

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.

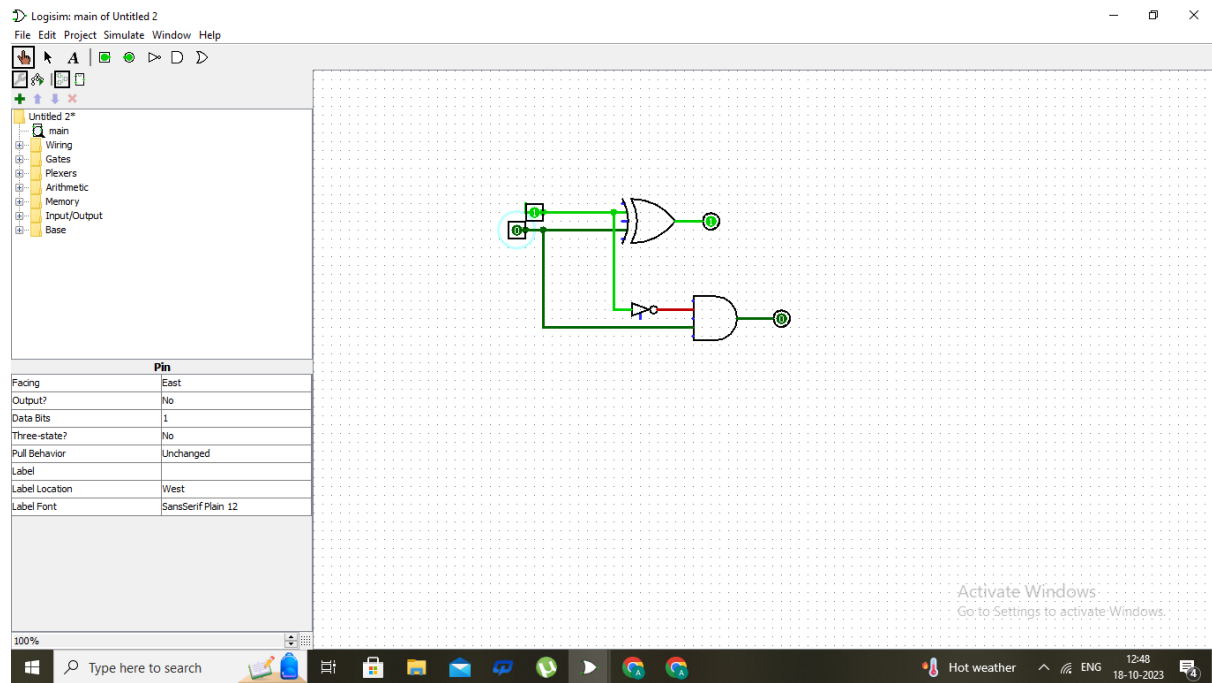
TRUTH TABLE:

| A | B | Diff | Borrow |
|---|---|------|--------|
| 0 | 0 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 |
| 1 | 1 | 0 | 0 |

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

$\text{Borrow} = A'B$

OUTPUT



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