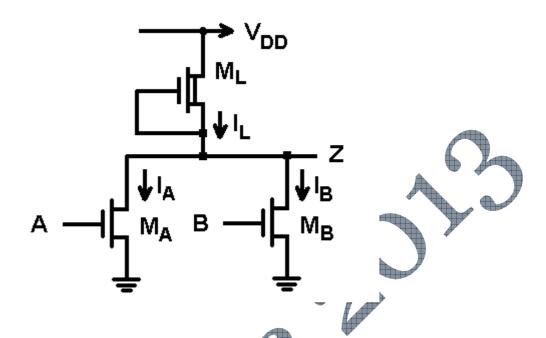
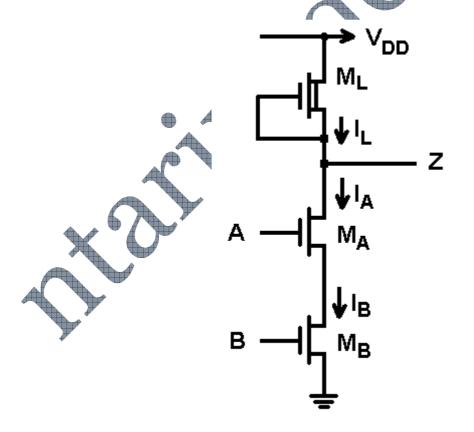
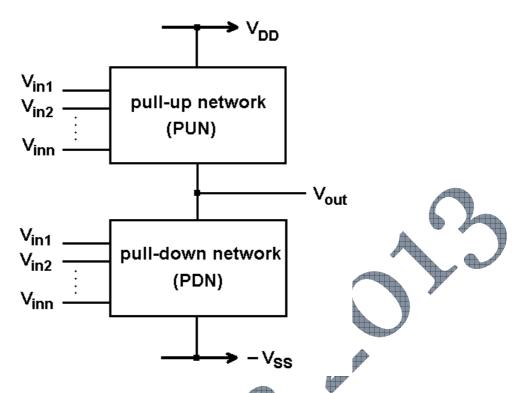
2-input NMOS NOR gate



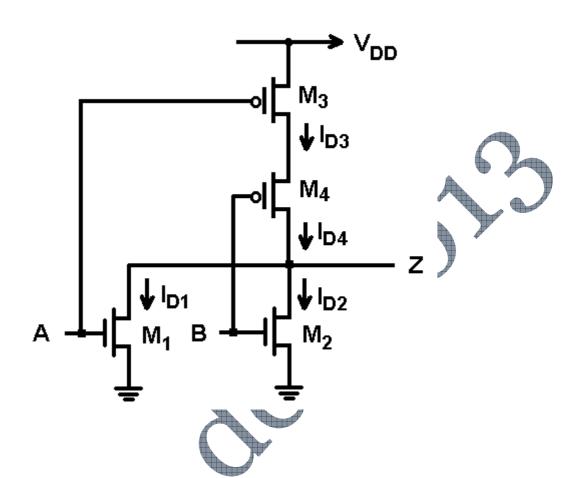
2-input NMOS NAND gate



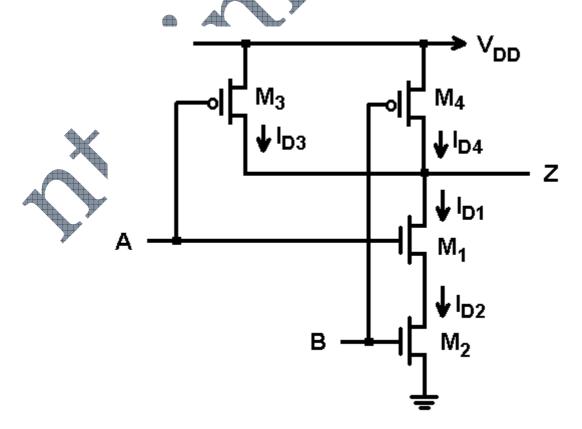


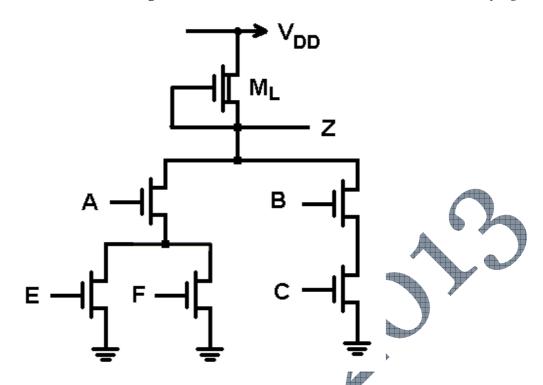
General structure of CMOS gates

2-input CMOS NOR gate

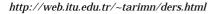


2-input CMOS NAND gate





An example complex NMOS logic circuit



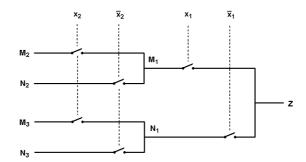
A	В	C	E	F	Z	Vout
0	0	0	0	0	1	V_0
0	0	0	0	1	1	V_1
0	0	0	1	0	1	V_2
0	0	0	1	1	1	V_3
0	0	1	0	0	1	V_4
0	0	1	0	1	1	$\begin{array}{c} V_0 \\ V_1 \\ V_2 \\ V_3 \\ V_4 \\ V_5 \\ V_6 \\ V_7 \\ V_8 \\ V_9 \\ V_{10} \\ V_{11} \\ \hline V_{12} \\ V_{13} \\ \end{array}$
0	0	1	1	0	1	V_6
0	0	1	1	1	1	V_7
0	1	0	0	0	1	V_8
0	1	0	0	1	1	V_9
0	1	0	1	0	1	V_{10}
0	1	0	1	1	1	V ₁₁
0	1	1	0	0	0	V_{12}
0	1	1	0	1	0	V_{13}
0	1	1	1	0		V_{14}
0	1	1	1	1	0	V_{15}
1	0	0	0	0	1	V ₁₆
1	0	0	0	1	0	V ₁₇
	0	0	1	0	0	V_{18}
1	0	0	1	1	0	V ₁₄ V ₁₅ V ₁₆ V ₁₇ V ₁₈ V ₁₉
1	0	1	0	0	1	$\begin{array}{c} V_{20} \\ V_{21} \\ V_{22} \\ V_{23} \\ V_{24} \\ V_{25} \\ V_{26} \\ V_{27} \\ \end{array}$
1	0	1	0	1	0	V_{21}
1	0	1	1	0	0	V_{22}
1	0	1	1	1	0	V_{23}
1	1	0	0	0	1	V_{24}
1	1	0	0	1	0	V_{25}
1	1	0	1	0	0	V_{26}
1	1	0	1	1	0	V_{27}
1	1	1	0	0	0	V ₂₈ V ₂₉
1	1	1	0	1	0	V_{29}
1	1	1	1	0	0	• 30
1	B	C	E	F	Z	/
A	1	1	0	0	0	V _{out}
1	0	0	0	1	0	V ₁₂ V ₁₇
1	0	0	1	0	0	V ₁₇
1	0	0	1	1	0	V ₁₈
1	1	1	0	#	0	V_{19}
1	1	1	1	0	0	V_{30}
1	1	1	* 1	1	0	V_{31}
_		-)	▼ 31

A	В	C	E	F	Z	Vout
0	1	1	0	0	0	V ₁₂
0	1	1	0	1	0	V_{13}
0	1	1	1	0	0	V_{14}
0	1	1	1	1	0	V ₁₅
1	0	0	0	1	0	V_{17}
1	0	0	1	0	0	V_{18}
1	0	0	1	1	0	$\mathbf{V_{19}}$
1	0	1	0	1	0	V_{21}
1	0	1	1	0	0	V_{22}
1	0	1	1	1	0	V_{23}
1	1	0	0	1	0	V_{25}
1	1	0	1	0	0	V_{26}
1	1	0	1	1	0	V_{27}
1	1	1	0	0	0	V_{28}
1	1	1	0	1 4	0	V ₂₉
1	1	1	1	0	0	V_{30}
1	1	1	1	1	0	V ₃₁

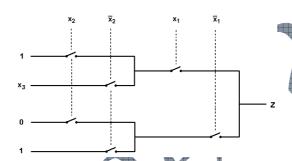
A	В	C	E	F	Z	Vout
0		1	0	0	0	V_{12}
1	0	0	0	1	0	V_{17}
1	0	0	1	0	0	V_{18}
1	0	0	1	1	0	V_{19}
1	1	1	0	1	0	V_{29}
1	1	1	1	0	0	V_{30}
1	1	1	1	1	0	V_{31}

The truth table of the example complex NMOS logic circuit

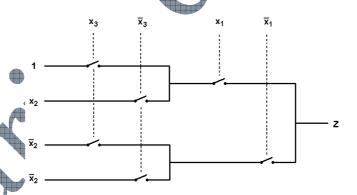
Pass logic



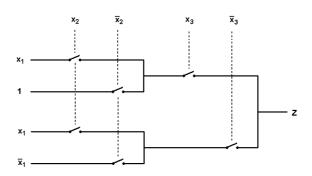
Pass logic circuit after Shannon decomposition applied to a logic function



An example pass logic circuit



Another realization of the example above



Another realization of the example above