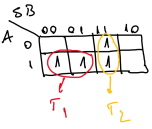
Laborator nr. 5:

$111 = 1\times2^2 + 1\times2^1 + 1\times2^0$ (MSB, LSB)

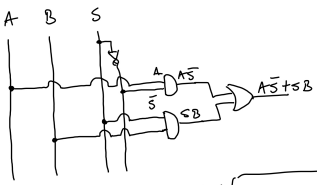
S	B	A	OUT
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1



S	B	A	OUT
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

$OUT = T_1 + T_2 = A\bar{S} + SB$

Schema cu porți: (2x AND, 1x OR, 1x NOT)



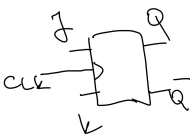
Tabel de adevăr completat pe baza măsurătorilor:

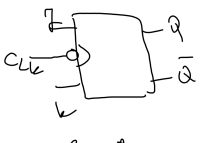
S	B	A	OUT
0	0	0	0
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

Multiplexorul funcționează corect.

1c. MUX 4x1:

$$OUT = AS_2\bar{S}_1 + B\bar{S}_2S_1 + CS_2\bar{S}_1 + DS_2S_1$$





Decodor BCD-zecimal pe 2 biți:

	Q_1	Q_0	OUT3	OUT2	OUT1	OUT0
0	0	0	0	0	0	1
1	0	1	0	0	1	0
2	1	0	0	1	0	0
3	1	1	1	0	0	0

$OUT0 = \bar{Q}_1\bar{Q}_0$

$OUT1 = \bar{Q}_1Q_0$

$OUT2 = Q_1\bar{Q}_0$

$OUT3 = Q_1Q_0$

$Q_1\ \bar{Q}_1\ \ Q_0\ \bar{Q}_0$