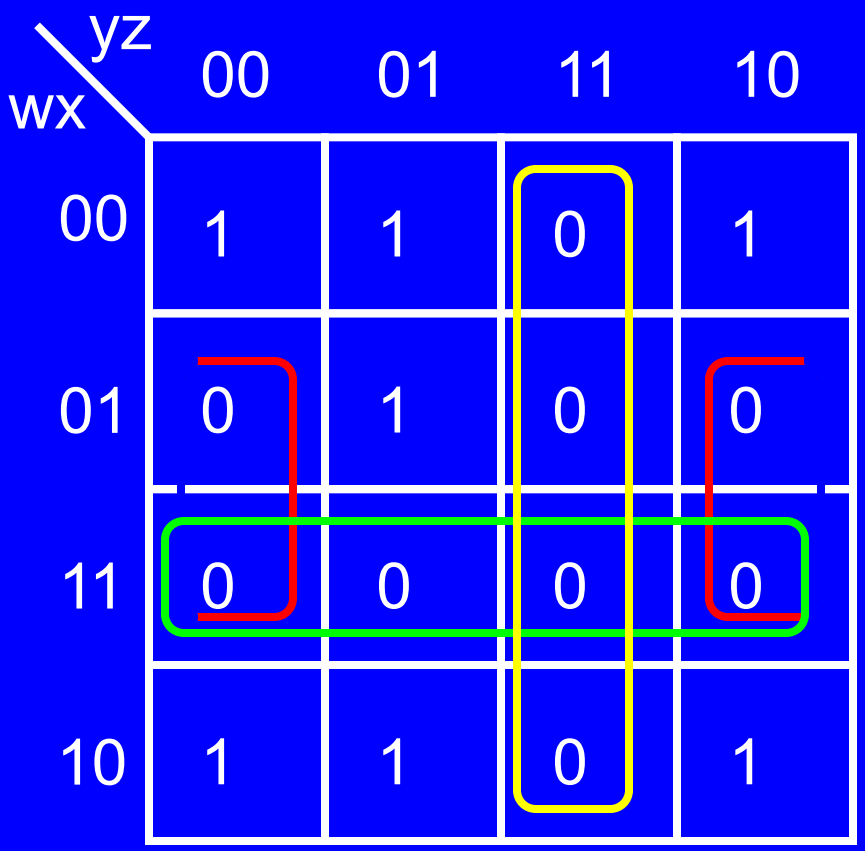


Finding the complement



F' = xz' + wx + yz

Finding the complement



F' = xz' + wx + yz

F = (x' + z) (w' + x') (y' + z')

Decimal	BCD	Excess-3	84-2-1
00	0000	0011	0000
01	0001	0100	0111
02	0010	0101	0110
03	0011	0110	0101
04	0100	0111	0100
05	0101	1000	1011
06	0110	1001	1010
07	0111	1010	1001
08	1000	1011	1000
09	1001	1100	1111

Decimal	BCD	Biquinary	2421
00	0000	0100001	0000
01	0001	0100010	0001
02	0010	0100100	0010
03	0011	0101000	0011
04	0100	0110000	0100
05	0101	1000001	1011
06	0110	1000010	1100
07	0111	1000100	1101
08	1000	1001000	1110
09	1001	1010000	1111

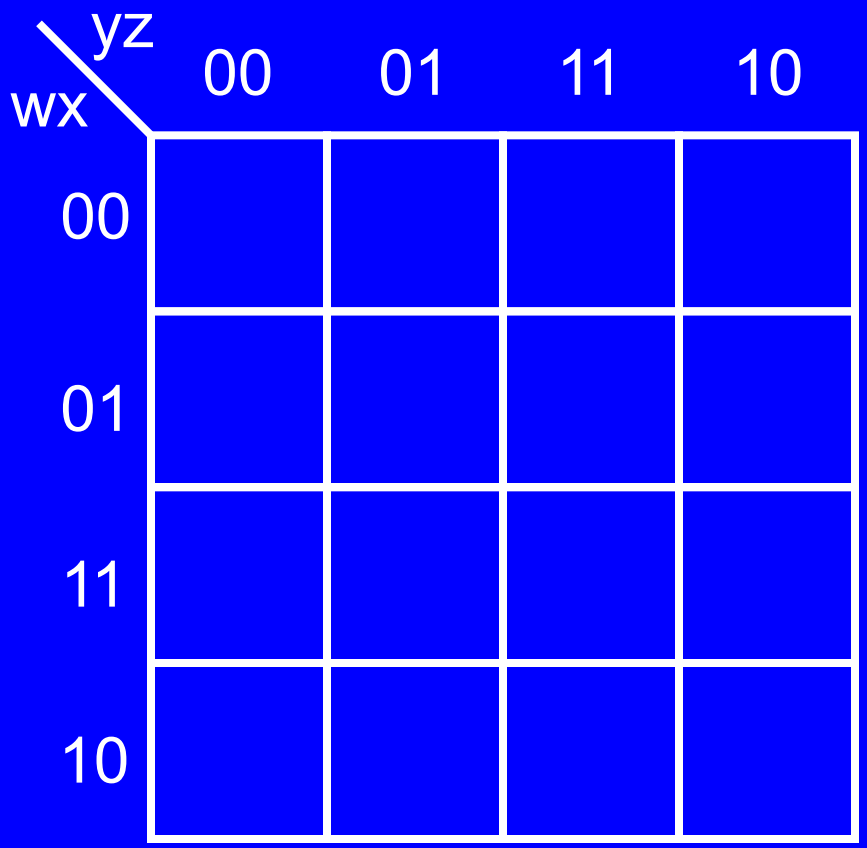
Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

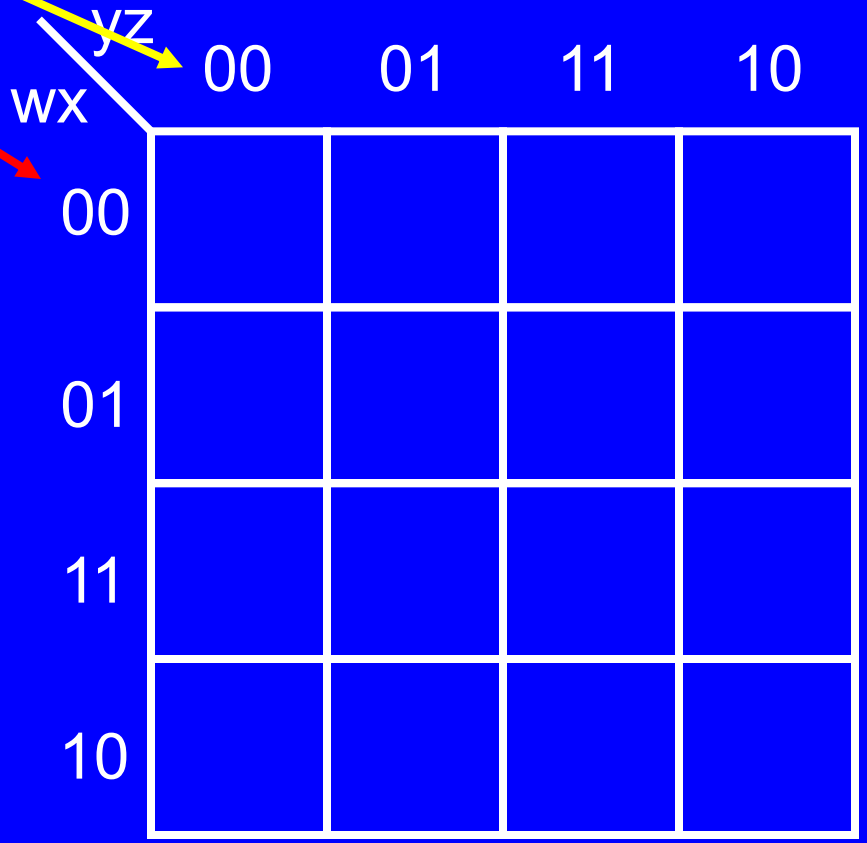
A=



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=



Conversion from BCD to XS-3

WXYZ	ABCD
0000	0011
0001	0100
0010	0101
0011	0110
0100	0111
0101	1000
0110	1001
0111	1010
1000	1011
1001	1100
1010	XXXX
1011	XXXX
1100	XXXX
1101	XXXX
1110	XXXX
1111	XXXX

A=

wx \ yz	00	01	11	10
00	0			
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0			
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0		
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0		
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0		0
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0		0
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01				
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0			
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0			
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1		
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11				
10				

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11				
10	1			

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11				
10	1	1	X	X

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11	X			
10	1	1	X	X

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

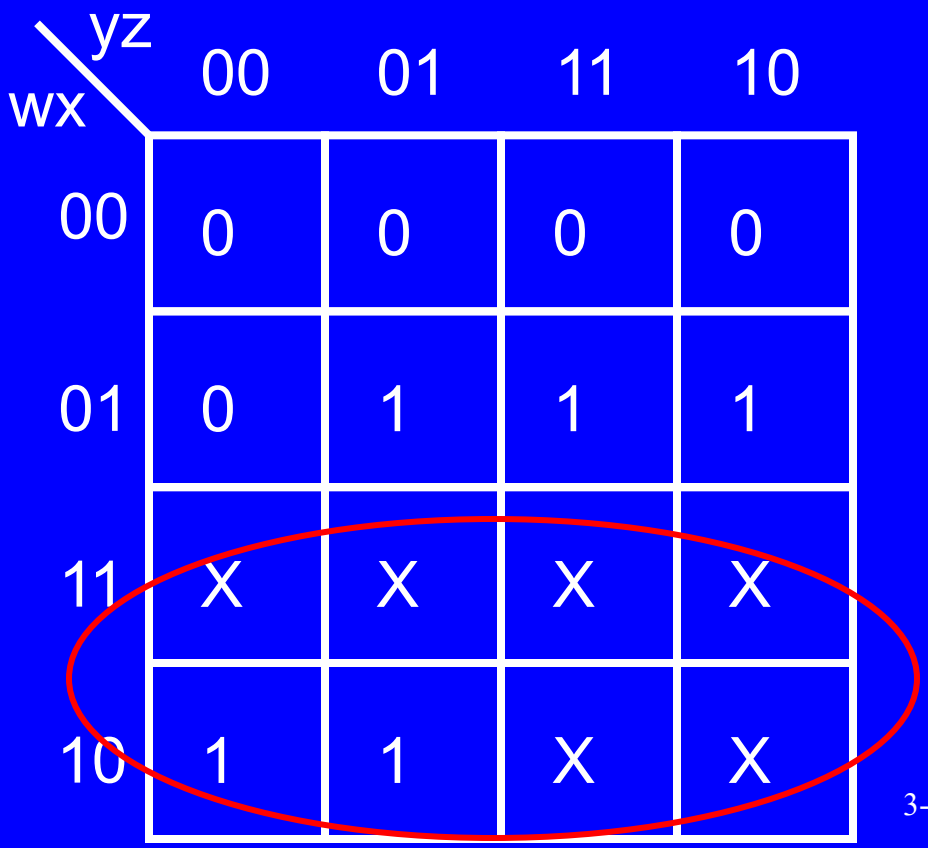
A=

wx \ yz	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11	X	X	X	X
10	1	1	X	X

Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

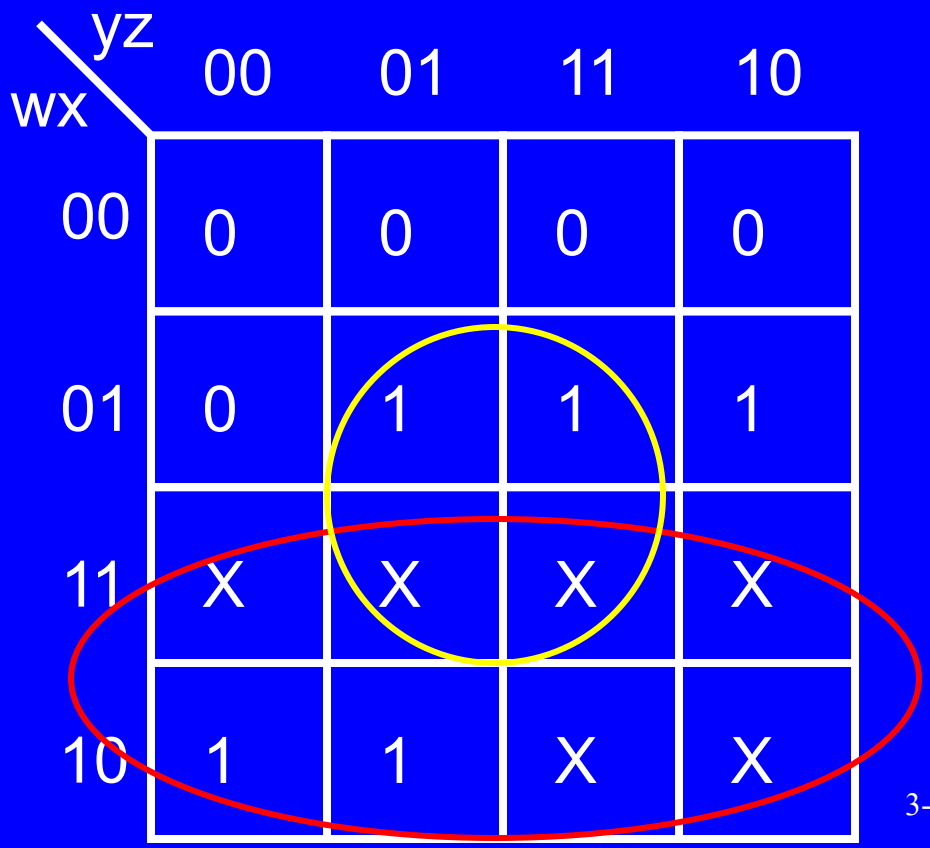
A=



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

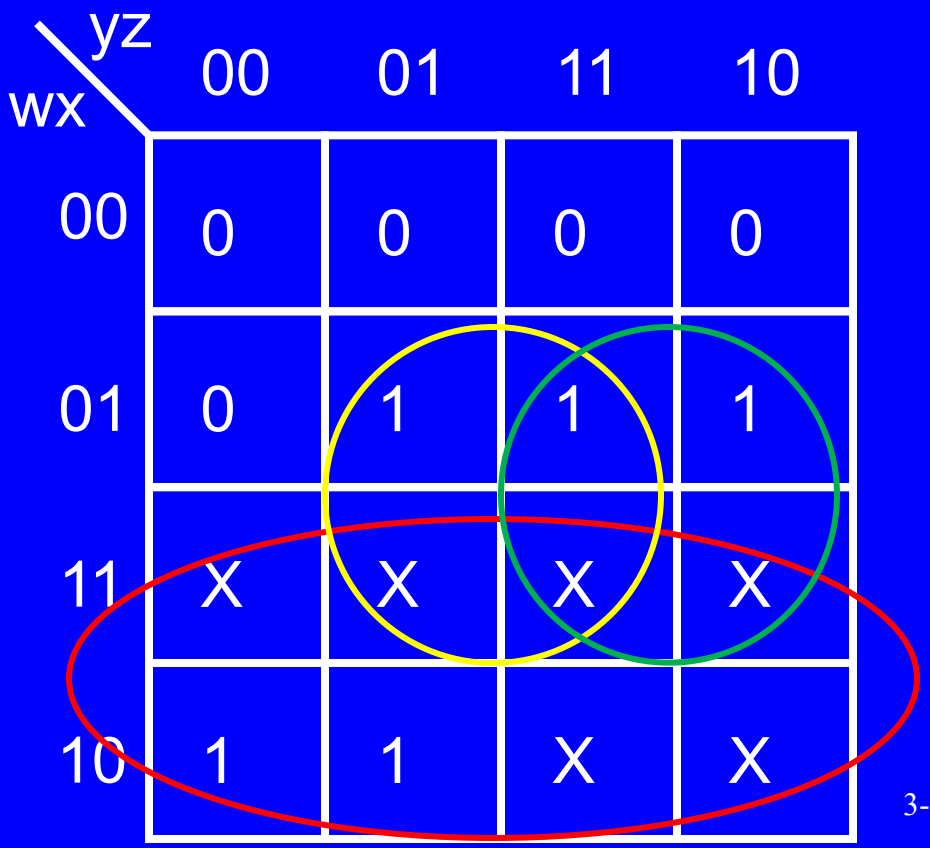
A=



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

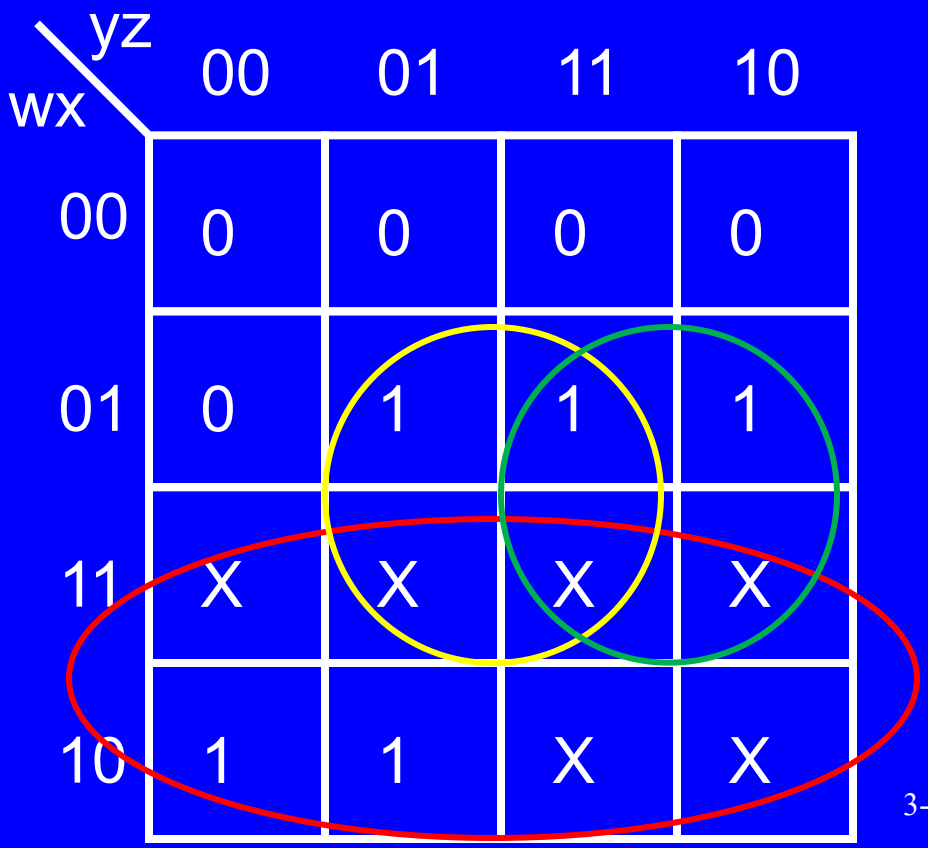
A=



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

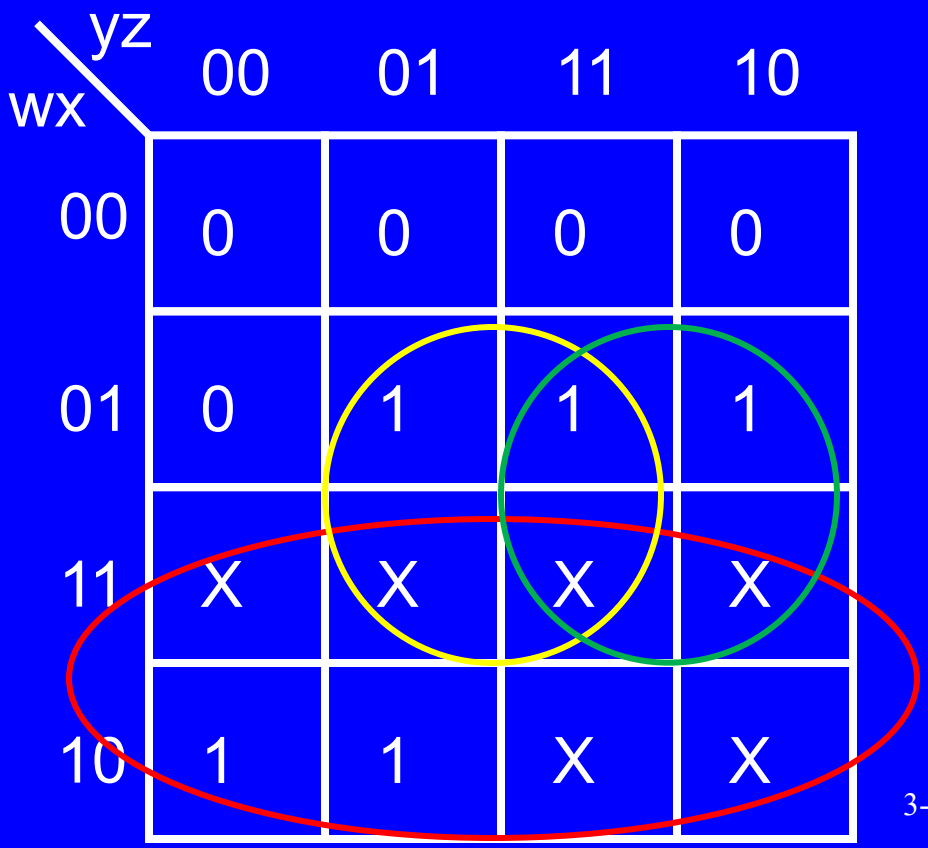
A=w



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

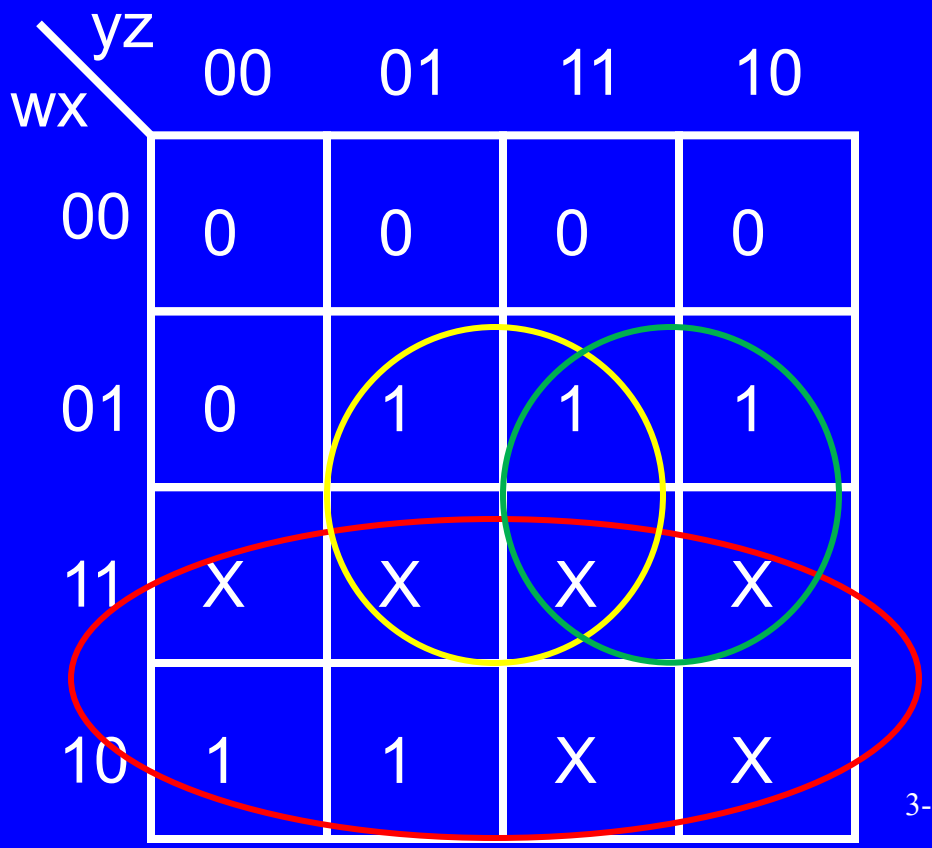
A=w+xz



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

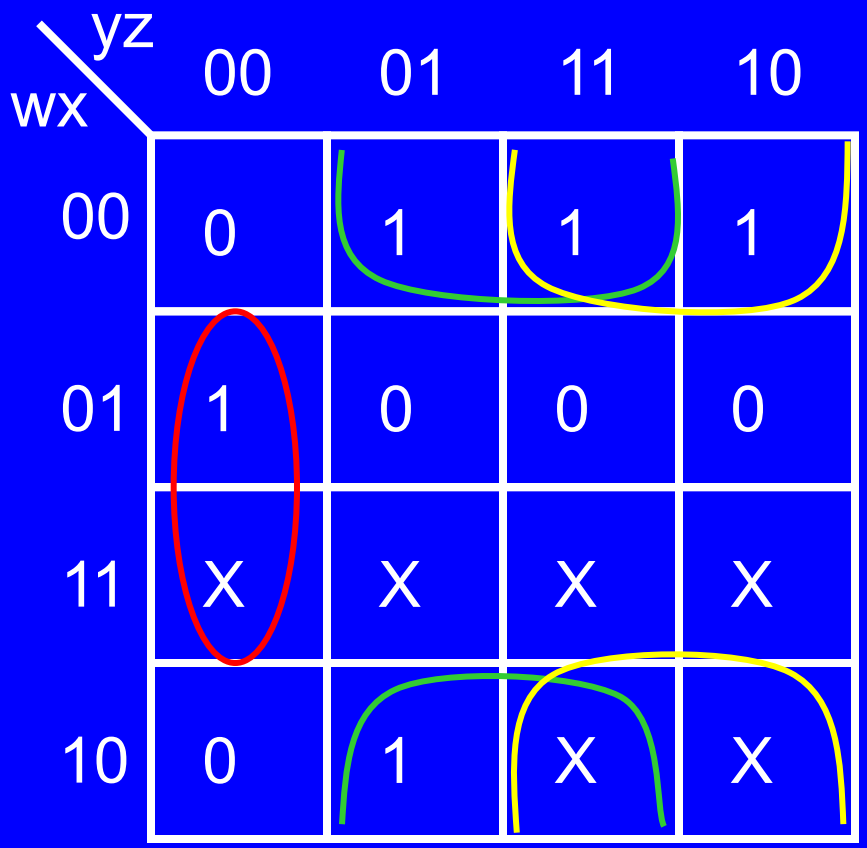
A=w+xz+xy



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=w+xz+xy B=xy'z'+x'z+x'y

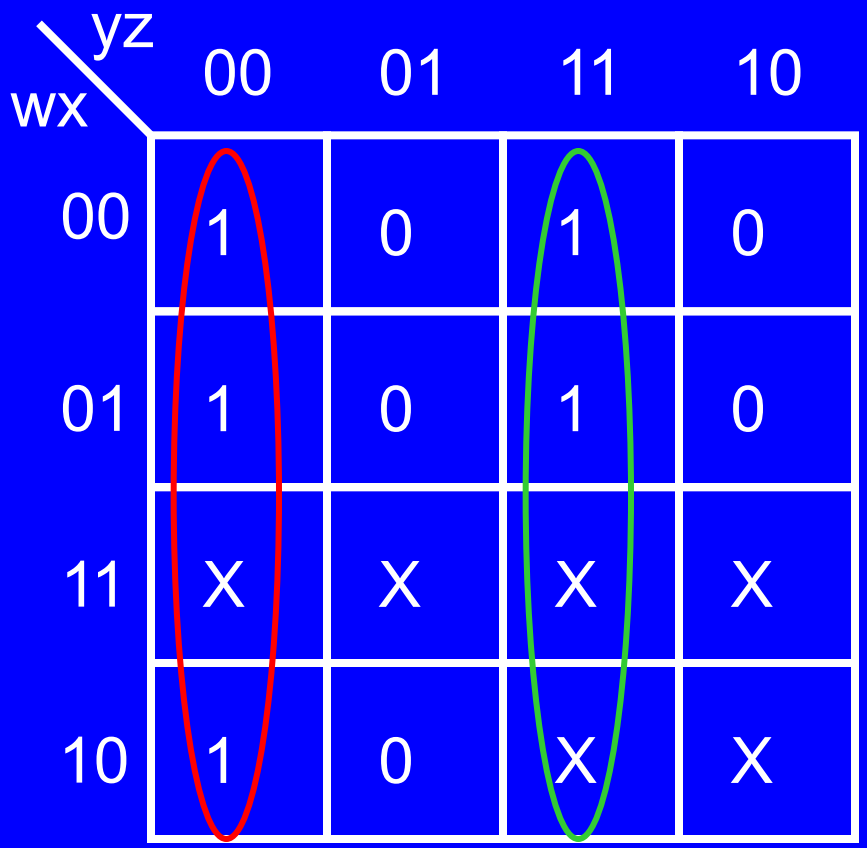


Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=w+xz+xy B=xy'z'+x'z+x'y

C=y'z'+yz

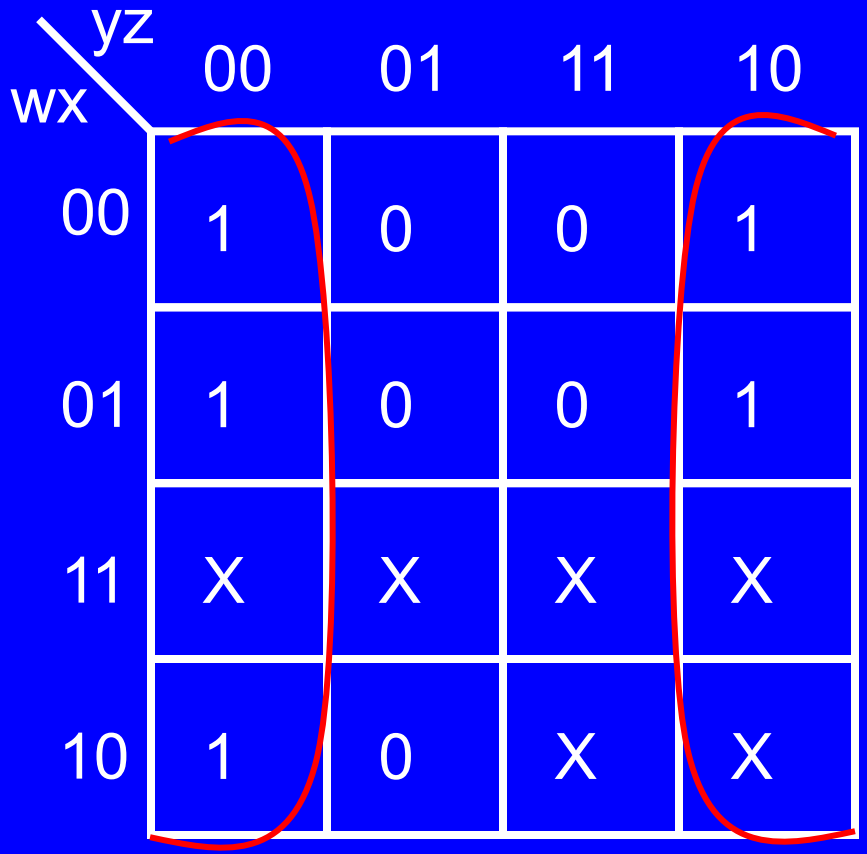


Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A=w+xz+xy B=xy'z'+x'z+x'y

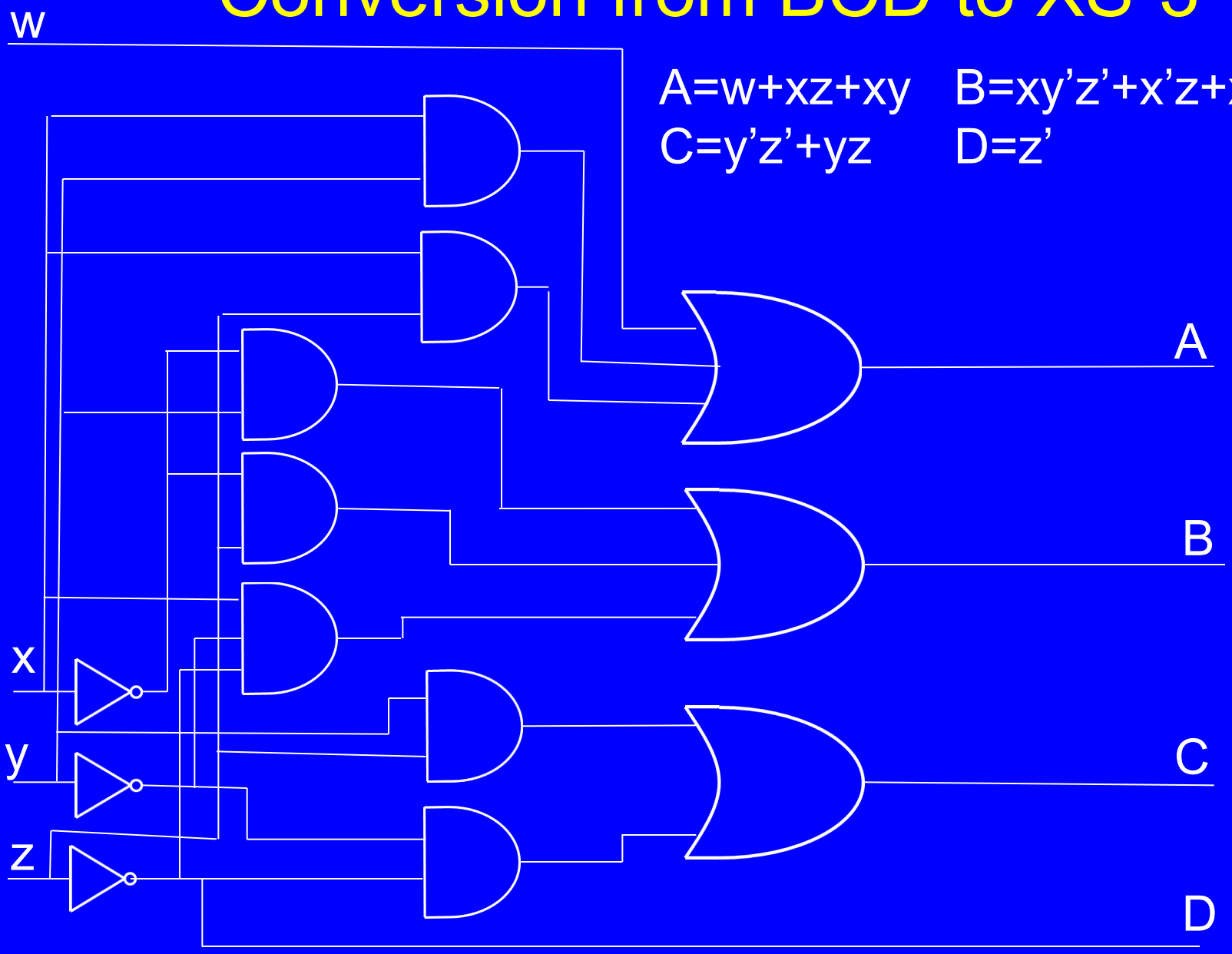
C=y'z'+yz D=z'



Conversion from BCD to XS-3

A=w+xz+xy B=xy'z'+x'z+x'y

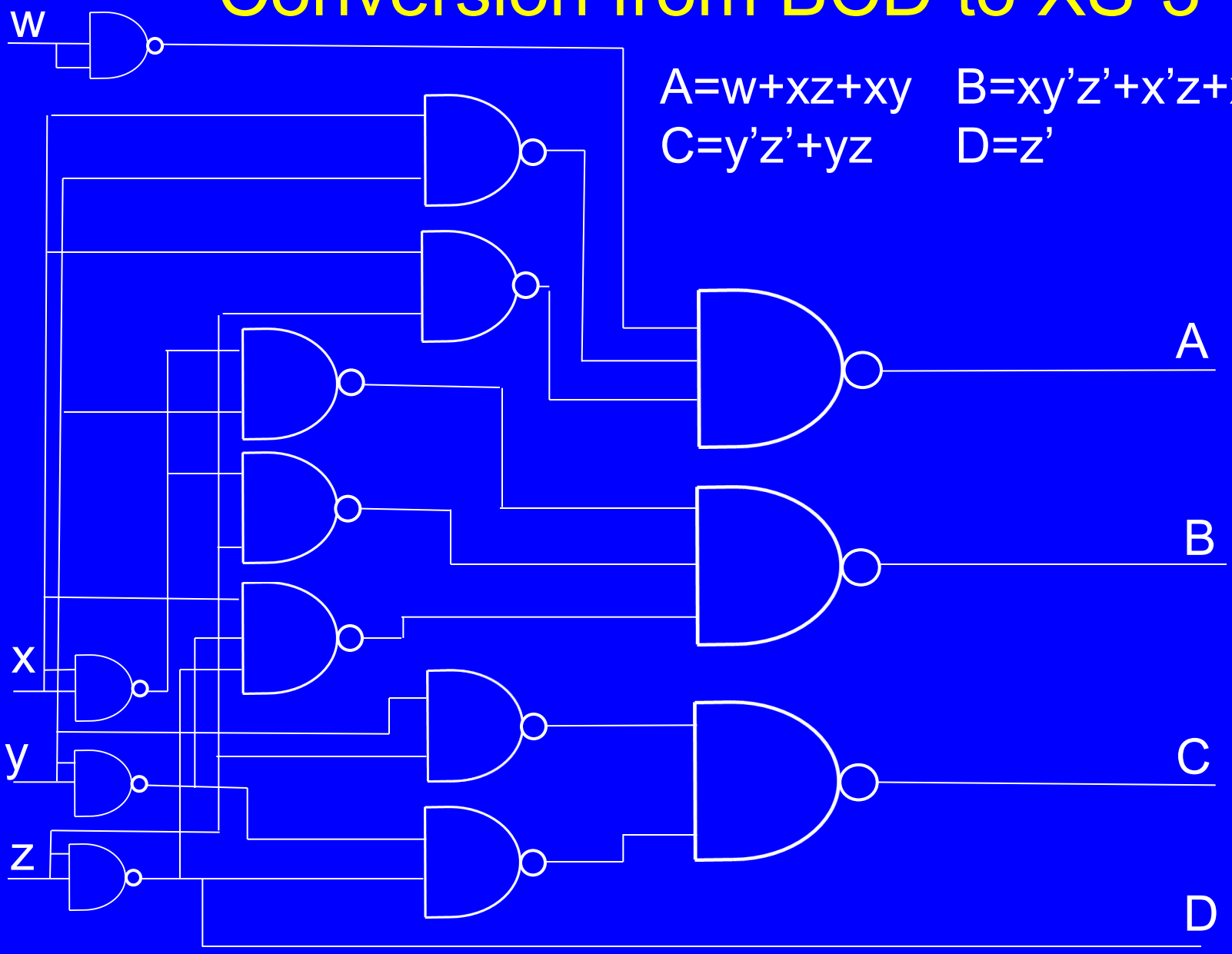
C=y'z'+yz D=z'



Conversion from BCD to XS-3

A=w+xz+xy B=xy'z'+x'z+x'y

C=y'z'+yz D=z'

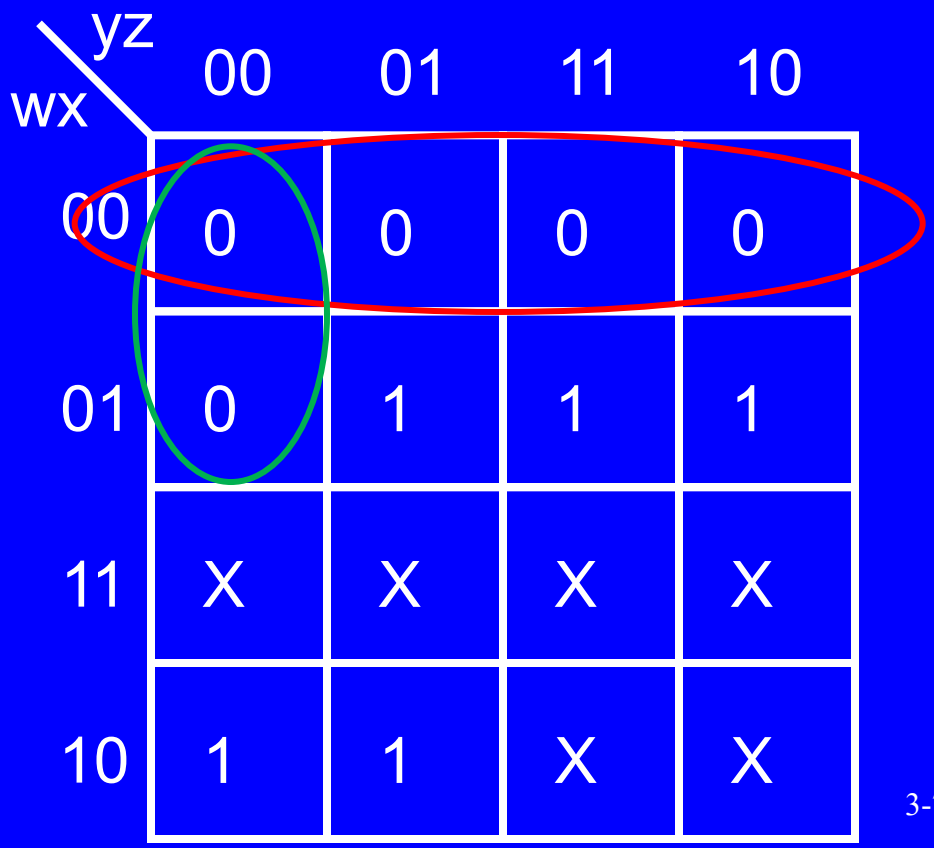


Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

A'=w'x'+w'y'z'

A=(w+x)(w+y+z)

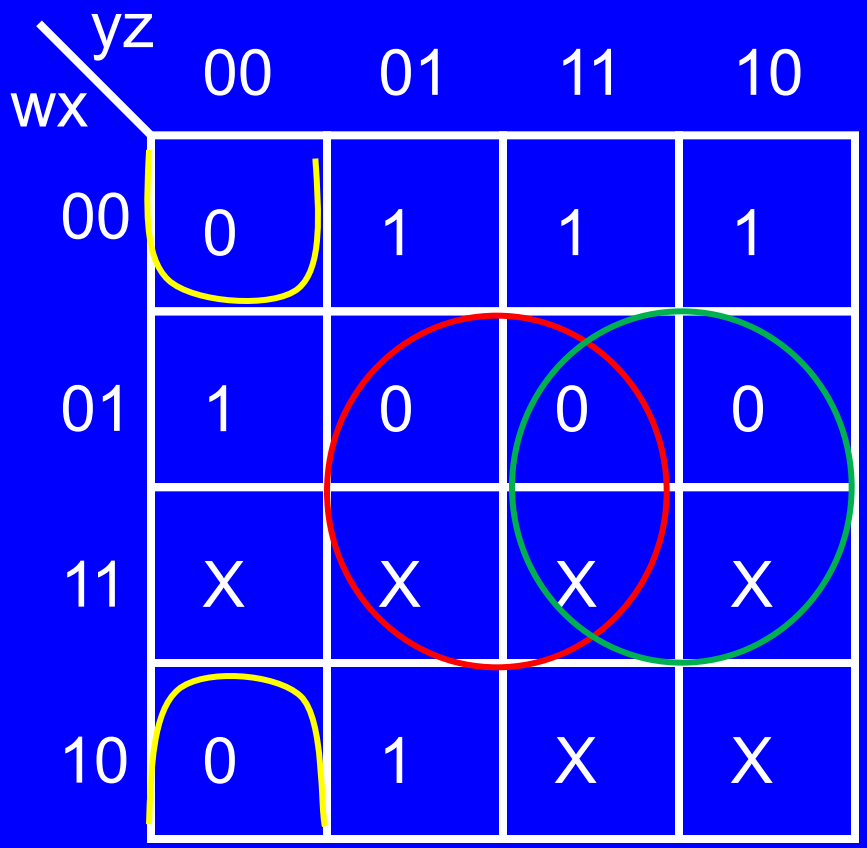


Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

B'=xz+xy+x'y'z'

B=(x'+z')(x'+y')(x+y+z)

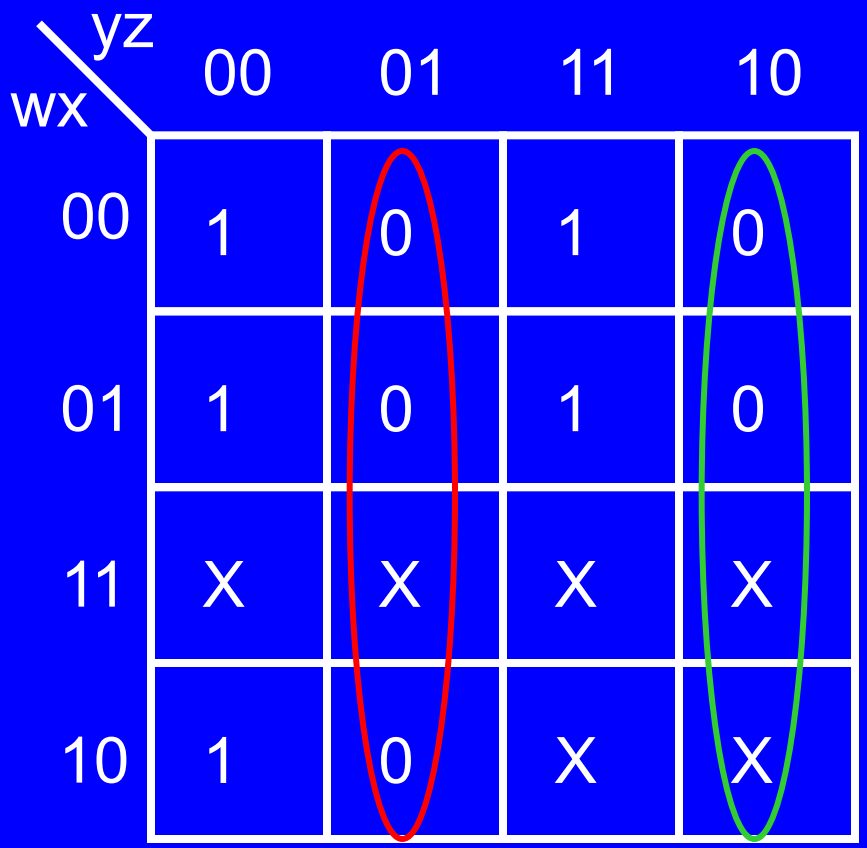


Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

C'=y'z+yz'

C=(y+z')(y'+z)



Conversion from BCD to XS-3

WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	XXXX
1 0 1 1	XXXX
1 1 0 0	XXXX
1 1 0 1	XXXX
1 1 1 0	XXXX
1 1 1 1	XXXX

D'=z

D=z'

wx \ yz	00	01	11	10
00	1	0	0	1
01	1	0	0	1
11	X	X	X	X
10	1	0	X	X

Conversion from BCD to XS-3

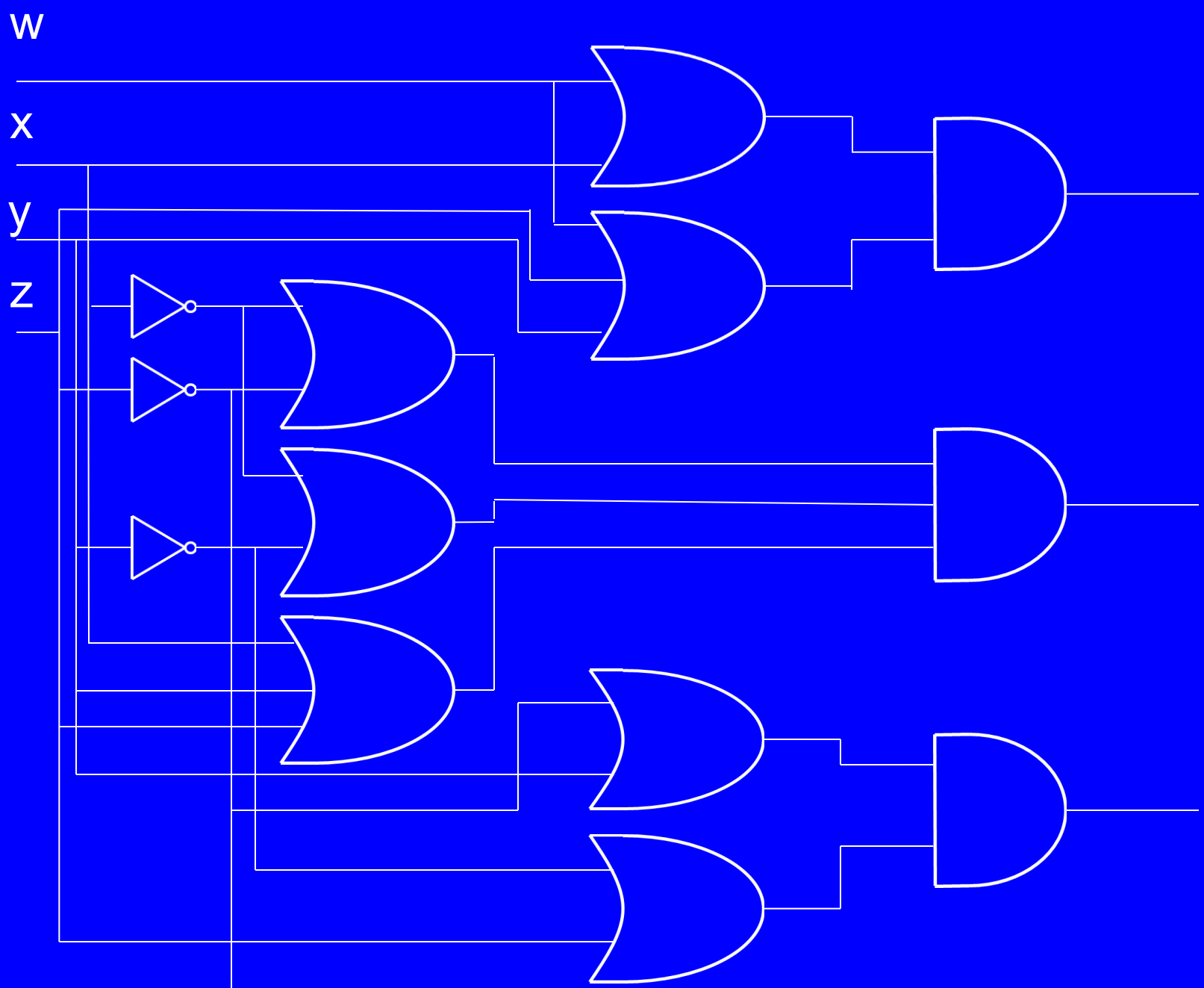
WXYZ	ABCD
0 0 0 0	0 0 1 1
0 0 0 1	0 1 0 0
0 0 1 0	0 1 0 1
0 0 1 1	0 1 1 0
0 1 0 0	0 1 1 1
0 1 0 1	1 0 0 0
0 1 1 0	1 0 0 1
0 1 1 1	1 0 1 0
1 0 0 0	1 0 1 1
1 0 0 1	1 1 0 0
1 0 1 0	X X X X
1 0 1 1	X X X X
1 1 0 0	X X X X
1 1 0 1	X X X X
1 1 1 0	X X X X
1 1 1 1	X X X X

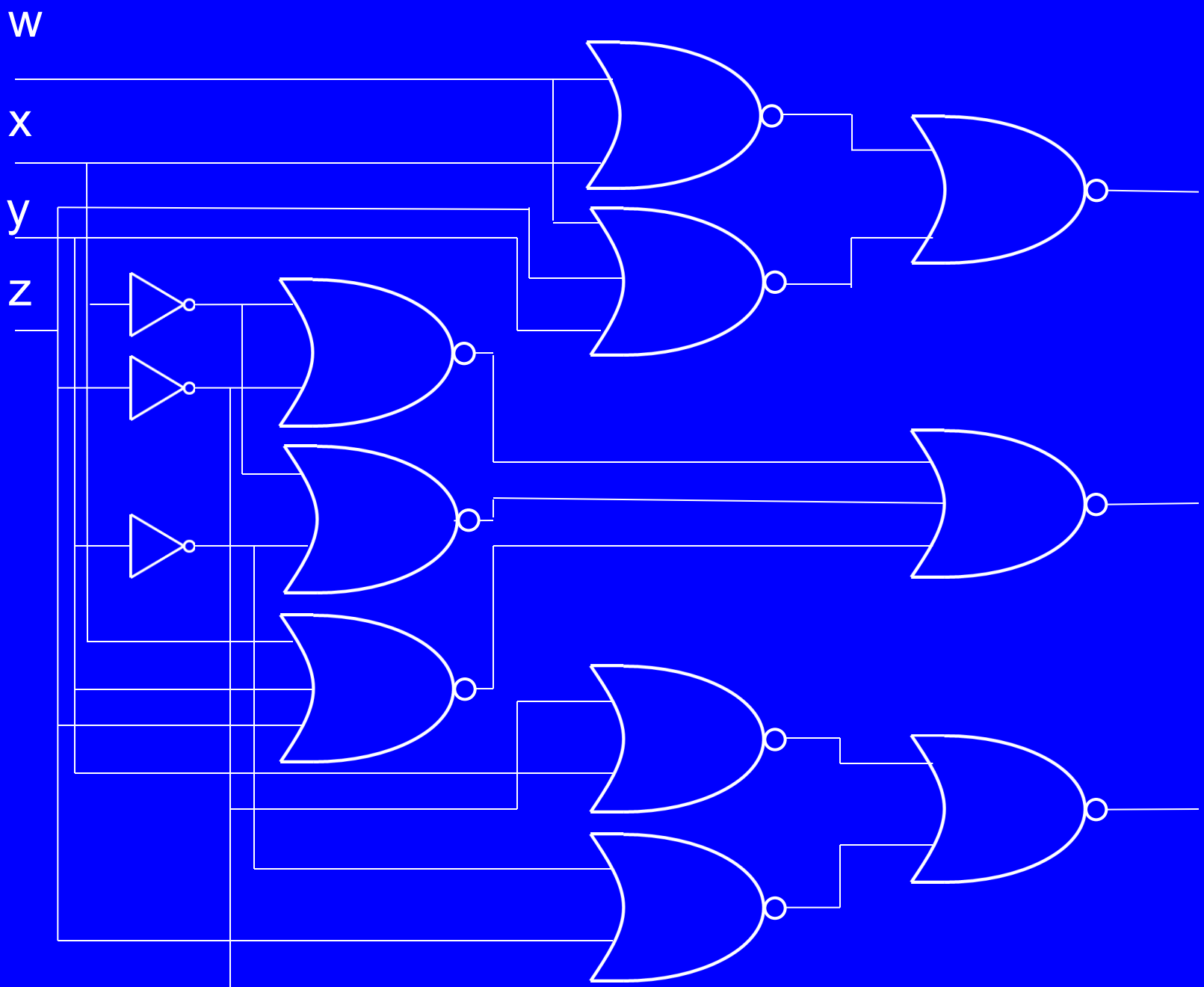
A=(w+x)(w+y+z)

B=(x'+z')(x'+y')(x+y+z)

C=(y+z')(y'+z)

D=z'


w
x
y
z


w
x
y
z