

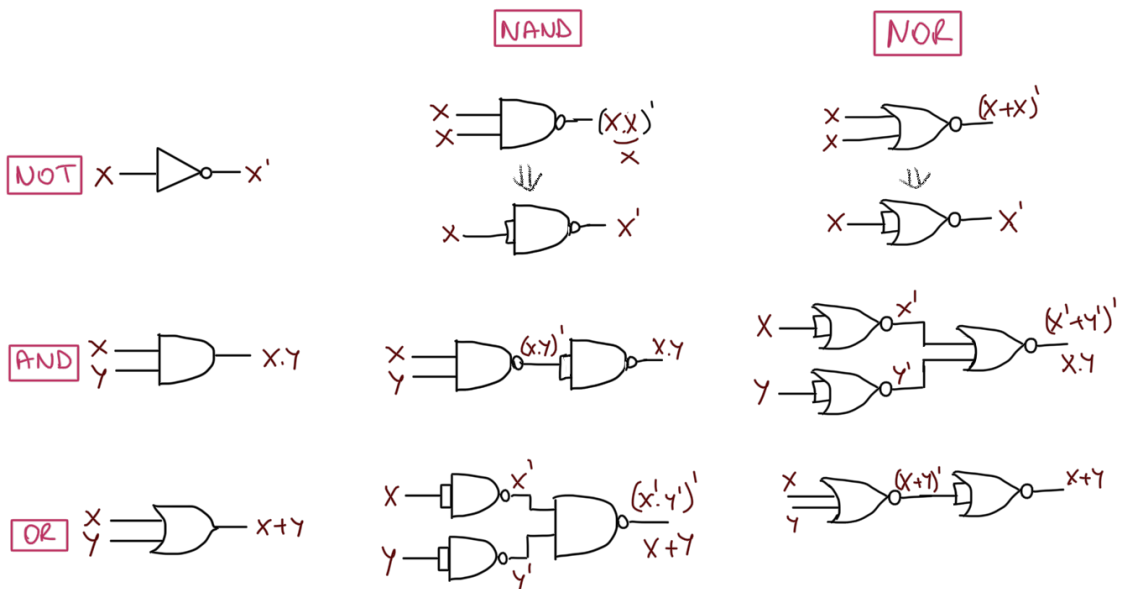
2 - logic gates

for two variables x and y , there exists 16 different functions.

x	y	f
0	0	0/1
0	1	0/1
1	0	0/1
1	1	0/1

$\rightarrow 2 \cdot 2 \cdot 2 \cdot 2 = 16$

- ★ with combination of and - or - not, any logic function can be expressed.
- we can also express any logic function using • nand (not and) gates
- nor (not or)
- nand and nor gates are easier to fabricate with electronic components
- they are basic gates used in all IC digital logic families



buffers = $x \rightarrow x$ \rightarrow to increase/decrease voltage
 three state buffers \rightarrow as an on/off switch for signal

