

Circuit D flip-flop

A	B	X	A'B	OUT
0	0	0	0	1
0	0	1	0	0
0	1	0	1	0
0	1	1	1	0
1	0	0	0	0
1	0	1	0	0
1	1	0	1	1
1	1	1	0	1

A'	0	1	0	1
0	0	1	0	1
1	0	1	0	1

$$A' = \bar{A}B + A\bar{B}$$

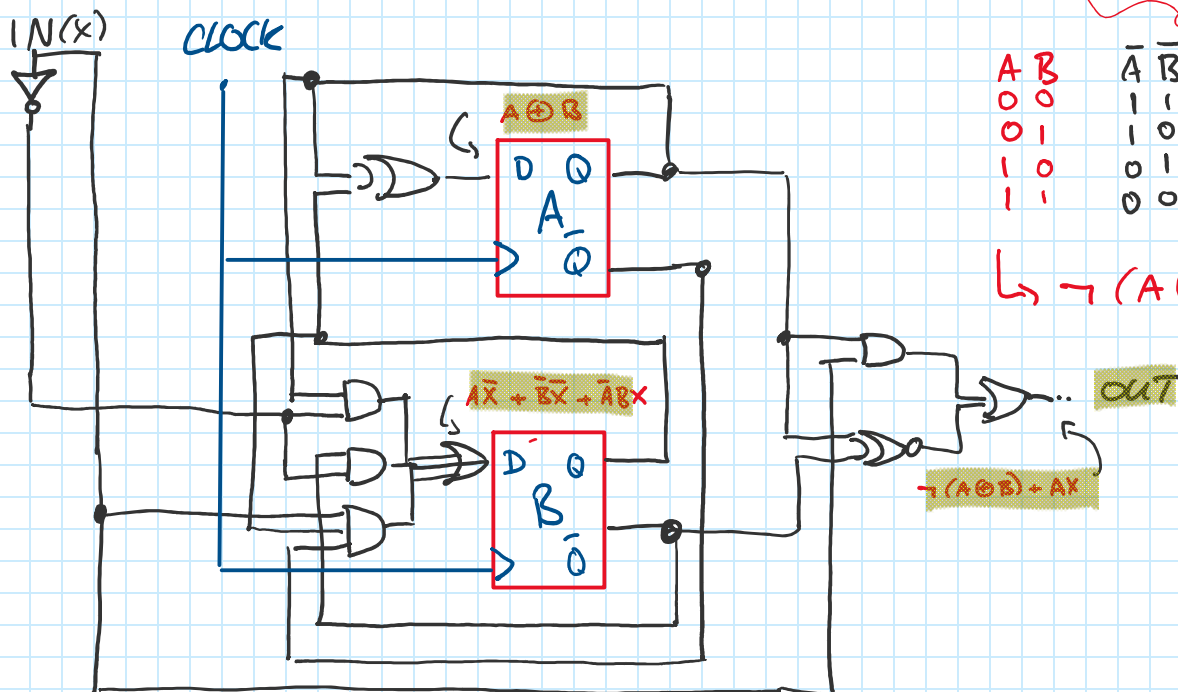
$$\hookrightarrow A \oplus B$$

B'	0	1	0	1
0	1	0	1	0
1	0	1	0	0

$$B' = A\bar{B} + \bar{A}B + \bar{A}B\bar{X}$$

OUT	0	1	0	1
0	1	0	1	0
1	1	0	1	1

$$OUT = \bar{A}\bar{B} + AB + AX$$



A	B	$\bar{A}\bar{B}$	P	q	R
0	0	1	1	0	0
0	1	0	0	0	0
1	0	0	0	0	0
1	1	0	0	1	1

$$\hookrightarrow \neg(A \oplus B) + AX$$