Project Logisim

PURPOSE: Create and simulate to combinational circuits

PROBLEM:

Verify that a NAND gate instantiation of an CSOP produces the same result as a traditional AND / OR instantiation.

PART I: Design the digital circuits (both AND-OR and NAND) that implement the digital function f(A,B,C) = ABC+A'BC+AB'C'+AB'C+A'B'C.

PART II: Build both circuits using Logisim

PART III: Use your Logisim circuits to fill in the following truth table to prove that both the AND-OR and NAND circuits operate identically.

A	B	C	f() Boolean Equation	AND / OR Circuit	NAND Circuit
0	0	0			
0	0	1			
0	1	0			
0	1	1			
1	0	0			
1	0	1			
1	1	0			
1	1	1			

TURN IN:

1. Upload a screen capture of our Logisim circuits
2. Add link to your circ file in your github repository
3. Upload your filled out truth table
4. Include a brief explanation of why it proves the circuits are functionally identical