

Input: D

Common input: C

Outputs: y1, y2

$CD + C'y_1$

$C'y_1 + Cy_2$

y_2

In the tables below, stable states are coloured red.

Under standard mode of operations, only one bit can change at a time (unspecified entries due to this are marked yellow).

Transition Table:

(y1, y2)	NS; CD = (00, 01, 10, 11) : (y2y1)	output z
	00 00 00 01	0
	11 11 00 01	0
	00 00 10 11	1
	11 11 10 11	1

Next Table:

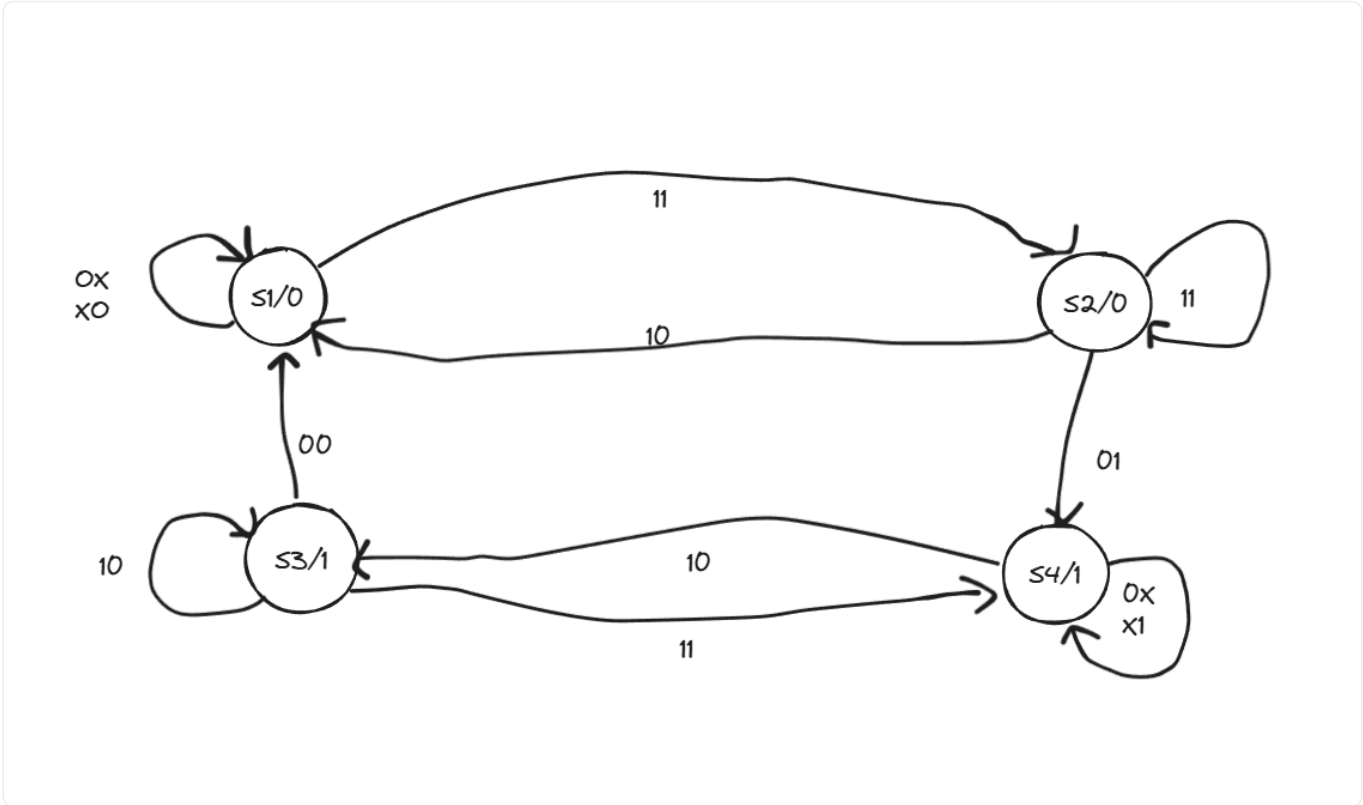


; (y1, y2)	NS; CD = (00, 01, 10, 11)	Z
	S1 S1 S1 S2	0
	S4 S4 S1 S2	0
	S1 S1 S3 S4	1
	S4 S4 S3 S4	1

MODIFIED FLOW TABLE:

; (y1, y2)	NS; CD = (00, 01, 10, 11)	Z
	S1 S1 S1 S2	0
	— S4 S1 S2	0
	S1 — S3 S4	1
	S4 S4 S3 S4	1

Diagram:



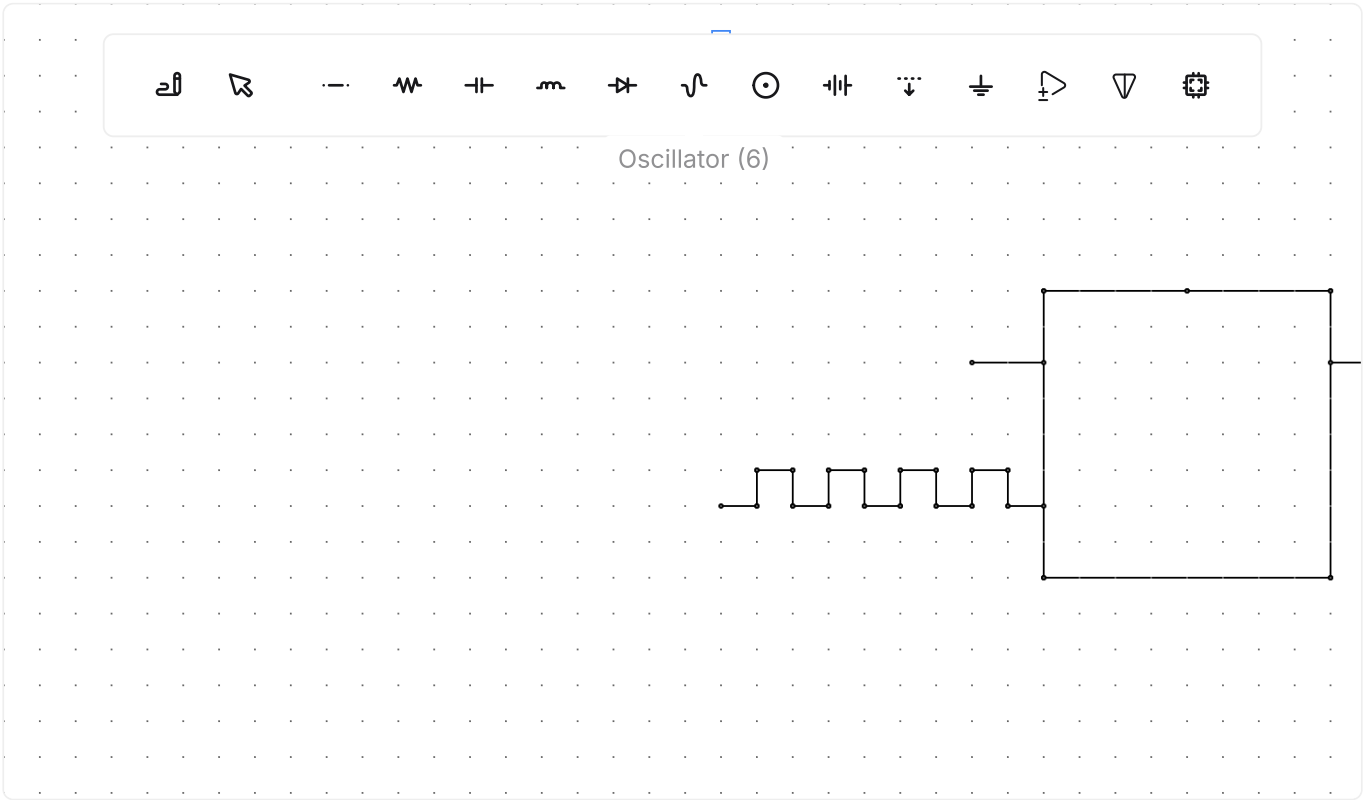
MIN FLOW TABLE

; (y1, y2)	NS; CD = (00, 01, 10, 11)	Z
	A B C —	0
	D B — D	0
	A C C C	1
	D C C C	0

C → D

SYNTHESIS OF ASC

al Parity Generator / 1 Bit Counter/ Modulo 2 Counter:



Input: W

Output: z

Inputs, on clock signal: A, B, C, D

c ... # of pulses	z
	0
	1
	0
	1
	0

Diagram:

