

22. TWO BIT HALF SUBTRACTOR

EXP.NO: 22

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

PROCEDURE:

- 1) Pick and place the necessary gates.
- 2) Insert 2 inputs into the canvas.
- 3) Connect the inputs to the OR gate, AND gate and NOT gate.
- 4) Insert 2 outputs into the canvas.
- 5) Make the connections using the connecting wires.
- 6) Verify the truth table.

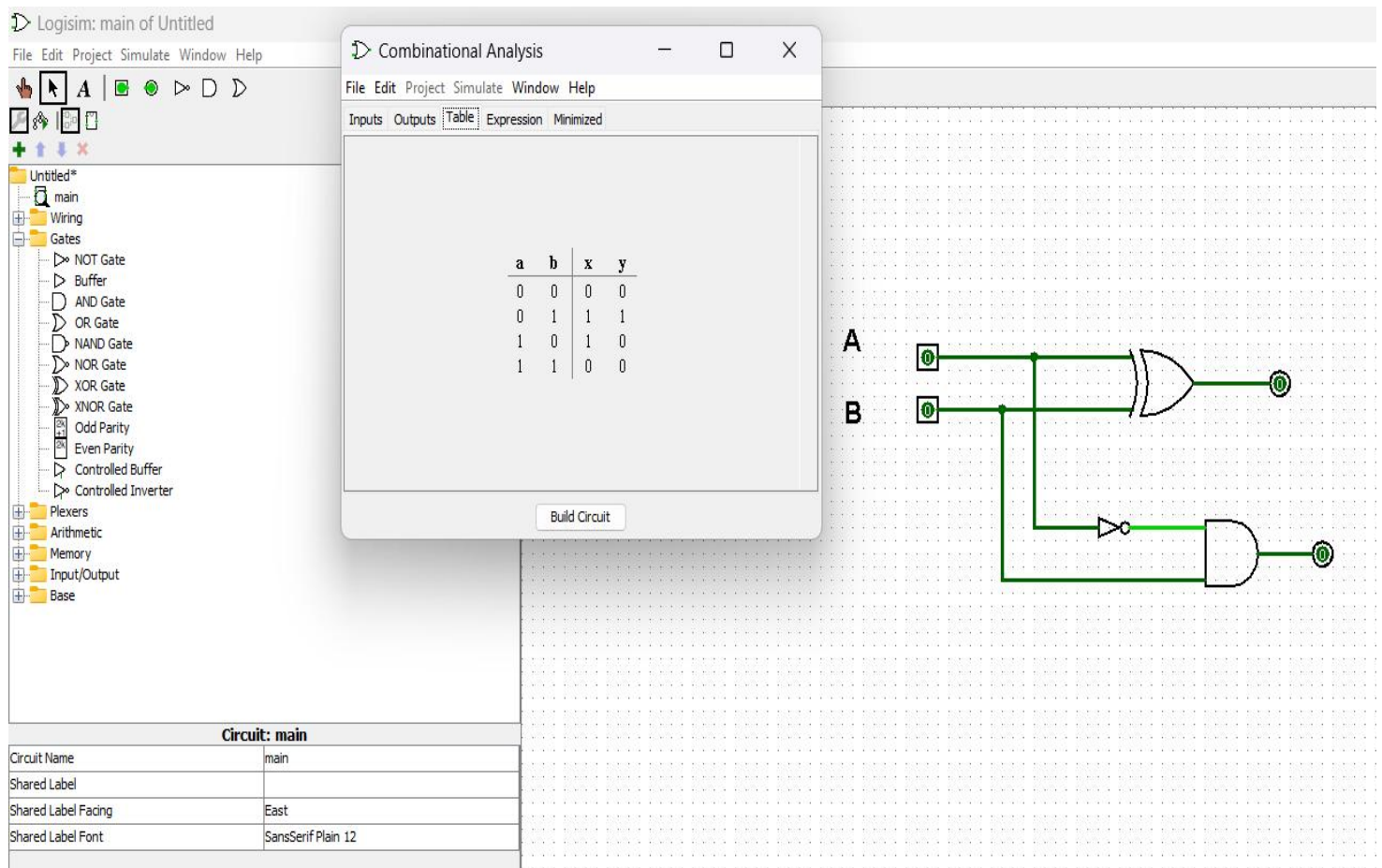
TRUTH TABLE:

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

$$\text{Diff} = A'B + AB'$$

$$\text{Borrow} = A'B$$

Logical Diagram:



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