

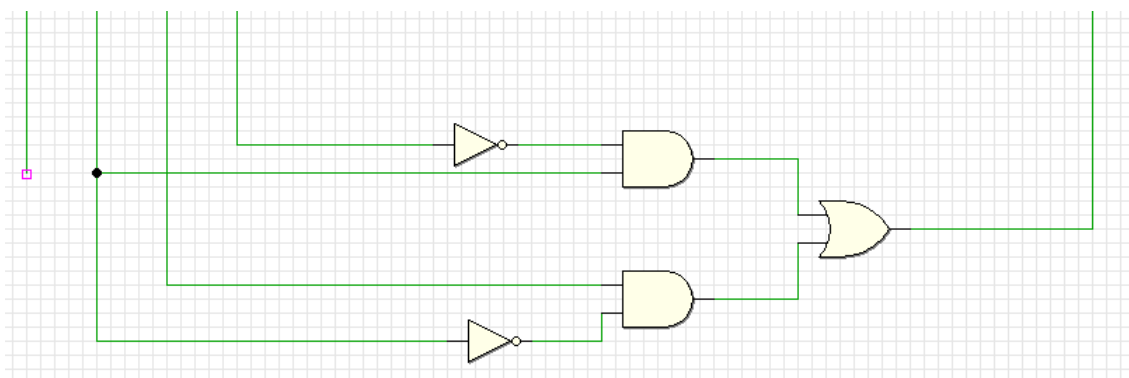
1.1. Diseño de un Convertidor BCD – 7 Segmentos.

X3	X2	X1	X0	A	B	C	D	E	F	G	DP
0	0	0	0	1	1	1	0	0	0	0	0
0	0	0	1	1	1	1	0	0	0	0	0
0	0	1	0	1	1	1	0	0	1	1	0
0	0	1	1	1	0	1	1	0	1	1	0
0	1	0	0	1	1	1	1	1	1	1	0
0	1	0	1	0	1	1	0	0	0	0	0
0	1	1	0	1	0	1	1	1	1	1	0
0	1	1	1	1	1	1	0	0	0	0	0
1	0	0	0	x	x	x	x	x	x	x	0
1	0	0	1	x	x	x	x	x	x	x	0
1	0	1	0	x	x	x	x	x	x	x	0
1	0	1	1	x	x	x	x	x	x	x	0
1	1	0	0	x	x	x	x	x	x	x	0
1	1	0	1	x	x	x	x	x	x	x	0
1	1	1	0	x	x	x	x	x	x	x	0
1	1	1	1	x	x	x	x	x	x	x	0

SM (Suma Mínima) → Segmento G

X1 X0 \ X3 X2	00	01	11	10
00	0	1	x	x
01	0	0	x	x
11	1	0	x	x
10	1	1	x	x

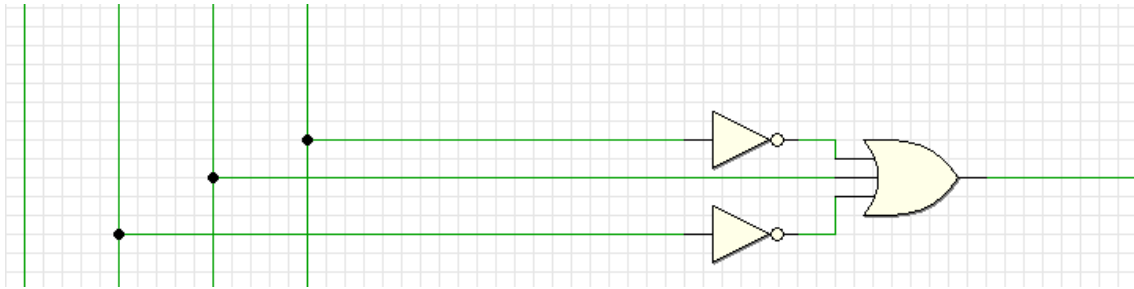
Función lógica: $X_0'X_2 + X_1X_2'$



PM (Producto Mínimo) → Segmento A

X1 X0 \ X3 X2	00	01	11	10
00	1	1	x	x
01	1	0	x	x
11	1	1	x	x
10	1	1	x	x

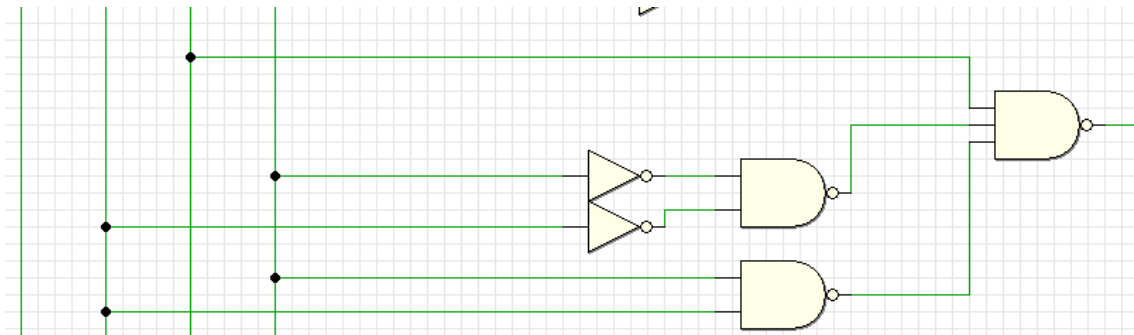
Función lógica: $X_0' + X_2' + X_1$



NAND → Segmento B

X1 X0 \ X3 X2	00	01	11	10
00	1	1 x	x	x
01	1	1 x	x	x
11	0	1 x	x	x
10	1	0 x	x	x

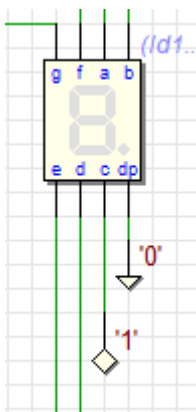
Función lógica: $X1' + X0'X2' + X0X2 = X1' \cdot (X0' + X2) \cdot (X0' + X2') \cdot (X0 + X2')$



NOR → Segmento C

X1 X0 \ X3 X2	00	01	11	10
00	1	1 x	x	x
01	1	1 x	x	x
11	1	1 x	x	x
10	1	1 x	x	x

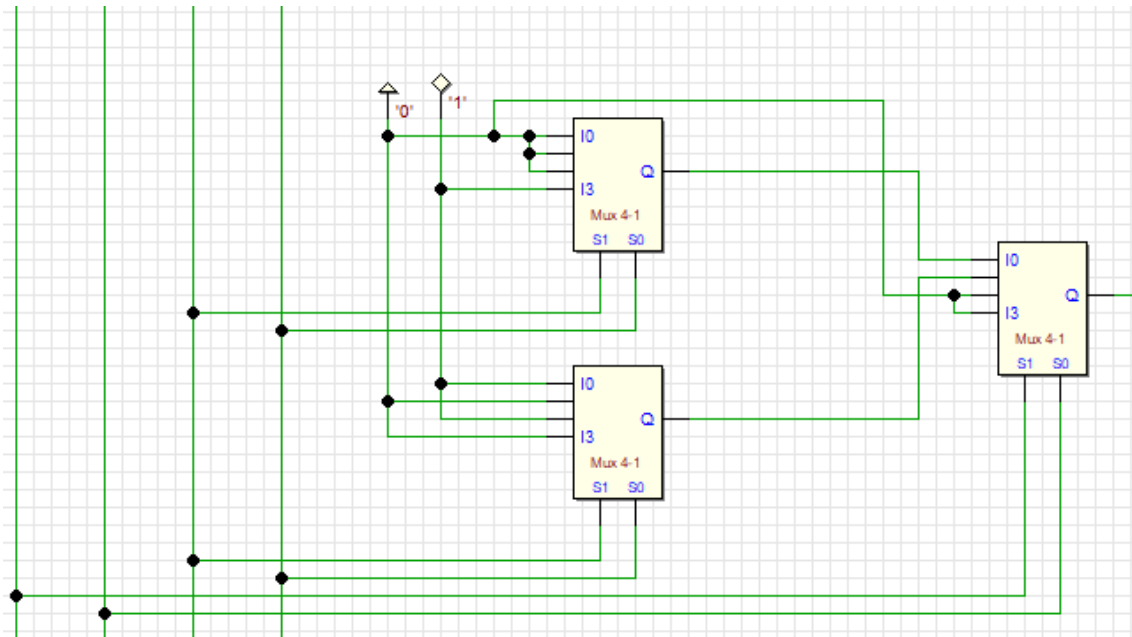
Función lógica: 1



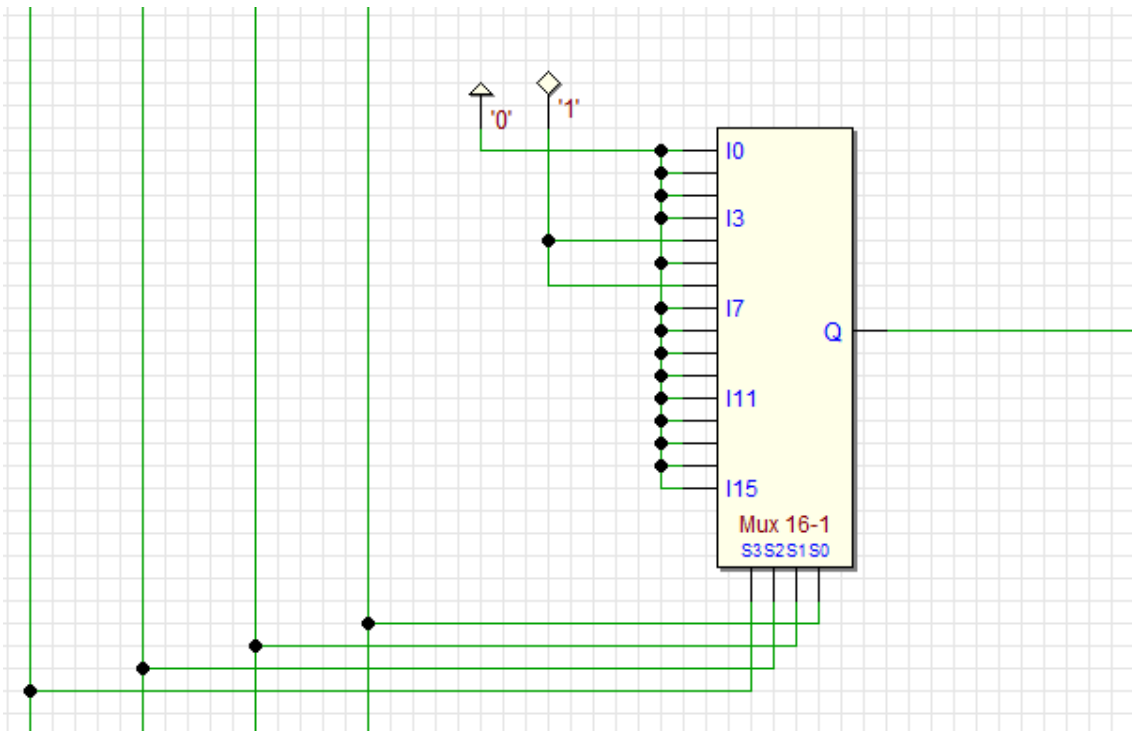
MUX4-1 → Segmento D

$X_1 X_0 \backslash X_3 X_2$	00	01	11	10
00	0	1	x	x
01	0	0	x	x
11	1	0	x	x
10	0	1	x	x

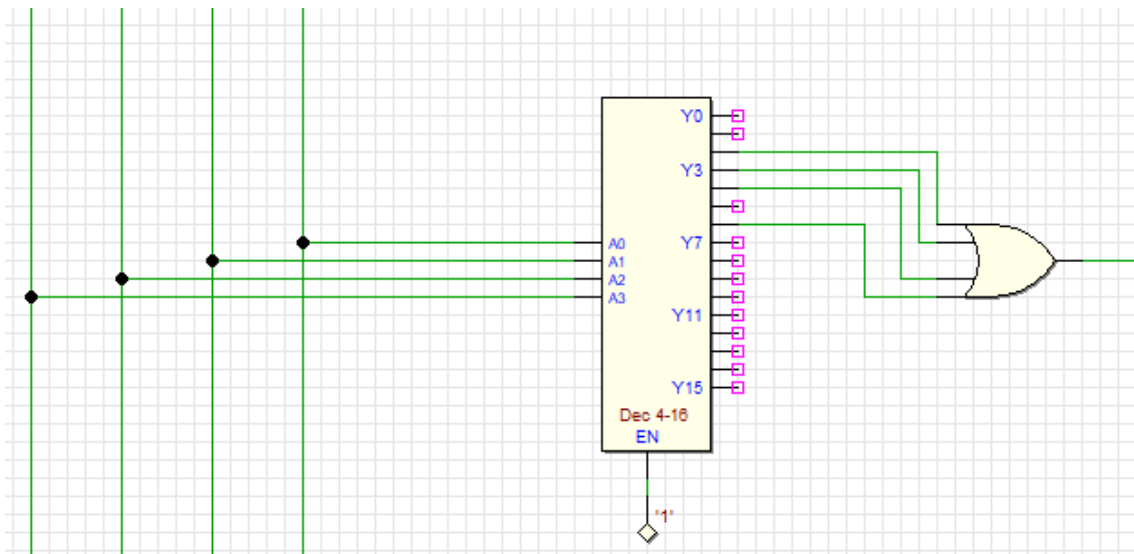
Función lógica: $X_0'X_2 + X_1X_0X_2'$



MUX16-1 → Segment E



DEC4-16 → Segmento F



1.3. Implementación y Animación del Convertidor BCD – 7 Segmentos

