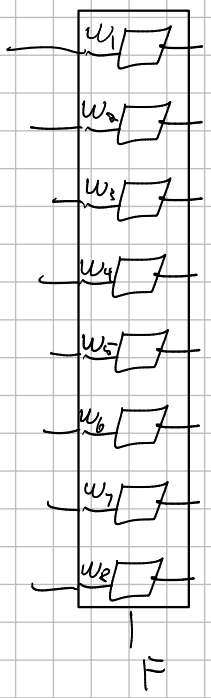
EKT 17

Oppg 1)

a)

Minneceller



Oppg 3

a)

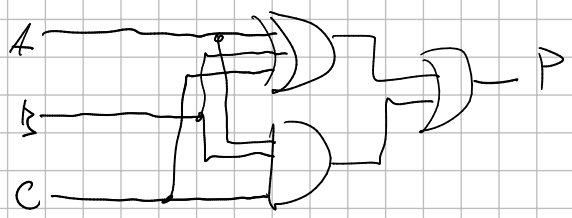
A	B	C	$\bar{A}$	$\bar{B}$	$\bar{C}$	w_0	w_1
0	0	0	1	1	1	1	0
0	0	1	1	1	0	0	1
0	1	0	1	0	1	0	0
0	1	1	1	0	0	0	0
1	0	0	0	1	1	0	0
1	0	1	0	1	0	0	0
1	1	0	0	0	1	0	0
1	1	1	0	0	0	0	0

Oppg 4)

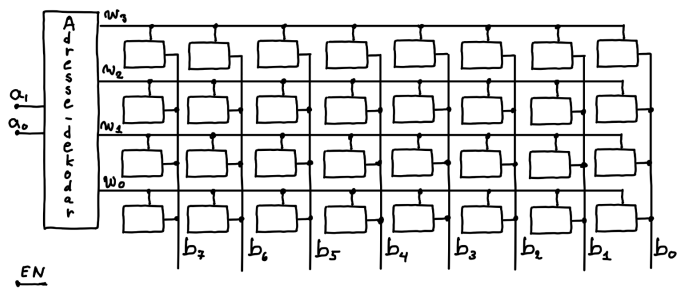
a)

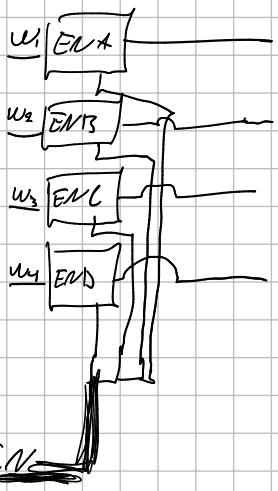
A	B	C	P
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

b) $P = \underbrace{\bar{A}\bar{B}C + \bar{A}B\bar{C} + A\bar{B}\bar{C}}_{XOR} + \underbrace{ABC}_{AND}$

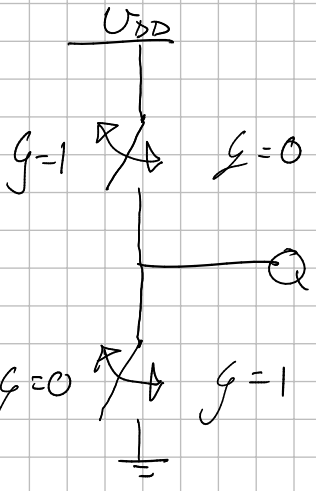


Ответ 7

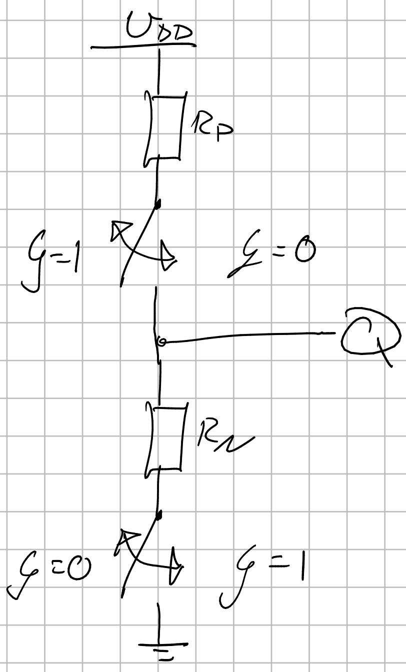




Ответ 8)

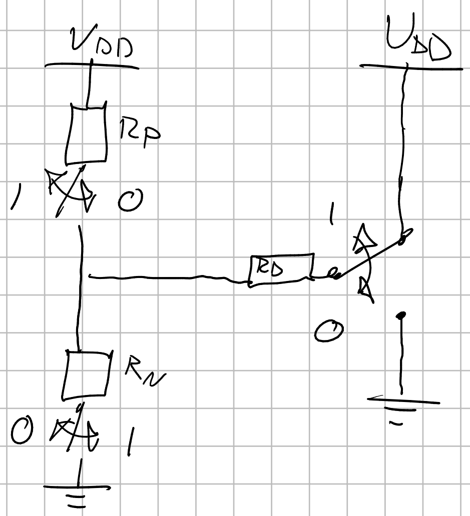


Oppg 9



Oppg 10

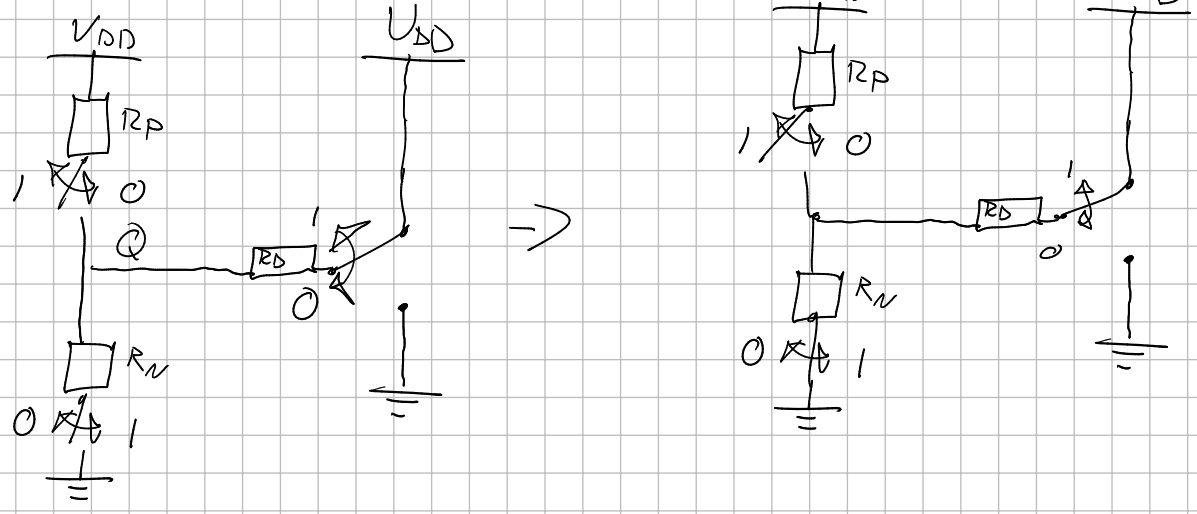
a)



Zad 11

a) $U_{DD} = 5\,V$ Stosunek $U_{IL} = 0{,}8\,V$

$R_P = R_N = 10\,\Omega$



$Q > 4{,}2\,V$

$U_Q > 5 - 0{,}8 = 4{,}2\,V$

$\frac{U_{DD}}{R_D} = \frac{Q}{R_N}$

$U_{DD} \cdot \frac{R_N}{R_N + R_D} > U_Q$

$R_D = \frac{U_{DD}}{Q} \cdot R_N$

$U_{DD} \cdot R_N > U_Q (R_N + R_D)$

$R_D = \frac{5\,V}{4{,}2\,V} \cdot 10\,\Omega$

$U_{DD} \cdot R_N > U_Q R_N + U_Q R_D$

$R_D = 12\,\Omega$

$U_{DD} R_N - U_Q R_N > U_Q R_D$

$R_N (U_{DD} - U_Q) \cdot \frac{1}{U_Q} > R_D$

$R_D < 10(5 - 4{,}2) \cdot \frac{1}{4{,}2}$

$R_D < \frac{8}{4{,}2}$

$R_D < 1{,}9\,\Omega$