

# EGC221

## Class Notes

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**Baback Izadi**

Division of Engineering Programs

[bai@engr.newpaltz.edu](mailto:bai@engr.newpaltz.edu)

Binary

0  $\leftrightarrow$  Low

1  $\leftrightarrow$  High

Boolean Logic

A  $\rightarrow$  L  $\leftrightarrow$  0  
 $\rightarrow$  H  $\leftrightarrow$  1

5 Volt  $\rightarrow$  1.1 Volt  
High 2.4  
TTL  
0.4  
Low  
0 Volt  
1980

Boolean/digital devices  
Gates

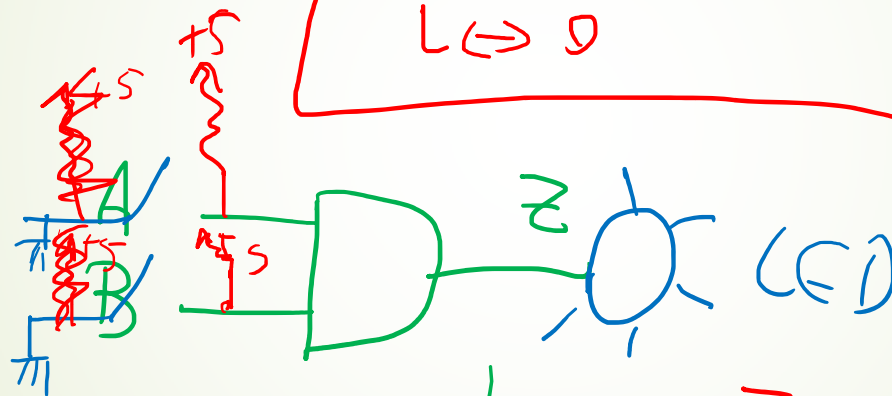
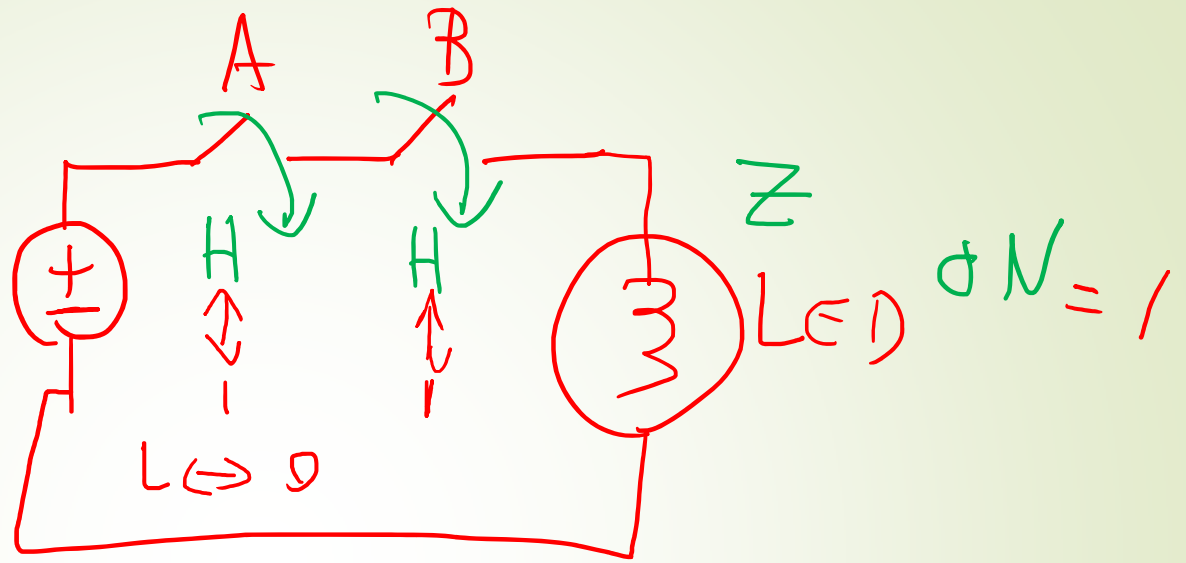
\* AND

\* OR

\* NOT

truth table AND

A	B	Z
0	0	0
0	1	0
1	0	0
1	1	1

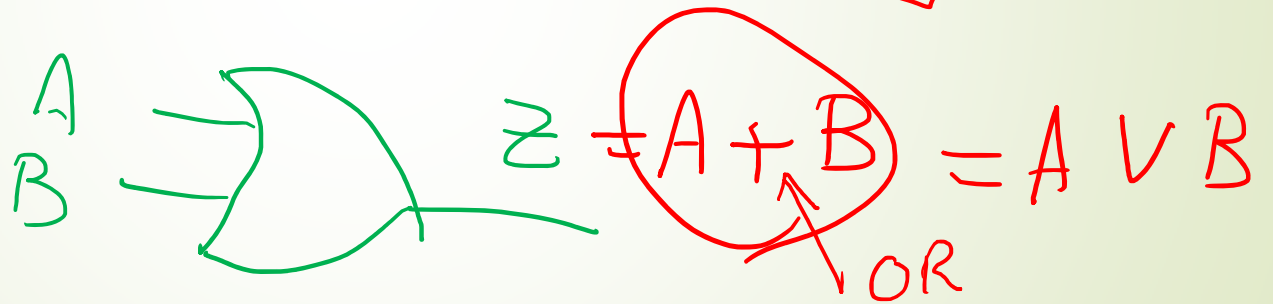
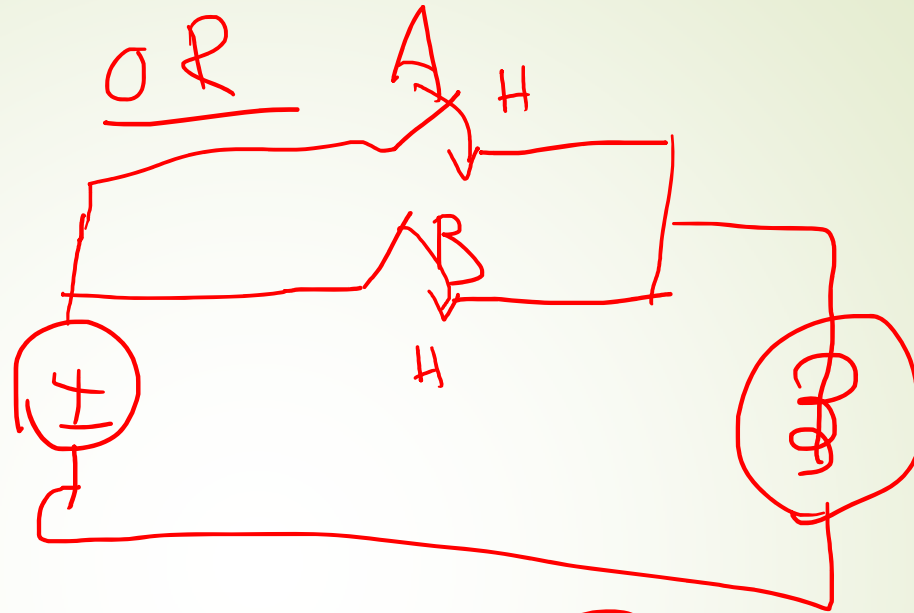


AND gate

$$Z = A \cdot B = \underbrace{AB}_{= A \wedge B}$$

OR

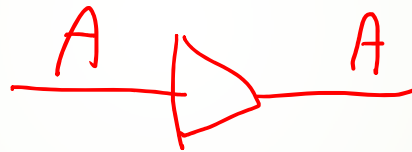
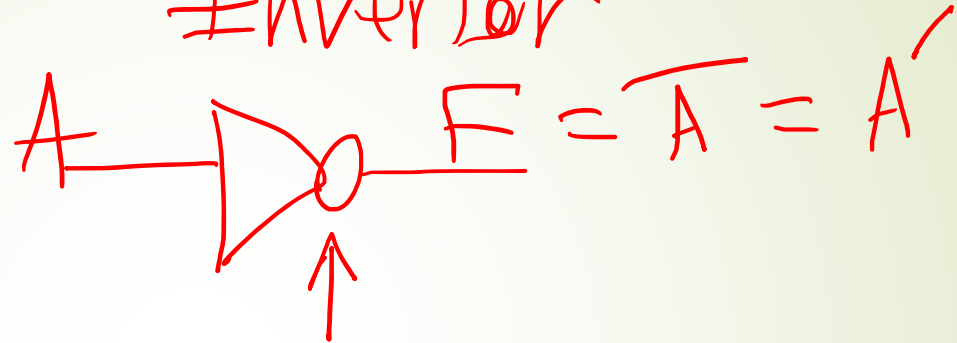
A	B	Z
0	0	0
0	1	1
1	0	1
1	1	1



NOT

A	F
0	1
1	0

inverter



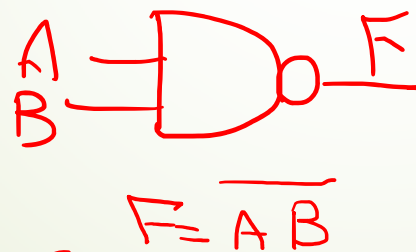
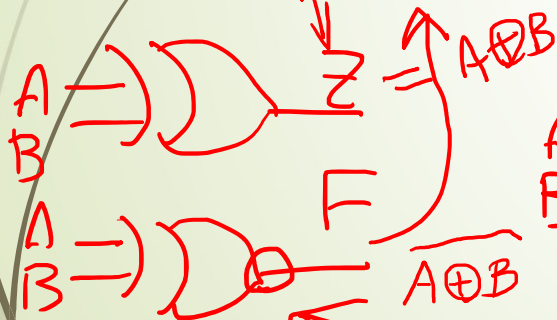
XNOR (EQUIVALENT) AND-NOT / NAND

XOR

A	B	Z	F
0	0	0	1
0	1	1	0
1	0	1	0
1	1	0	1

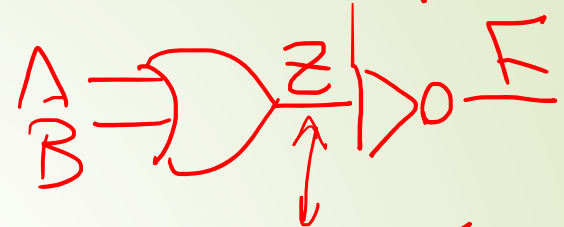


A	B	Z	F
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0



XNOR

OR-NOT / NOR



A	B	Z	F
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

