

## \* Dificultades

	A	B	C	D	$S_a$	$S_b$	$S_c$	$S_d$	$S_e$	$S_f$	$S_g$
(1)	0	0	0	0	1	1	0	1	1	0	1
(2)	0	0	0	1	0	1	1	0	0	1	1
(3)	0	0	1	0	0	1	1	0	0	0	0
(4)	0	0	1	1	1	0	1	1	0	1	1
(5)	0	1	0	0	1	0	1	1	0	1	1
(6)	0	1	0	1	1	1	1	0	0	0	0
(7)	0	1	1	0	0	1	1	0	0	1	1
(8)	0	1	1	1	0	1	1	0	0	1	1
(9)	1	0	0	0	1	0	1	1	1	1	1
(10)	1	0	0	1	1	1	1	1	0	0	1
(11)	1	0	1	0	1	1	1	1	1	1	1
(12)	1	0	1	1	1	1	1	0	0	0	0
(13)	1	1	0	0	1	1	1	0	0	1	1
(14)	1	1	0	1	1	1	1	0	0	0	0
(15)	1	1	1	0	1	1	1	1	1	1	1
(16)	1	1	1	1	1	1	1	0	0	1	1

$S_a$ :

A B / CD	00	01	11	10
00	1	0	1	0
01	1	1	0	0
11	1	1	1	1
10	1	1	1	1

$$S_a = \bar{A}\bar{B} + B\bar{C} + A + \bar{B}CD$$

$S_b$ :

A B / CD	00	01	11	10
00	1	1	0	1
01	0	1	1	1
11	1	1	1	1
10	0	1	1	1

$$S_b = \bar{A}\bar{B}\bar{C} + BD + AD + AB + C\bar{D}$$

$S_c$ :

A B / C D	00	01	11	10
00	0	1	1	1
01	1	1	1	1
11	1	1	1	1
10	1	1	1	1

$$S_c = B + A + D + C$$

$S_d$ :

A B / C D	00	01	11	10
00	1	0	1	0
01	1	0	0	0
11	0	0	0	1
10	1	1	0	1

$$S_d = \bar{A}\bar{C}\bar{D} + A\bar{B}\bar{C} + \bar{A}\bar{B}CD + AC\bar{D}$$

$S_e$ :

A B / C D	00	01	11	10
00	1	0	0	0
01	0	0	0	0
11	0	0	0	1
10	1	0	0	1

$$S_e = AC\bar{D} + \bar{B}\bar{C}\bar{D}$$

$S_f$ :

A B / C D	00	01	11	10
00	0	1	1	0
01	1	0	1	1
11	1	0	1	1
10	1	0	0	1

$$S_f = B\bar{C}\bar{D} + \bar{A}\bar{B}D + BC + A\bar{B}\bar{D}$$

$S_g$ :

A B / C D	00	01	11	10
00	1	1	1	0
01	1	0	1	1
11	1	0	1	1
10	1	1	0	1

$$S_g = \bar{A}\bar{B} + \bar{B}\bar{C}D + \bar{A}CD + BC + AC\bar{D}$$

$Q_n$	$Q_{n+1}$
ABCD	ABCD
0000	0001
0001	0100
0010	0011
0011	0100
0100	0101
0101	1101
0110	1000
0111	1000
1000	1001
1001	1110
1010	1011
1011	1100
1100	1101
1101	1110
1110	1111
1111	0000

$J_D$

AB/CD	00	01	11	10
00	1	x	x	1
01	1	x	x	0
11	1	x	x	1
10	1	x	x	1

$$J_D = \bar{C} + \bar{A}\bar{B} + A$$

$K_D$

AB/CD	00	01	11	10
00	x	1	1	x
01	x	0	1	x
11	x	1	1	x
10	x	1	1	x

$$K_D = A + \bar{A}\bar{B} + C$$

$J_C$

AB/CD	00	01	11	10
00	0	0	x	x
01	0	0	x	x
11	0	1	x	x
10	0	1	x	x

$$J_C = AD$$

$K_C$

AB/CD	00	01	11	10
00	x	x	1	0
01	x	x	1	1
11	x	x	0	0
10	x	x	1	0

$$K_C = \bar{A}B + \bar{B}D$$

$J_B$

AB/CD	00	01	11	10
00	0	1	1	0
01	x	x	x	x
11	x	x	x	x
10	0	1	1	0

$$J_B = D$$

$K_B$

AB/CD	00	01	11	10
00	x	x	x	x
01	0	0	1	1
11	0	0	1	0
10	x	x	x	x

$$K_B = CD + \bar{A}C$$

$J_A$

AB/CD	00	01	11	10
00	0	0	0	0
01	0	1	1	1
11	x	x	x	x
10	x	x	x	x

$$J_A = BD + BC$$

$K_A$

AB/CD	00	01	11	10
00	x	x	x	x
01	x	x	x	x
11	0	0	1	0
10	0	0	0	0

$$K_A = BCD$$

