Ууу 1)

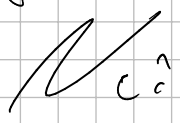
A	B	C	Q
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

$C \cup (A \cap B)$

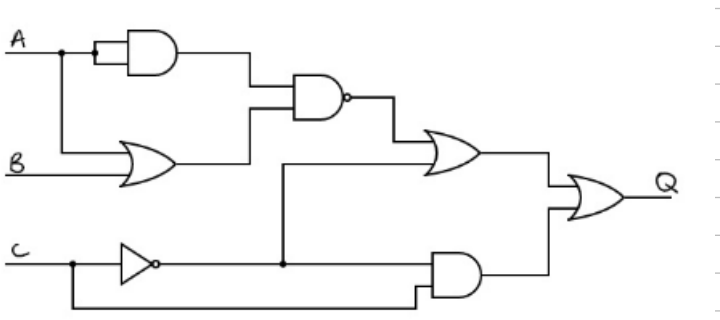
Ууу 2

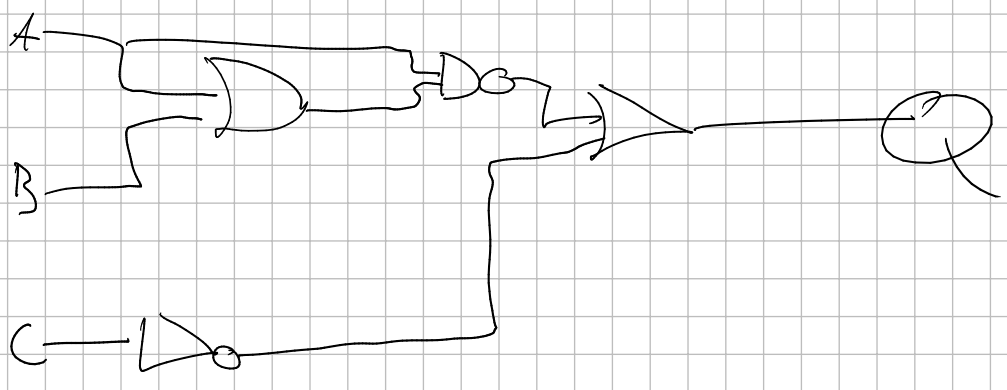
$C \cup (A \cap B)$

Ууу 3



Ууу 4+5





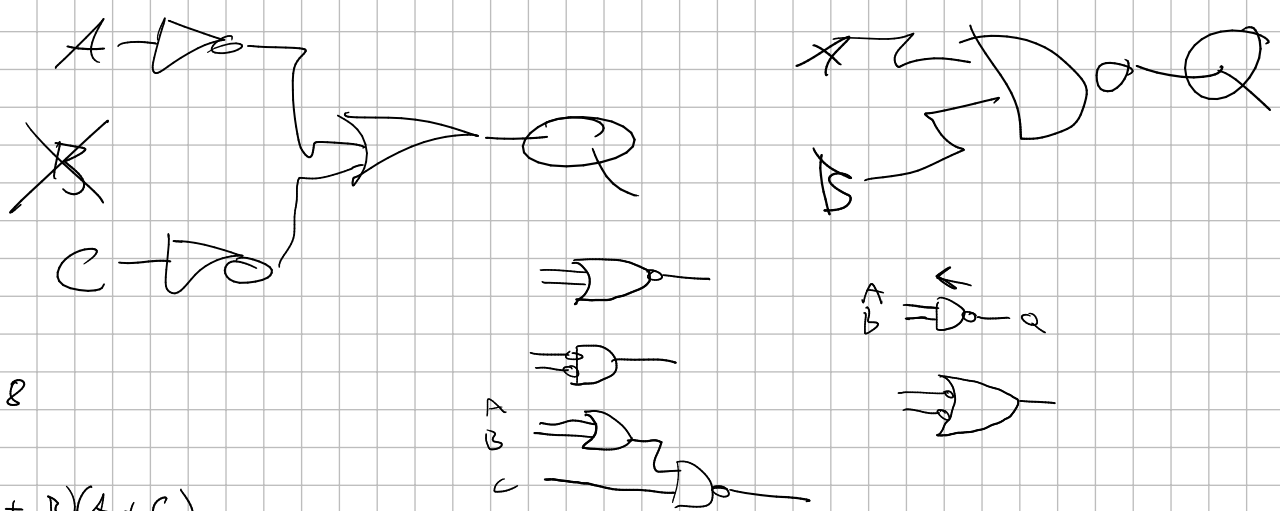
A	B	C	A ∪ B	A ∩ (A ∪ B)	$\overline{A \cap (A \cup B)}$	$\bar{C}$	$\bar{C} \cup \overline{(A \cap (A \cup B))}$	$\bar{A}$	$\bar{C} \cup \bar{A}$
0	0	0	0	0	1	1	1	1	1
0	0	1	0	0	1	0	1	1	1
0	1	0	1	0	1	1	1	1	1
0	1	1	1	0	1	0	1	1	1
1	0	0	1	1	0	1	1	0	1
1	0	1	1	1	0	0	1	0	0
1	1	0	1	1	0	1	1	0	1
1	1	1	1	1	0	0	1	0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

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

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

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

$\bar{C} + \bar{A}$ → $\bar{A} + \bar{C}$ → $\overline{A \cdot C}$



Übung 8

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

$= AA + AC + AB + BC$

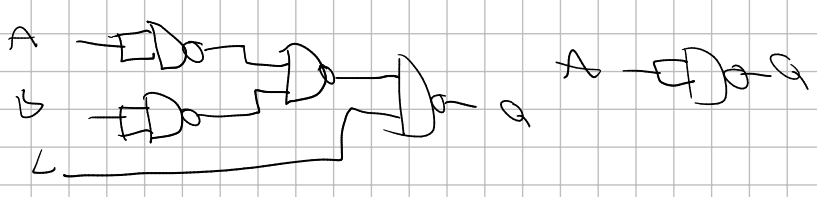
$= A(A + B + C) + BC$

$= A + BC$

b) $A + AB$

$= A(A + B)$

$= A$



Ουη 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

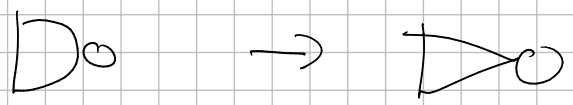
$\overline{A+B} =$

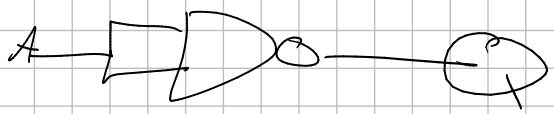
b)

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

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

Ουη 12)





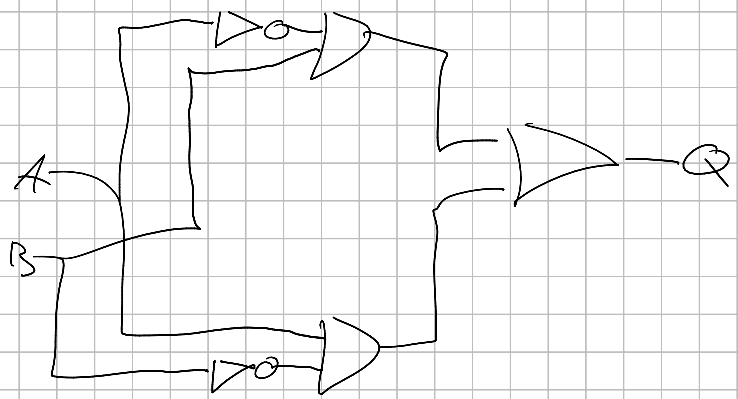
Oppg 13)

A	B	A ⊕ B
0	0	0
0	1	1
1	0	1
1	1	0

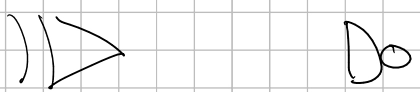
Oppg 14)

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

Oppg 15)



Oppg 16)



$\bar{A}B + \bar{B}A$ $\qquad$ $\overline{AB}$

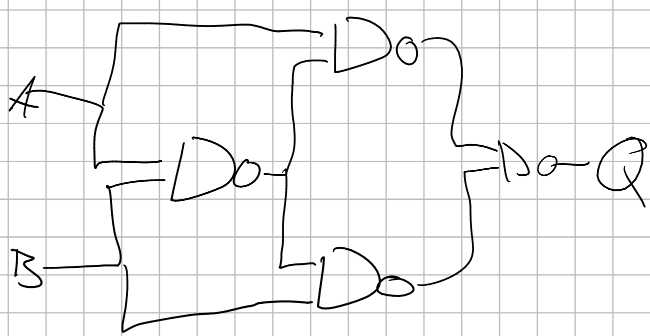
A	B	Q
0	0	0
0	1	1
1	0	1
1	1	0

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

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

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

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



funker poggers

Опыт 17

$\overline{\bar{A}B} + A\bar{B}$ $\qquad$ $\overline{A+B} = \overline{A}\,\overline{B}$

NOR

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

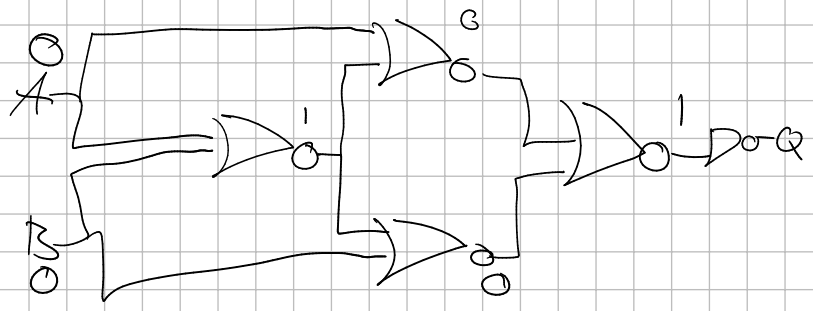
$\overline{(\overline{A+(\overline{A+B})}) + (\overline{B+(\overline{A+B})})}$

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

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

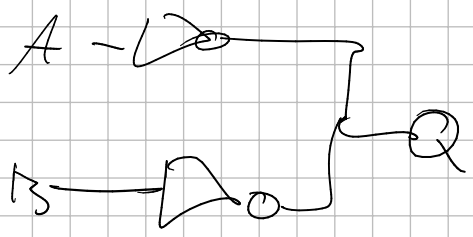
$\overline{\bar{A}B + A\bar{B}}$

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



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

Uhu



A	B	OR	NOR
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

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

Fiks!