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Gates logic

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Logic gates are the standard digital logic gates you can find on a circuit board. They all do simple binary tasks, and therefore only have one output.

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OR

Inputs: N A B C D E F G H

Outputs: N Out

Description:

Returns 1 if any input is 1. Returns 0 if no inputs are 1.

Truth Table		
Input 1	Input 2	Output
0	0	0
1	0	1
1	1	1

AND

Inputs: N A B C D E F G H

Outputs: N Out

Description:

Returns 1 only if all inputs are 1, otherwise returns 0.

Truth Table		
Input 1	Input 2	Output
0	0	0
1	0	0
1	1	1

NOT

Inputs:

N A

Outputs:

N Out

Returns 1 if input is 0. Returns 0 if input is 1.

Description:

Truth Table	
Input	Output
0	1
1	0

NAND

Inputs:

N A B C D E F G H

Outputs:

N Out

Equivalent to adding a NOT to an AND. Returns 0 if all inputs are 1. Returns 1 if any inputs are 0.

Description:

Truth Table		
Input 1	Input 2	Output
0	0	1
1	0	1
1	1	0

NOR

Inputs:

N A B C D E F G H

Outputs:

N Out

Equivalent to adding a NOT to an OR. Returns 0 if any inputs are 1. Returns 1 if all inputs are 0.

Description:

Truth Table		
Input 1	Input 2	Output
0	0	1
1	0	0
1	1	0

XOR

Inputs:

N

 A B C D E F G H

Outputs:

N

 Out

Description:

Exclusive OR. Returns 1 if only one input is 1. Returns 0 if all inputs are 0 or more than one input is 1.

Truth Table		
Input 1	Input 2	Output
0	0	0
1	0	1
1	1	0

XNOR

Inputs:

N

 A B C D E F G H

Outputs:

N

 Out

Description:

Equivalent to adding a NOT to an XOR. Returns 0 if only one input is 1. Returns 1 if all inputs are 0 or more than one input is 1.

Truth Table		
Input 1	Input 2	Output
0	0	1
1	0	0
1	1	1

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