

## CONTADOR DE DÉCADA PRÁCTICA #5

- MOD 10 (0-9)

#	ESTADO ANTERIOR (Y)	ESTADO SIGUIENTE	EC. DE ENTRADA A LOS F-F'S D D D D	SALIDAS						
				A	B	C	D	E	F	G
0	0 A	A		0	0	0	0	0	0	1
1	0 B	B		1	0	0	1	1	1	1
2	0 C	C		0	0	1	0	0	1	0
3	0 D	D		0	0	0	0	1	1	0
4	0 E	E		1	0	0	1	1	0	0
5	0 F	F		0	1	0	0	1	0	0
6	0 G	G		0	1	0	0	0	0	0
7	0 H	H		0	0	0	1	1	1	1
8	0 I	I		0	0	0	0	0	0	0
9	0 J	J		0	0	0	1	1	0	0
1	1 A	B		1	0	0	1	1	1	1
2	1 B	C		0	0	1	0	0	1	0
3	1 C	D		0	0	0	0	1	1	0
4	1 D	E		1	0	0	1	1	0	0
5	1 E	F		0	1	0	0	1	0	0
6	1 F	G		0	1	0	0	0	0	0
7	1 G	H		0	0	0	1	1	1	1
8	1 H	I		0	0	0	0	0	0	0
9	1 I	J		0	0	0	1	1	0	0
0	1 J	A		0	0	0	0	0	0	1

**TABLA DE EXITACIÓN**

Qt	Qt+1	D
0	0	0
0	1	1
1	0	0
1	1	1

#	Y	Qt+1				Q3	Q2	Q1	Q0	D3	D2	D1	D0
		Qt3	Qt2	Qt1	Qt0								
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	1	0	0	0	1	0	0	0	1
2	0	0	0	1	0	0	0	1	0	0	0	1	0
3	0	0	0	1	1	0	0	1	1	0	0	1	1
4	0	0	1	0	0	0	1	0	0	0	1	0	0
5	0	0	1	0	1	0	1	0	1	0	1	0	1
6	0	0	1	1	0	0	1	1	0	0	1	1	0
7	0	0	1	1	1	0	1	1	1	0	1	1	1
8	0	1	0	0	0	1	0	0	0	1	0	0	0
9	0	1	0	0	1	1	0	0	1	1	0	0	1
10	0	1	0	1	0	X	X	X	X	X	X	X	X
11	0	1	0	1	1	X	X	X	X	X	X	X	X
12	0	1	1	0	0	X	X	X	X	X	X	X	X
13	0	1	1	0	1	X	X	X	X	X	X	X	X
14	0	1	1	1	0	X	X	X	X	X	X	X	X
15	0	1	1	1	1	X	X	X	X	X	X	X	X
16	1	0	0	0	0	0	0	0	1	0	0	0	1
17	1	0	0	0	1	0	0	1	0	0	0	1	0
18	1	0	0	1	0	0	0	1	1	0	0	1	1
19	1	0	0	1	1	0	1	0	0	0	1	0	0
20	1	0	1	0	0	0	1	0	1	0	1	0	1
21	1	0	1	0	1	0	1	1	0	0	1	1	0
22	1	0	1	1	0	0	1	1	1	0	1	1	1
23	1	0	1	1	1	1	0	0	0	1	0	0	0
24	1	1	0	0	0	1	0	0	1	1	0	0	1
25	1	1	0	0	1	0	0	0	0	0	0	0	0
26	1	1	0	1	0	X	X	X	X	X	X	X	X
27	1	1	0	1	1	X	X	X	X	X	X	X	X
28	1	1	1	0	0	X	X	X	X	X	X	X	X
29	1	1	1	0	1	X	X	X	X	X	X	X	X
30	1	1	1	1	0	X	X	X	X	X	X	X	X
31	1	1	1	1	1	X	X	X	X	X	X	X	X

## MAPAS DE KARNAUGH

- **D3**= Em(8,9,23,24) + D.C (10,11,,12,13,14,15,26,27,28,29,30,31)

Q1 Q0	00	01	11	10
Q3 Q2				
00				
01				
11	X	X	X	X
10	1	1	X	X

**Y'**

Q1 Q0	00	01	11	10
Q3 Q2				
00				
01			1	
11	X	X	X	X
10	1		X	X

**Y**

$$\mathbf{D3} = y' Q3 + y Q2 Q1 Q0 + Q3 Q0$$

- **D2**= Em(4, 5, 6, 7, 19, 20, 21, 22) + D.C (10,11,,12,13,14,15,26,27,28,29,30,31)

Q1 Q0	00	01	11	10
Q3 Q2				
00				
01	1	1	1	1
11	X	X	X	X
10			X	X

Q1 Q0	00	01	11	10
Q3 Q2				
00				
01	1	1		1
11	X	X	X	X
10			X	X

$$\mathbf{D2} = y' Q2 + y Q1 Q2 + y Q0 Q2$$

- **D1**= Em(2, 3, 6, 7, 17, 18, 21, 22) + D.C (10,11,12,13,14,15,26,27,28,29,30,31)

Q1 Q0 Q3 Q2	00	01	11	10
00			1	1
01			1	1
11	X	X	X	X
10			X	X

**Y'**

Q1 Q0 Q3 Q2	00	01	11	10
00		1		1
01		1		1
11	X	X	X	X
10			X	X

**Y**

$$\mathbf{D1} = y'Q1 + y Q1 Q0 + y Q1 Q0 Q3$$

- **D0**= Em(1, 3, 5, 7,9,16,18,20,22,24) + D.C (10,11,12,13,14,15,26,2,28,29,30,31)

Q1 Q0 Q3 Q2	00	01	11	10
00		1	1	
01		1	1	
11	X	X	X	X
10		1	X	X

**Y'**

Q1 Q0 Q3 Q2	00	01	11	10
00	1			1
01	1			1
11	X	X	X	X
10	1		X	X

**Y**

$$\mathbf{D0} = y'Q0 + y Q0 Q3$$