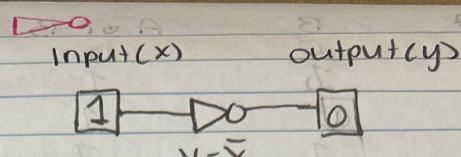


NOT GATE
Symbol: $\neg A, A'$
Rule: flips input



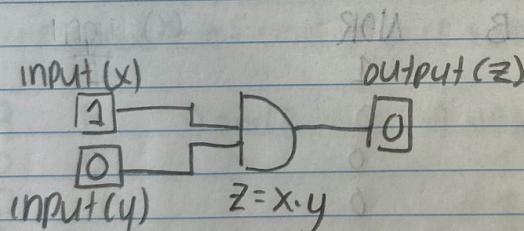
A	NOT A
0	1
1	0

AND GATE

Symbol: $A \cdot B$ or $A \wedge B$
Rule: only 1 when both are 1

A	B	A and B
0	0	0
0	1	0
1	0	0
1	1	1

*you AND your friend must show up: both must come



OR GATE

Symbol: $A + B$ or $A \vee B$
Rule: 1 when at least ^{one} is 1

A	B	A or B
0	0	0
0	1	1
1	0	1
1	1	1

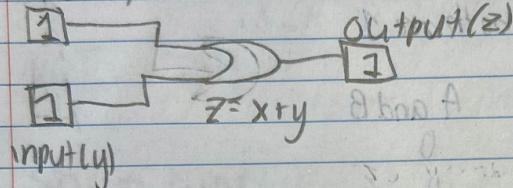
STA A TO

'A, B,
either equal
true'

A TO A

* you OR your friend can come = either is enough ✓

Input(x)



STA A

'A, B,
either equal
true'

B

0

0

0

0

0

0

0

0

0

0

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NOT OR NOR GATE

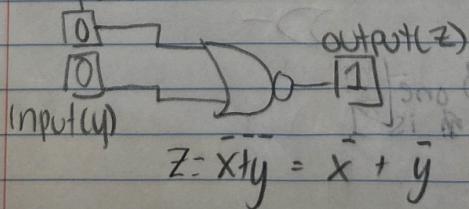
Symbol: $\bar{A}(A+B)$

Rule: opposed of OR

DO -

A	B	A or B	NOR
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

Input(x)



STA A 80

'A, B,
either equal
true'

B

0

0

0

0

0

0

0

0

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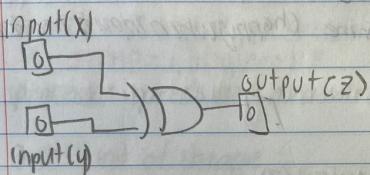
0

0

0

A	B	$A \oplus B$
0	0	0
0	1	1
1	0	1
1	1	0

ONE OR THE OTHER, not both



NAND GATE (NOT AND)

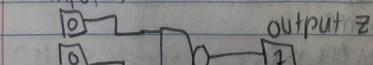
symbol: $\overline{A} \cdot \overline{B}$

rule: opposite of and $\rightarrow 0$ if both inputs are 1

A	B	$A \text{ and } B$	$A \text{ NAND } B$
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

*NAND is happy w/everything but perfection

input(x)



A B $A \oplus B$ $A \text{ Xnor } B$

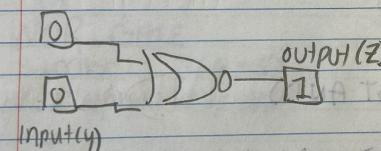
A	B	$A \oplus B$	$A \text{ Xnor } B$
0	0	0	1
0	1	1	0
1	0	1	0
1	1	0	1

*If $A = B$, XNOR = 1

If $A \neq B$, XNOR = 0

XNOR = exact same (happy when inputs match)

input (x)



Summary

GATE output 1

AND both are 1

OR one is 1

NOT input of opposites

NOR none are 1 (both 0)

XOR diff inputs

XNOR input same

