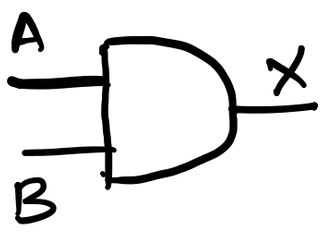
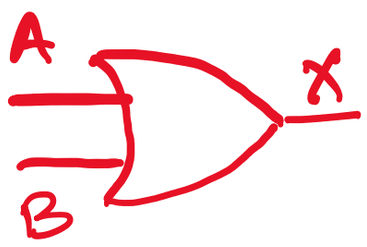
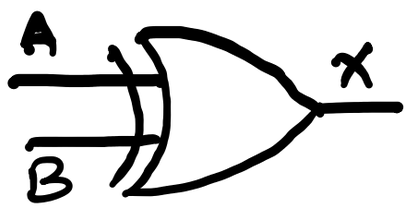
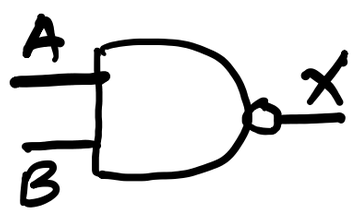
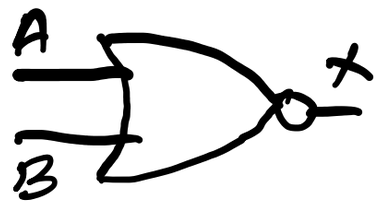
Logic Gates

Monday, 23 November 2020 7:59 PM

Mil. Symbols	Logic	Operator	Mathematical Equation	Logical Expression
	AND	*	X=(AB) X=(A·B) X=(A*B)	- X=1, IF (A AND B) - IF A=1 AND B=1 THEN X=1.
	OR	+	X=(A+B)	- X=1, IF (A OR B)
	XOR EOR Ex-OR	⊕	X=(A⊕B)	- X=1, IF (A XOR B)
	NOT	' —	X=A' X=$\bar{A}$	- X=1, IF NOT A - IF A=NOT 1 THEN X=1
	NAND	(_*_)' $\overline{AB}$	X=(AB)'	- X=1, IF NOT (A=1 AND B=1)
	NOR	(_+_)' $\overline{A+B}$	X=(A+B)'	- X=1, IF NOT (A=1 OR B=1)

Universal Gates

1. Circuit Reduction
2. Building Blocks
3. Storages.

$X=((A+B) \text{ AND } C)'$

$2^3=8$ (0 … 7)

$X=((AB).B')$

$2^2=4$ (0 … 3)

Truth Table.

	A	B	AB	A+B	A⊕B	A'	B'	(AB)'	(A+B)'
0	0	0	0	0	0	1	1	1	1
1	0	1	0	1	1	1	0	1	0
2	1	0	0	1	1	0	1	1	0
3	1	1	1	1	0	0	0	0	0