



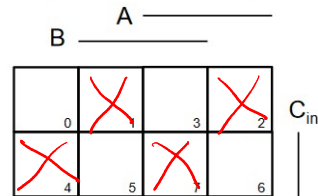
FUNDAMENTOS DE COMPUTADORES

CUADERNO DE LA PRÁCTICA 2

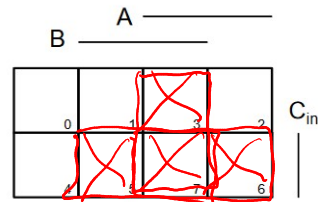
Tabla de verdad del
sumador completo de 1 bit

Cin	A	B	Cout	S
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1

Mapas de Karnaugh



$$S = \overline{C_{in}}\overline{A}\overline{B} + \overline{C_{in}}\overline{A}B + \overline{C_{in}}A\overline{B} + \overline{C_{in}}AB + C_{in}\overline{A}\overline{B} + C_{in}\overline{A}B + C_{in}A\overline{B} + C_{in}AB$$
$$= (A \oplus B) \oplus C_{in}$$



$$C_{out} = AB + C_{in}A + C_{in}B$$
$$= AB + C_{in}(A + B)$$

Diseño del sumador completo de 1 bit

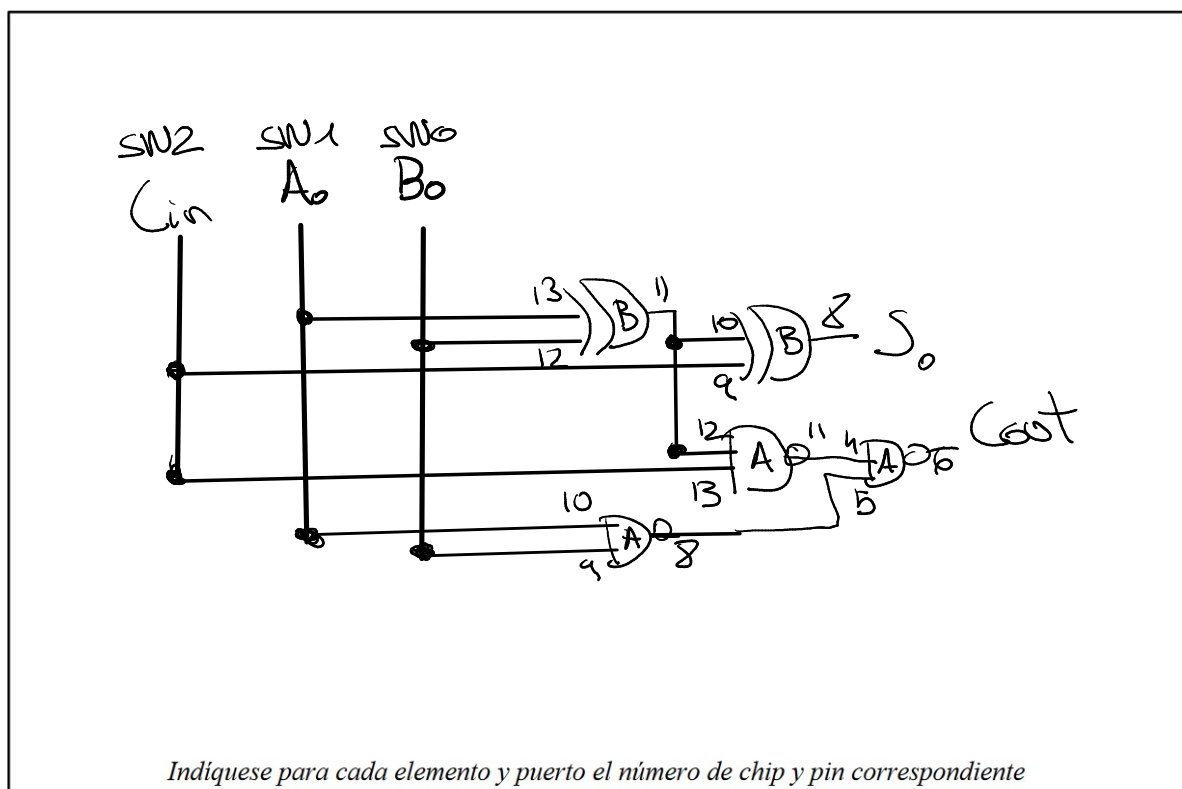


Tabla de verdad del sumador de 2 bits

Cin	A ₁	A ₀	B ₁	B ₀	Cout	S ₁	S ₀
0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	1
0	0	0	1	0	0	1	0
0	0	0	1	1	0	1	1
0	0	1	0	0	0	0	1
0	0	1	0	1	0	1	0
0	0	1	1	0	0	1	1
0	0	1	1	1	1	0	0
0	1	0	0	0	0	1	0
0	1	0	0	1	0	1	1
0	1	0	1	0	1	0	0
0	1	0	1	1	1	0	1
0	1	1	0	0	0	1	1
0	1	1	0	1	1	0	0
0	1	1	1	0	1	0	1
0	1	1	1	1	1	1	0

Cin	A ₁	A ₀	B ₁	B ₀	Cout	S ₁	S ₀
1	0	0	0	0	0	0	1
1	0	0	0	1	0	1	0
1	0	0	1	0	0	1	1
1	0	0	1	1	1	0	0
1	0	1	0	0	0	1	0
1	0	1	0	1	0	1	1
1	0	1	1	0	1	0	0
1	0	1	1	1	1	0	1
1	1	0	0	0	0	1	1
1	1	0	0	1	1	0	0
1	1	0	1	0	1	0	1
1	1	0	1	1	1	1	0
1	1	1	0	0	1	0	0
1	1	1	0	1	1	0	1
1	1	1	1	0	1	1	0
1	1	1	1	1	1	1	1

Diseño del sumador de 2 bits

