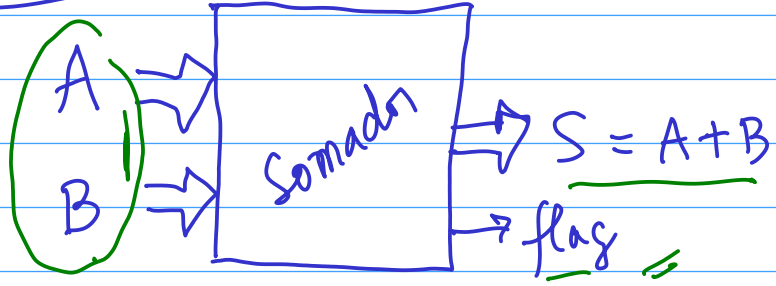


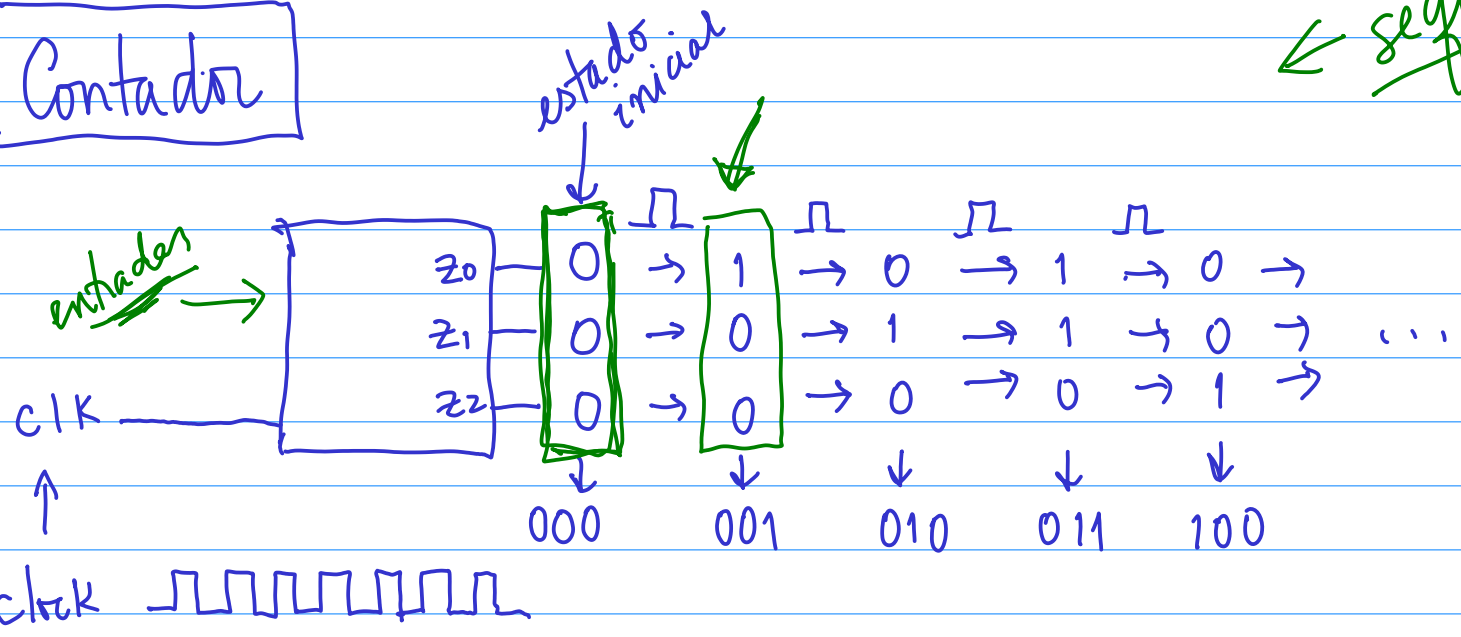
Somador



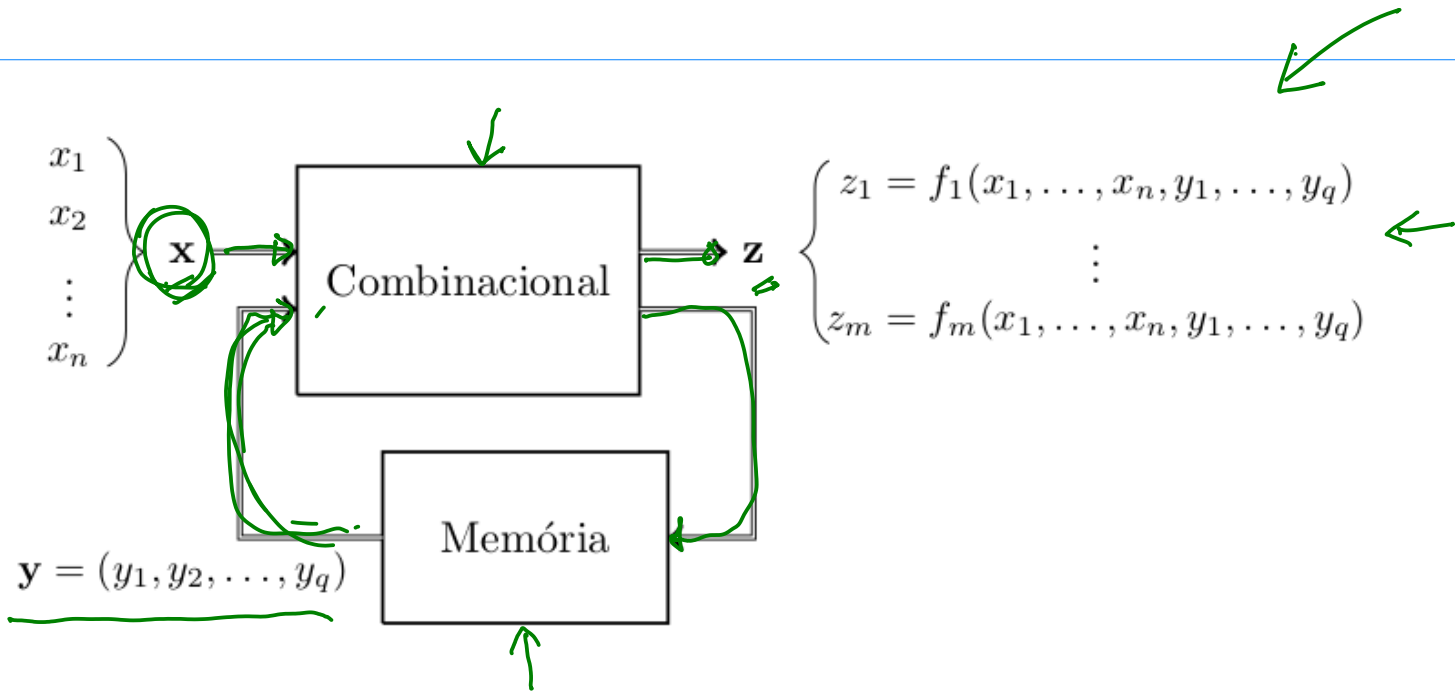
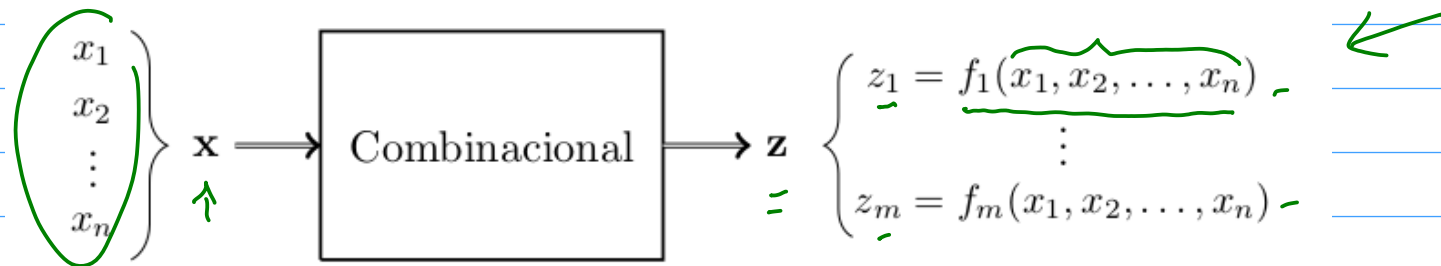
← combinacional

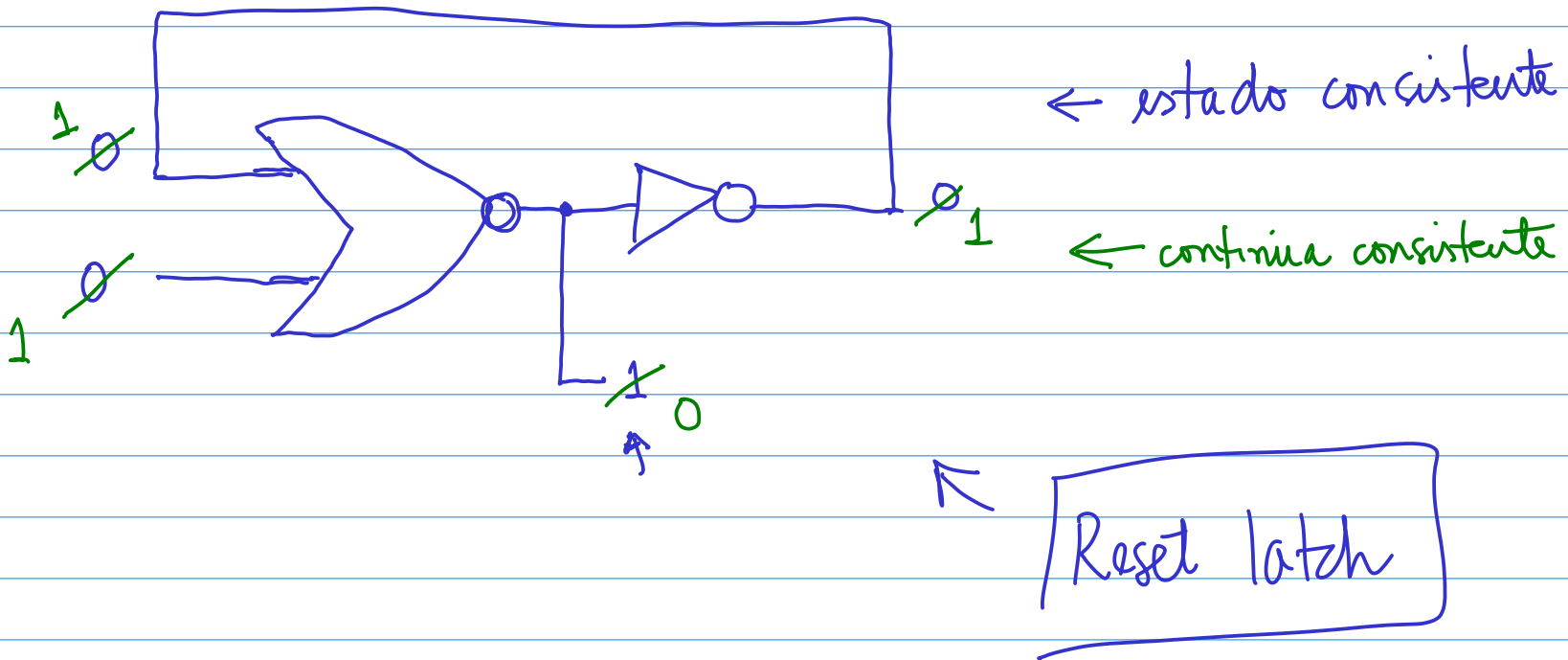
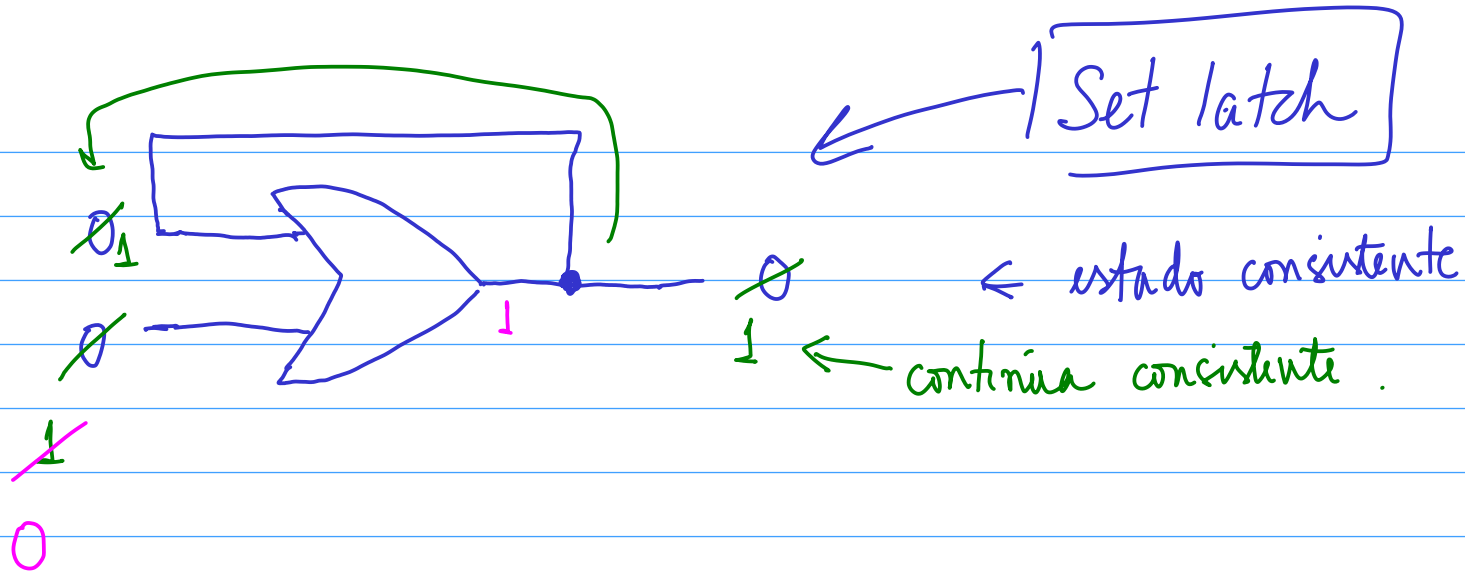
↑
2 palavras
de 8 bits

Contador

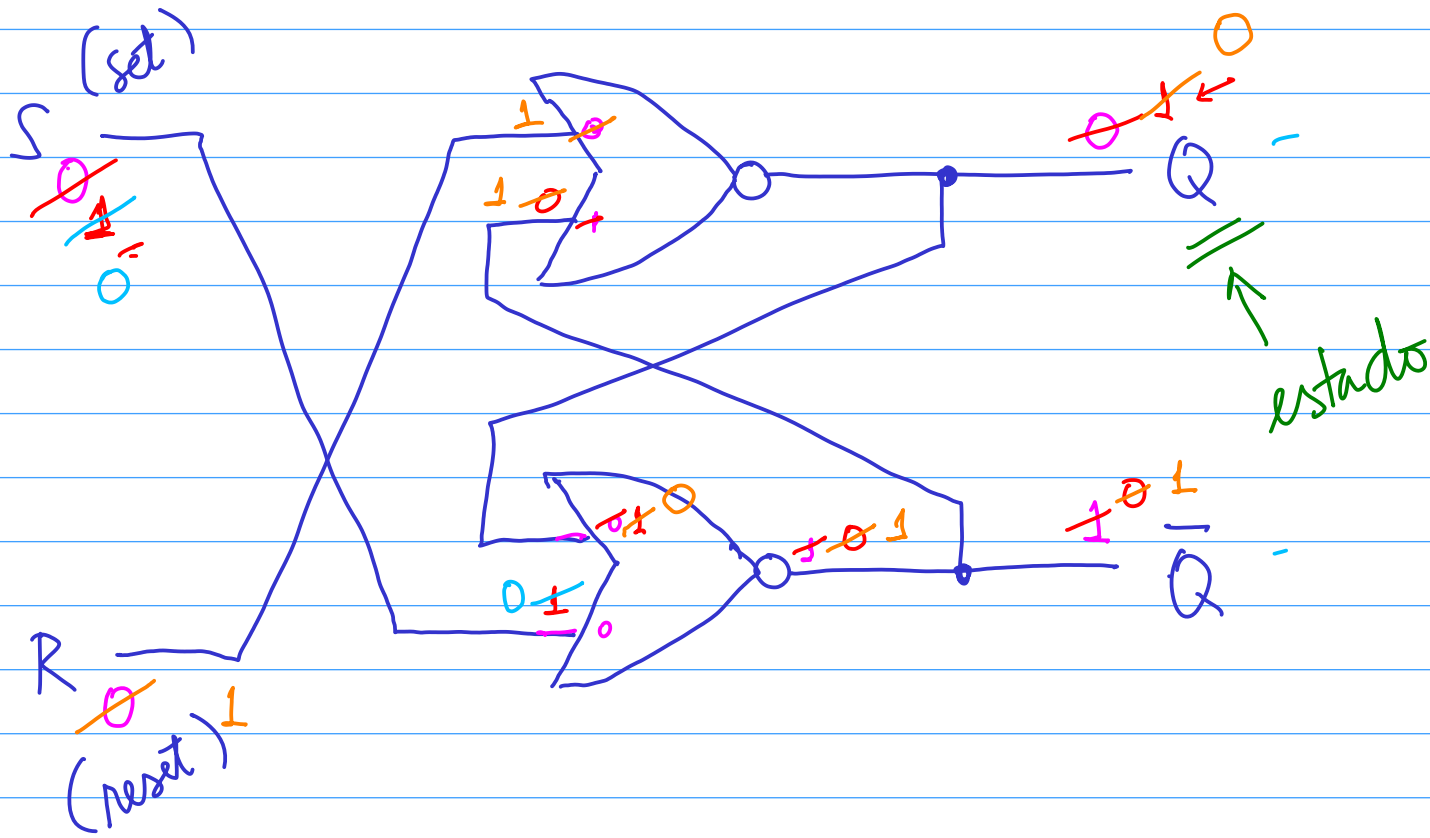


← sequencial



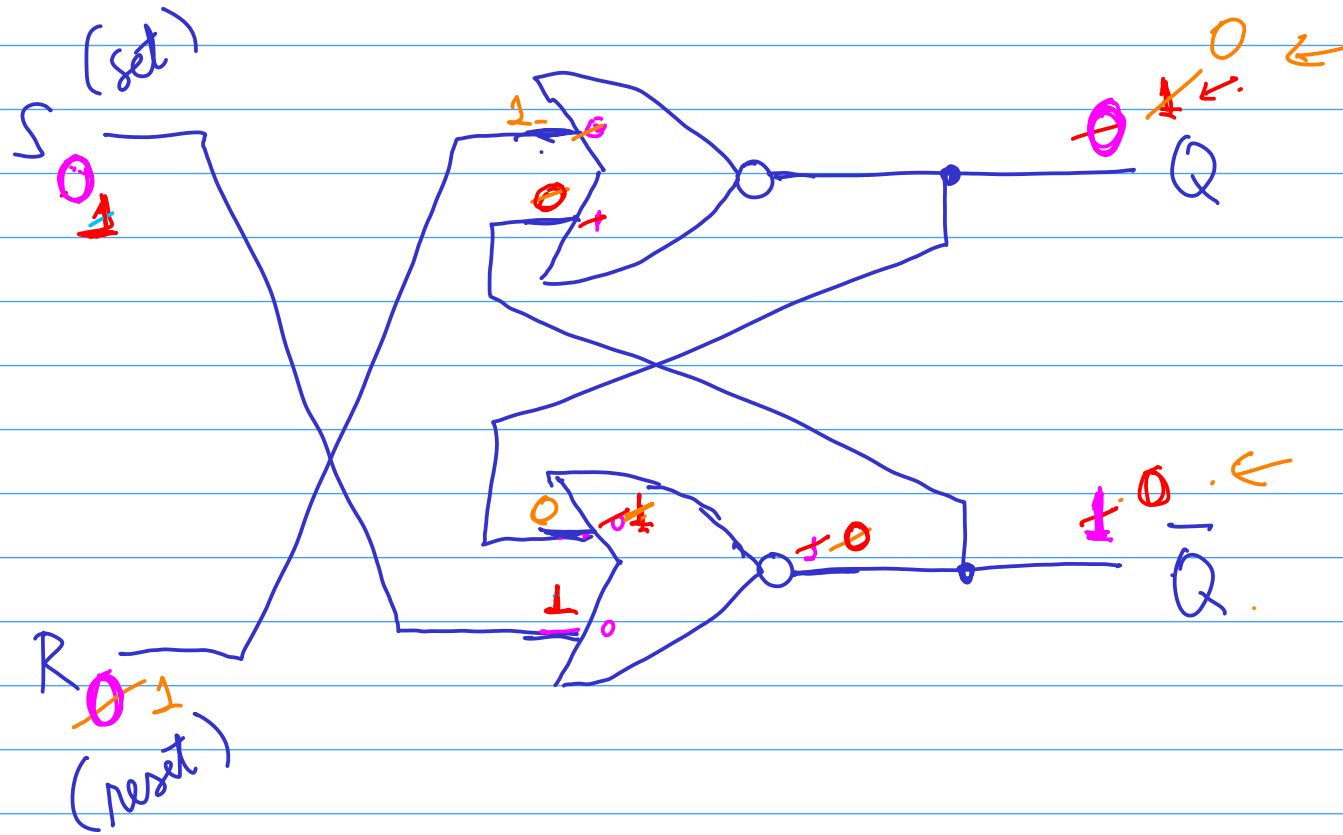


Set-reset latch

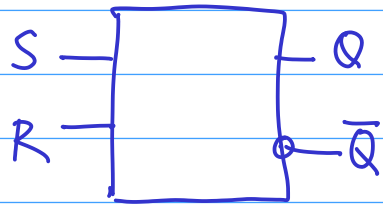


$$S=1 \Rightarrow Q=1$$

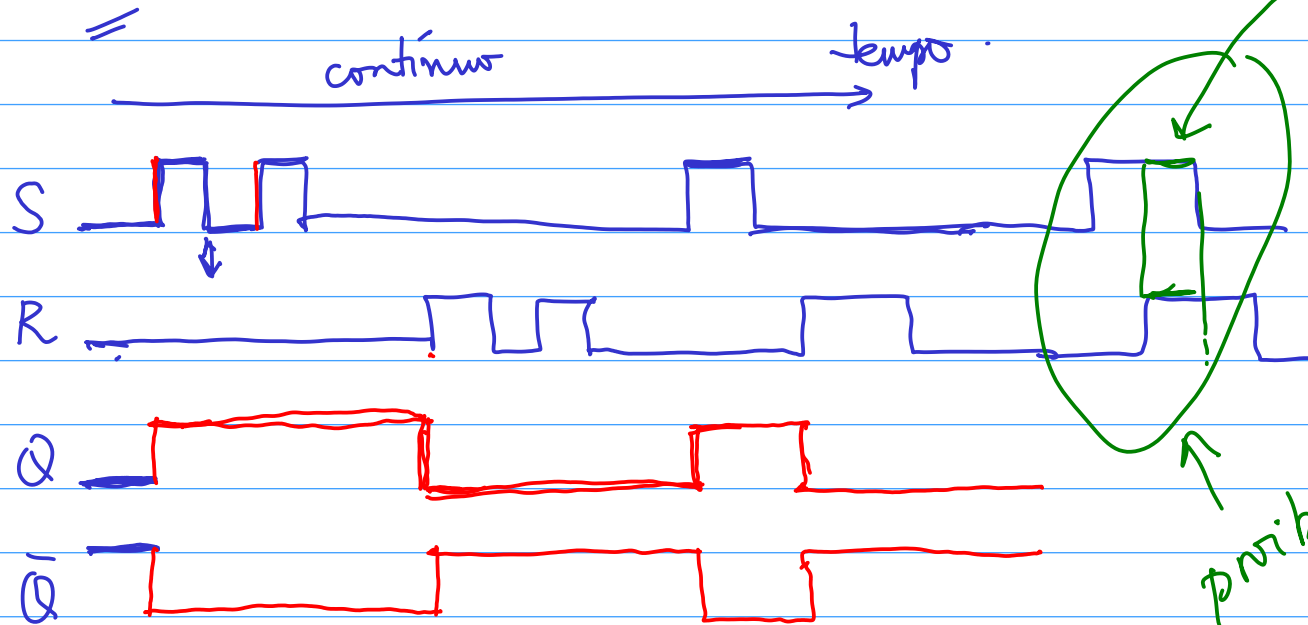
$$R=1 \Rightarrow Q=0$$



$S=R=1$ e' proibida!



latch set-reset



pode ter comportamento errado.

proibido.

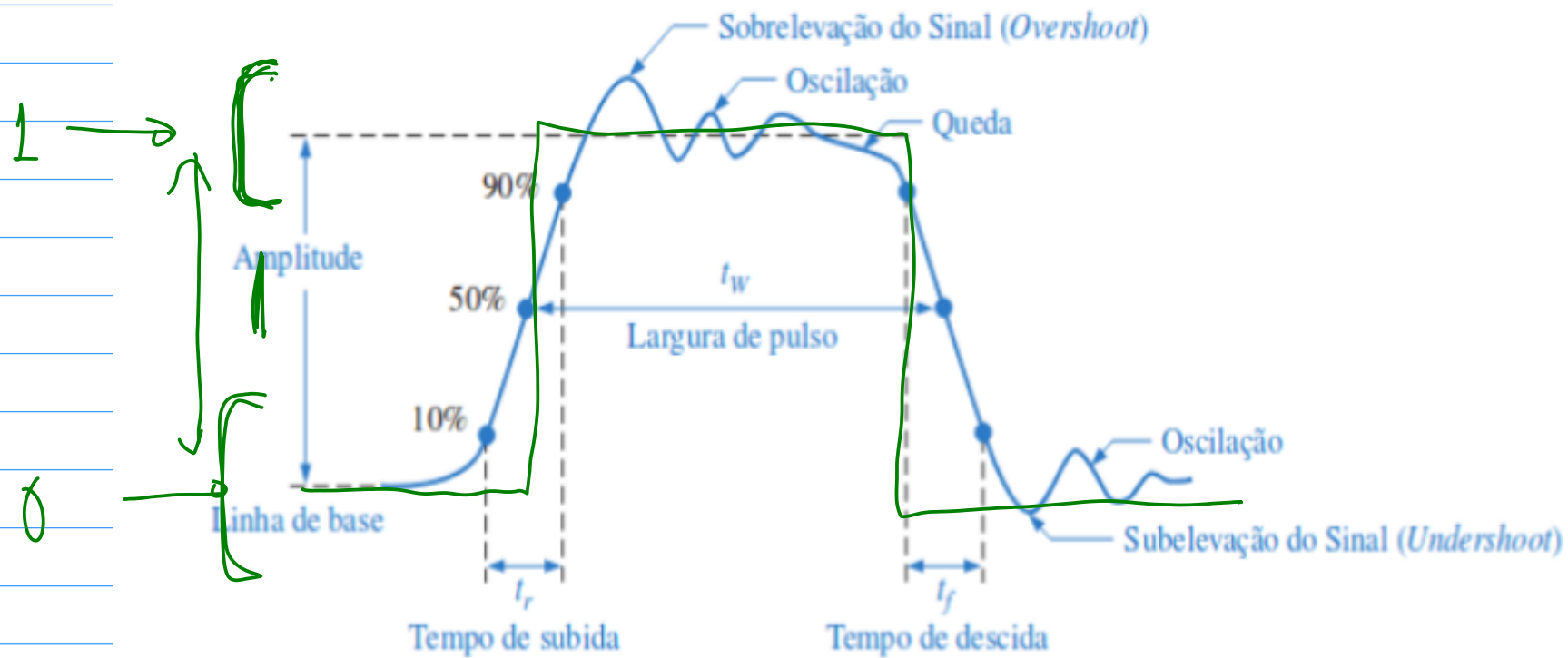


Tabela-verdade do latch S-R

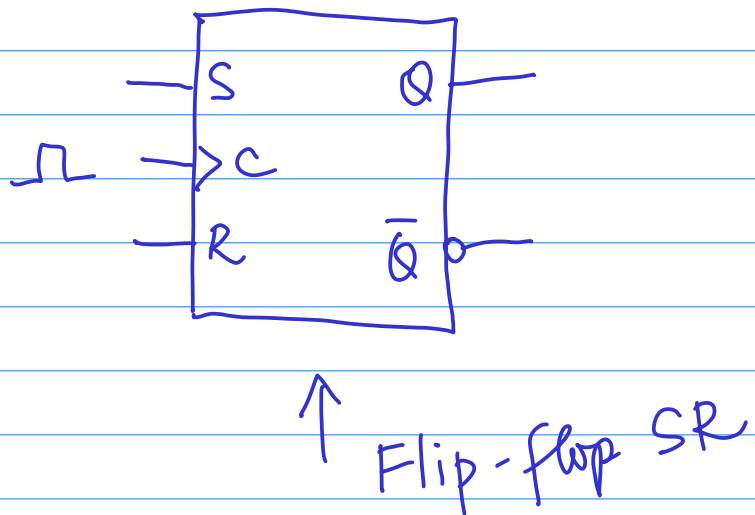
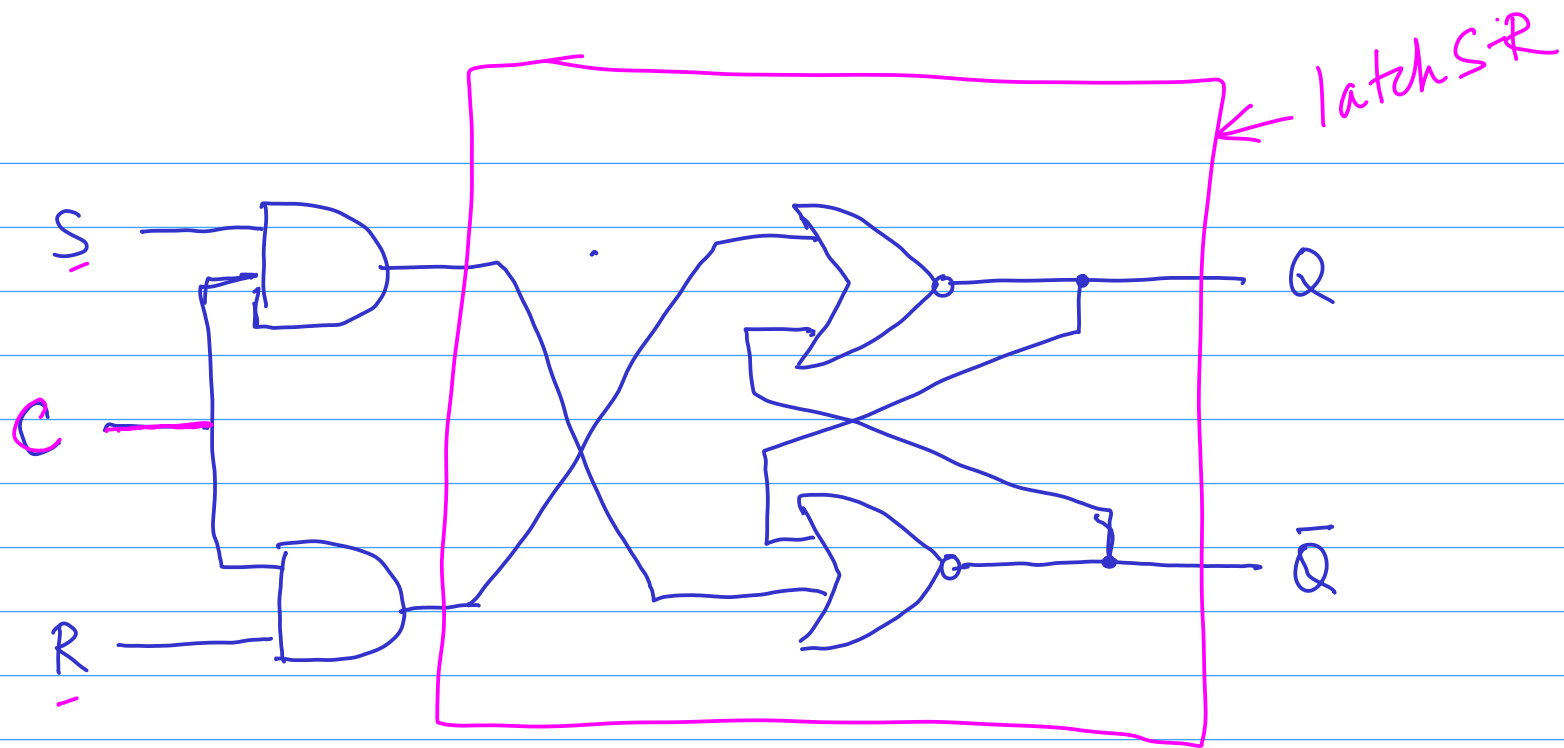
S	R	Q	Q*	
0	0	0	0	no change
0	0	1	1	
0	1	0	0	reset
0	1	1	0	
1	0	0	1	set
1	0	1	1	
1	1	0	?	proibido
1	1	1	?	

don't care

Q = estado atual
 Q* = próximo estado

SR \ Q	0	1	
00	0	1	$\bar{R}Q$
01	0	0	
11	x	x	S
10	1	1	$S\bar{R}$

$$Q^* = S + \bar{R}Q$$



Flip-flops JK



Evolução do flip-flop SR

(para contornar a restrição $S=R=1$ proibida)

→ $J=K=1$ é permitido