

21. HALF ADDER

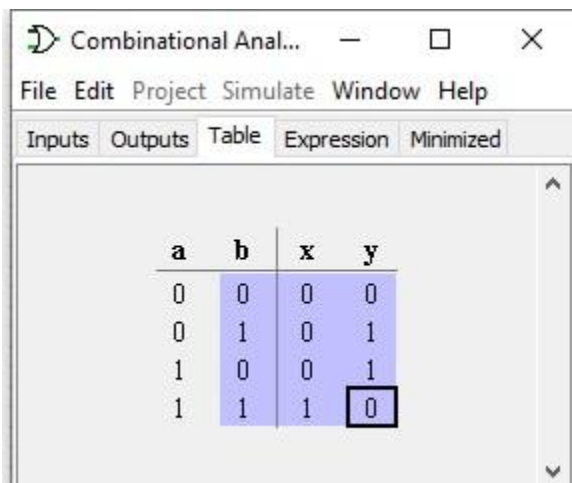
EXP.NO: 21

AIM: To design and implement the two bit half adder using Logisim simulator.

PROCEDURE:

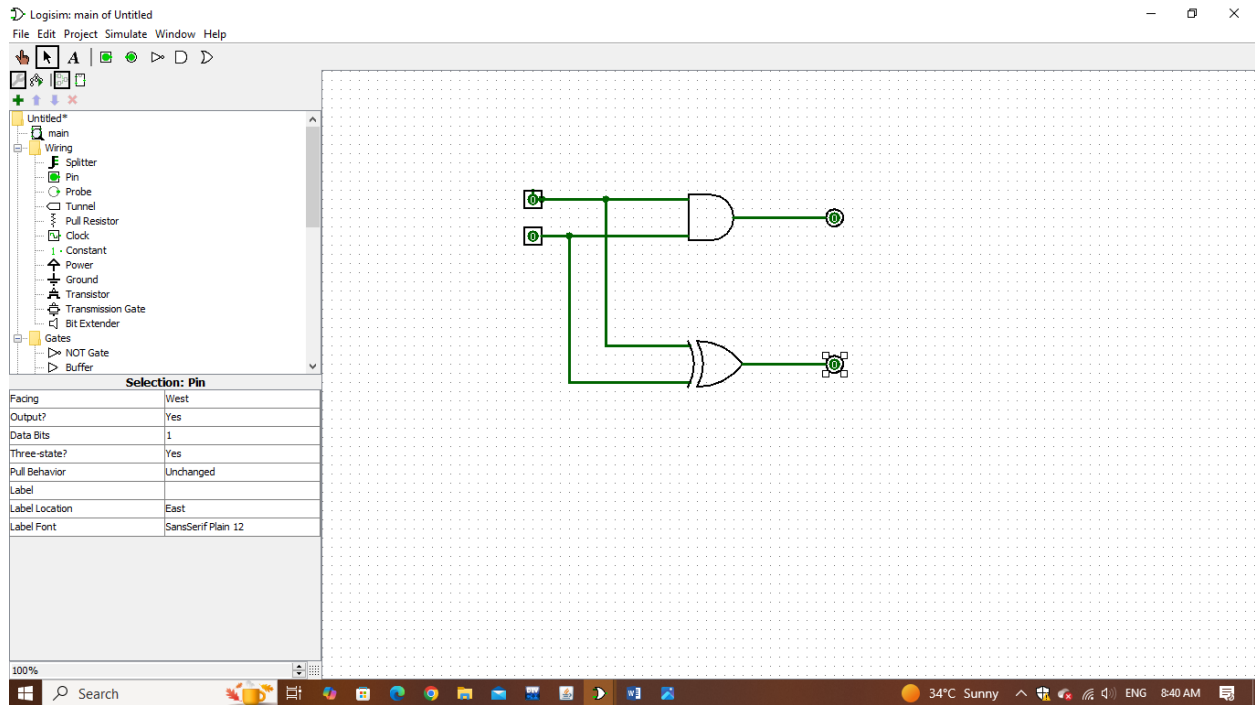
- 1) Pick and place the necessary gates.
- 2) Insert 2 inputs into the canvas.
- 3) Connect the inputs to the XOR gate and AND gate.
- 4) Insert 2 outputs into the canvas.
- 5) Make the connections using the connecting wires.
- 6) Verify the truth table.

TRUTH TABLE:

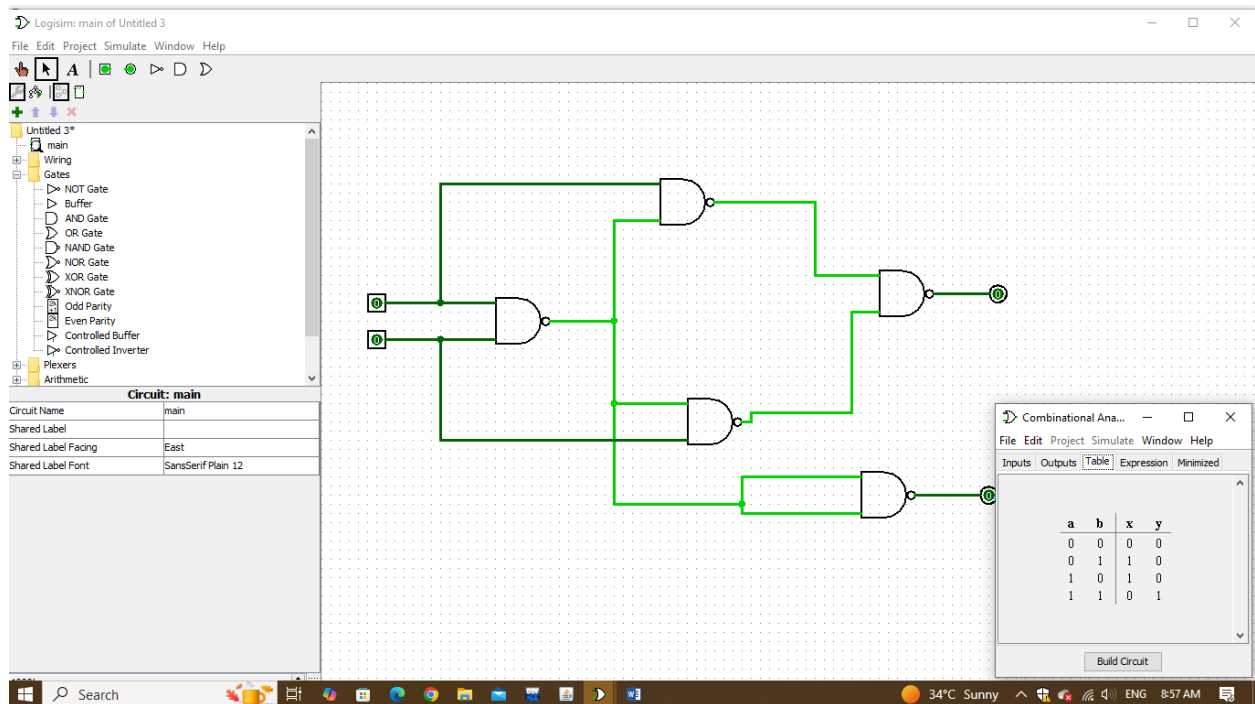


a	b	x	y
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

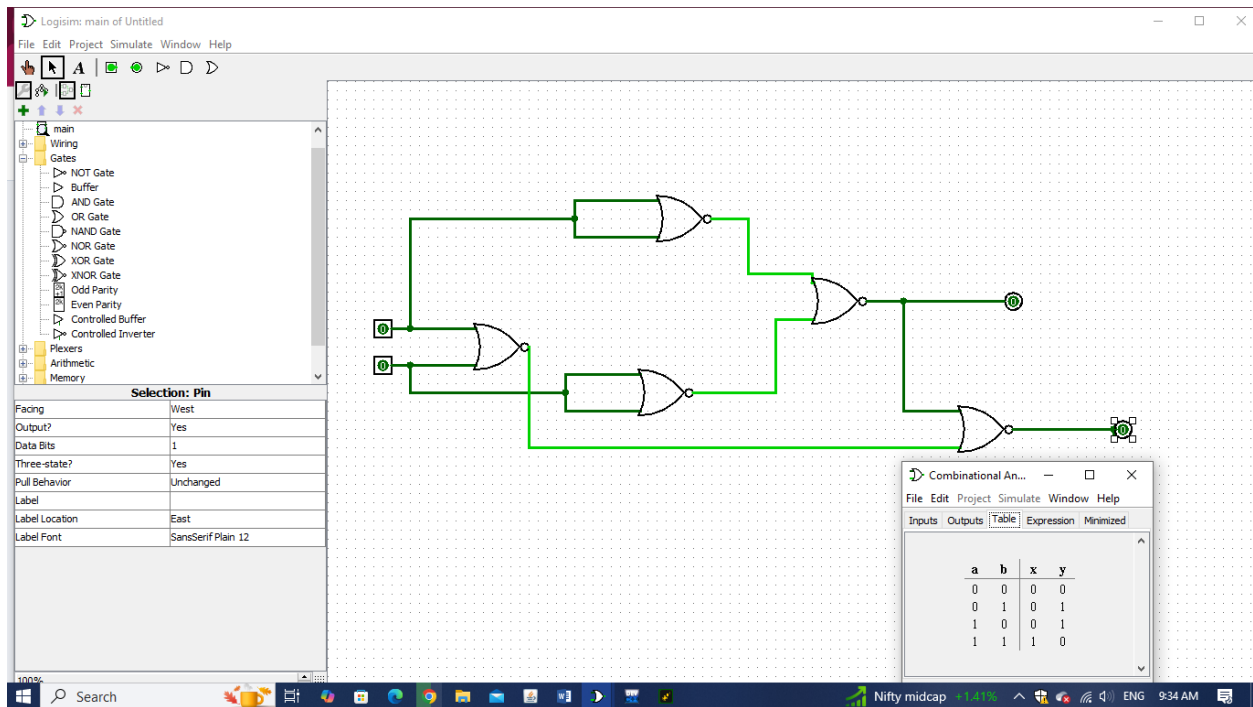
Logical Diagram:



Half Adder using NAND Gates Output:



Half Adder using NOR Gates Output:



RESULT: Thus 2-bit half adder has been designed and implemented successfully using logisim simulator.