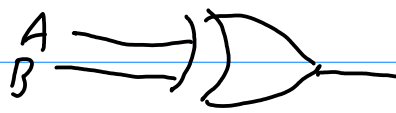


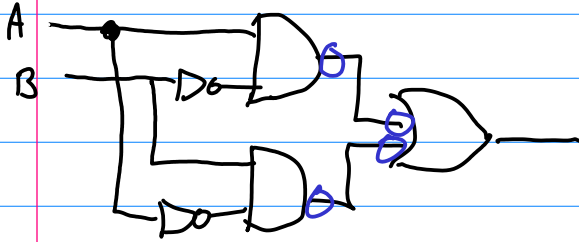
EOR aka XOR



A	B	A ⊕ B
0	0	0
0	1	1
1	0	1
1	1	0

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

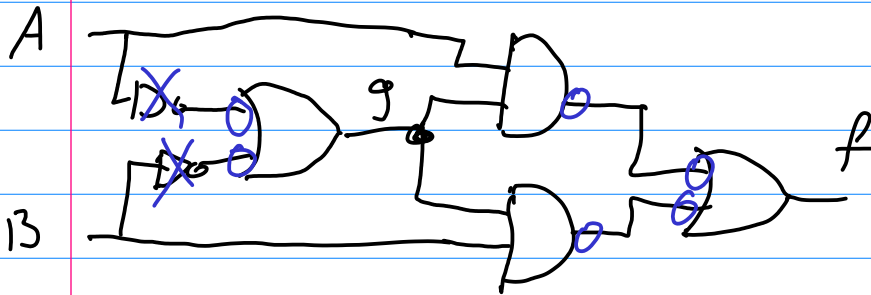
	A
B	1
	1



$$\text{Cost} = 5 + 8 = 13$$

$$\begin{aligned}
 A \oplus B &= A\bar{B} + \bar{A}B \\
 &= \bar{A}A + A\bar{B} + \bar{A}B + \bar{B}B \\
 &= (\bar{A} + B)A + (\bar{A} + \bar{B})B \\
 &\quad \quad \quad \uparrow \quad \quad \quad \uparrow \\
 &\quad \quad \quad g \quad \quad \quad g
 \end{aligned}$$

$$\begin{aligned}
 g &= \bar{A} + \bar{B} \\
 f &= gA + gB
 \end{aligned}$$



$$\text{Cost} = 6 + 8 = 14$$

$$= 4 + 8 = 12$$

NANDs only

Equivalence gate

$$A \oplus B = \bar{A}\bar{B} + AB$$

	A
B	1
	1

