

Esquemático Diseño del Decoder BCD 7 segmentos (con compuertas).

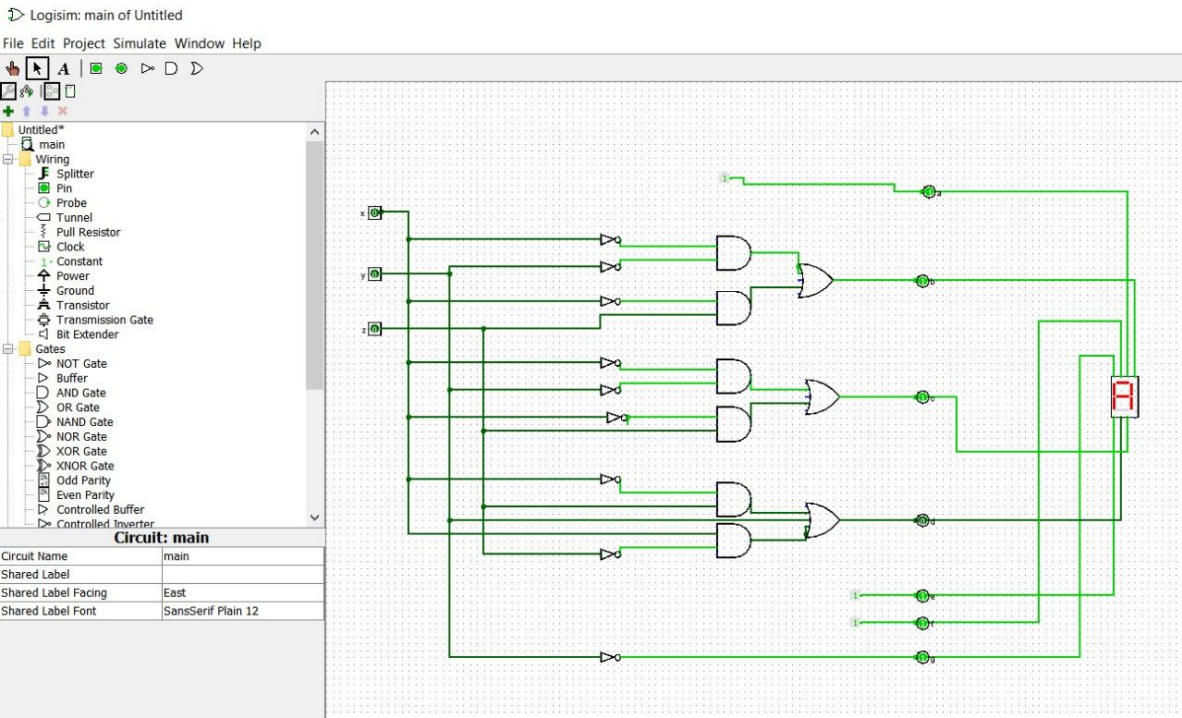


Tabla de verdad

A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	1	1	0	0	1	1
0	1	0	1	1	0	1	1	0	1	1
0	1	1	0	1	0	1	1	1	1	1
0	1	1	1	1	1	1	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	0	0	1	1
1	0	1	0	x	x	x	x	x	x	x
1	0	1	1	x	x	x	x	x	x	x
1	1	0	0	x	x	x	x	x	x	x
1	1	0	1	x	x	x	x	x	x	x
1	1	1	0	x	x	x	x	x	x	x
1	1	1	1	x	x	x	x	x	x	x

Mapas de Karnaugh

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	X	1	1	X
01	X	1	1	X
11	X	X	X	X
10	X	1	X	X

$k_0 = 1$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	X	1	1	X
01	X	1	1	X
11	X	X	X	X
10	X	1	X	X

J_0

$x=0$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	1	X	X	1
01	1	X	X	1
11	X	X	X	X
10	1	X	X	X

$J_0 = 1$

$x=1$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	1	X	X	1
01	1	X	X	1
11	X	X	X	X
10	1	X	X	X

J_1

$x=0$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	0	1	X	X
01	0	1	X	X
11	X	X	X	X
10	0	0	X	X

$J_1 = \bar{Q}_3 \bar{Q}_2 Q_1 + Q_3 Q_2 Q_1 + X Q_2 Q_0$

$x=1$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	0	0	X	X
01	1	0	X	X
11	X	X	X	X
10	1	0	X	X

k_1

$x=0$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	X	X	1	0
01	X	X	1	0
11	X	X	X	X
10	X	X	X	X

$k_1 = \bar{Q}_3 Q_0 + X \bar{Q}_0$

$x=1$

$Q_3 Q_2 \backslash Q_1 Q_0$

	00	01	11	10
00	X	X	0	1
01	X	X	0	1
11	X	X	X	X
10	X	X	X	X