

Op/Op 1)

A	B	C	Q
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

$C \cup (A \cap B)$

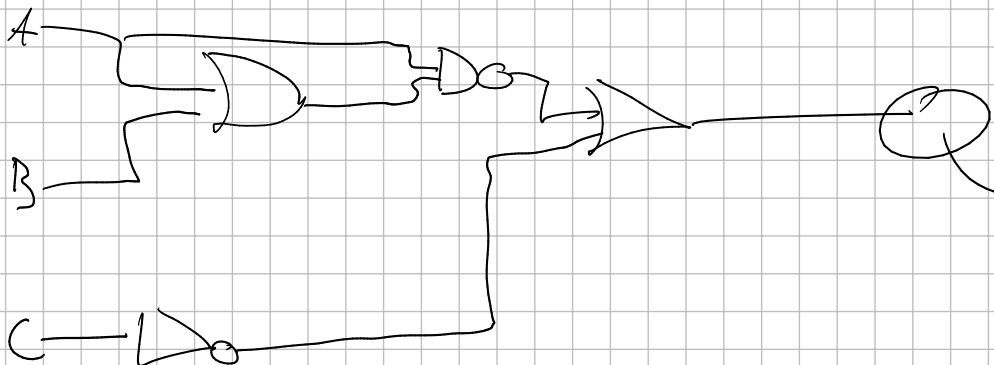
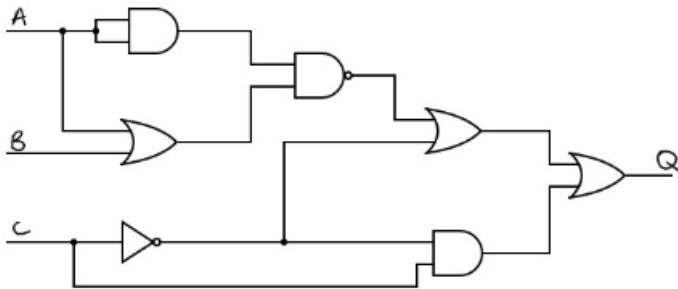
Op/Op 2

$C \cup (A \cap B)$

Op/Op 3

$\checkmark C^c$

Op/Op 4 + 5



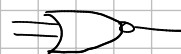
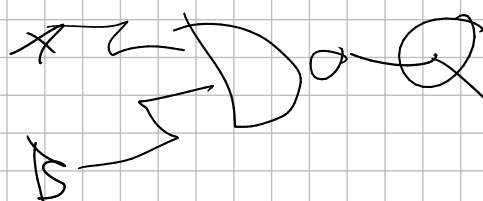
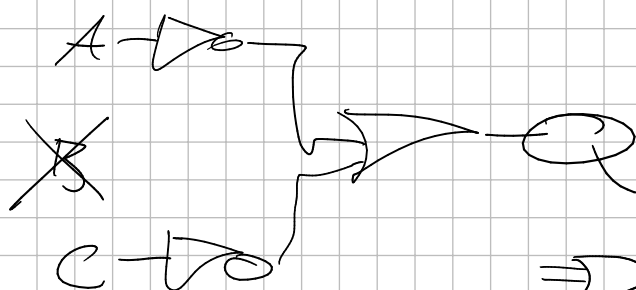
A	B	C	$A \cup B$	$A \cap (A \cup B)$	$\overline{A \cap (A \cup B)}$	$\bar{C}$	$\bar{C} \cup (A \cap (A \cup B))$	$\bar{A}$	$\bar{C} \cup \bar{A}$
0	0	0	0	0	1	1	1	1	1
0	0	1	0	0	1	0	1	1	1
0	1	0	1	0	1	1	1	1	1
0	1	1	1	0	1	0	1	1	1
1	0	0	1	1	0	1	0	0	1
1	0	1	1	1	0	0	0	0	0
1	1	0	1	1	0	1	0	0	0
1	1	1	1	1	0	0	0	0	0

$$\bar{C} \cup (A \cap (A \cup B))$$

$$\bar{C} + (A \cap (A + B))$$

$$\bar{C} + (A \bar{A} + \bar{A} B)$$

$$\underline{\bar{C} + \bar{A}} \rightarrow \underline{\bar{A} + \bar{C}} \rightarrow \underline{A \cdot C}$$



01/11/19 B

a)  $(A + B)(A + C)$

$$= AA + AC + AB + BC$$

$$= A(A + B + C) + BC$$

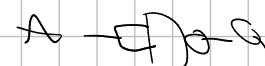
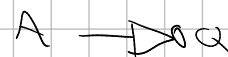
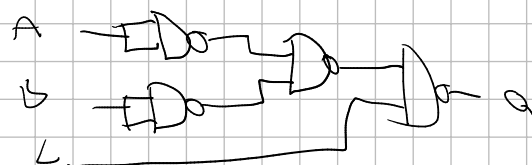
$$= A + BC$$



b)  $A + AB$

$$= A(A + B)$$

$$= A$$



Ggg 9

a)  $\overline{A+B} = \overline{A} \cdot \overline{B}$

A	B	A+B	$\overline{A+B}$	$\overline{A}$	$\overline{B}$	$\overline{A} \cdot \overline{B}$
0	0	0	1	1	1	1
0	1	1	0	1	0	0
1	0	1	0	0	1	0
1	1	1	0	0	0	0

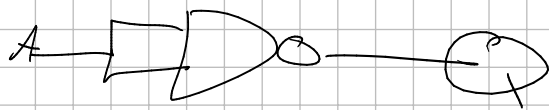
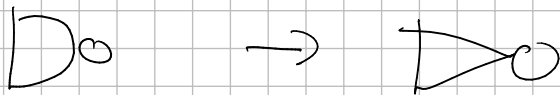
$\overline{A+B} =$

b)

A	B	$\overline{A}$	$\overline{B}$	AB	$\overline{A} \cdot \overline{B}$	$\overline{A+B}$
0	0	1	1	0	1	1
0	1	1	0	0	1	1
1	0	0	1	0	1	1
1	1	0	0	1	0	0

$\overline{AB} = \overline{A+B}$

Ggg 12)



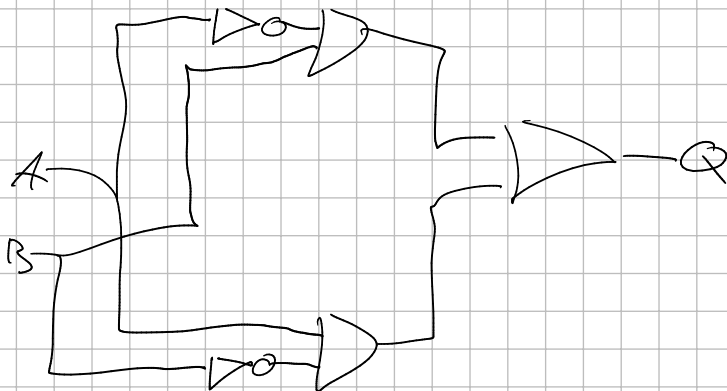
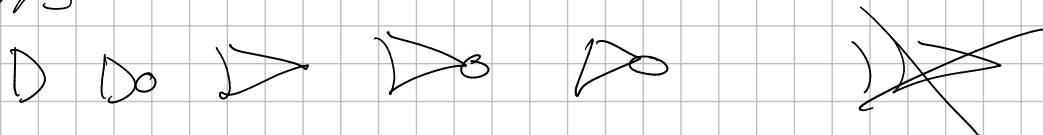
Opps 13)

A	B	$A \oplus B$
0	0	0
0	1	1
1	0	1
1	1	0

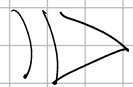
Opps 14)

$$\underline{Q = \bar{A}B + A\bar{B}}$$

Opps 15)



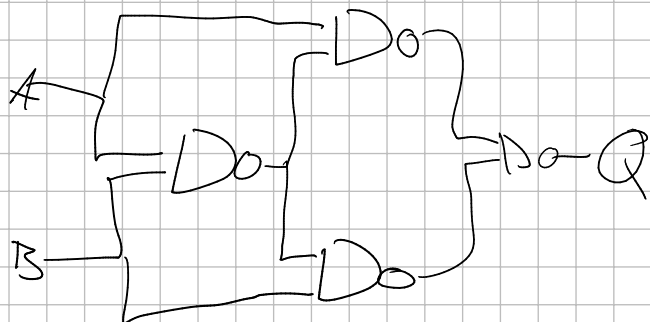
Opps 16)



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

$$\frac{D_0}{\bar{A}B}$$

A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0



$$(A(\bar{A}B)) + (B(\bar{A}B))$$

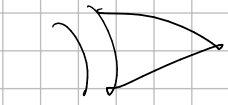
$$\bar{A}\bar{A} + \bar{A}\bar{B} + \bar{B}\bar{A} + \bar{B}\bar{B}$$

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

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

Further progress

Übung 17



$$\overline{A}B + A\overline{B}$$

$$\overline{A+B} = \overline{A}B$$

A	B	C
0	0	1
0	1	0
1	0	0
1	1	0

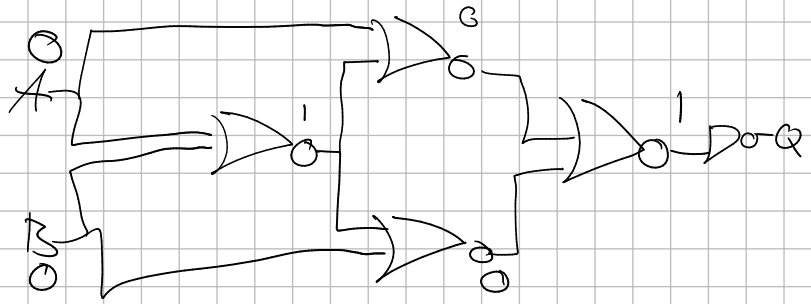
$$\overline{(A + (\overline{A+B}))} + \overline{(B + (\overline{A+B}))}$$

$$\overline{(A(\overline{A+B}))} + \overline{(B(\overline{A+B}))}$$

$$\overline{(\overline{A}\overline{A} + A\overline{B})} + \overline{(\overline{B}\overline{A} + B\overline{B})}$$

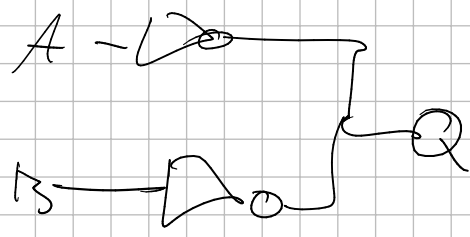
$$\overline{A}B + A\overline{B}$$

$$A\overline{B} + \overline{A}B$$



A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

Uptu



A	B	OR	NOT
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

A	B	$\bar{A}$	$\bar{B}$	$\bar{A+B}$
0	0	1	1	1
0	1	1	0	1
1	0	0	1	1
1	1	0	0	0

Like !

