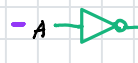
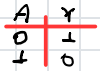
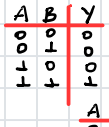
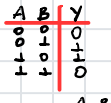
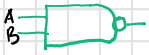
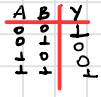
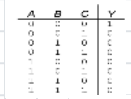
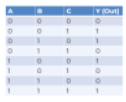
4 - Logic Gates

Tuesday, May 14, 2024 8:17 PM

LOGIC GATES

- are simple digital circuits working on variables

Gate	Boolean equation	Truth table
• NOT 	$Y = \bar{A}$,	
• BUF buffer 	$Y = A$,	
• AND 	$Y = AB$	
• OR 	$Y = A + B$	
• XOR 	$Y = A \oplus B$	
• NAND 	$Y = \overline{AB}$	
• NOR 	$Y = \overline{A + B}$	
• XNOR 	$Y = \overline{A \oplus B}$	
• NOR3 	$Y = \overline{A + B + C}$	
• NAND3 	$Y = \overline{ABC}$	
• XOR3 	$Y = A \oplus B \oplus C$	

Single input Gates

two inputs Gates

Multiple input gates.

↖ Odd Parity (output is 1 if the number of inputs equal to 1 is odd)