FULL SUBTRACTOR

EXP.NO: 24

AIM:

To design and implement the full subtractor using Logisim simulator.

PROCEDURE:

1) Pick and place the necessary gates.

2) Insert 3 inputs into the canvas.

3) Connect the inputs to the XOR gate, AND gate and OR gate.

4) Insert 2 outputs into the canvas.

5) Make the connections using the connecting wires.

6) Verify the truth table.

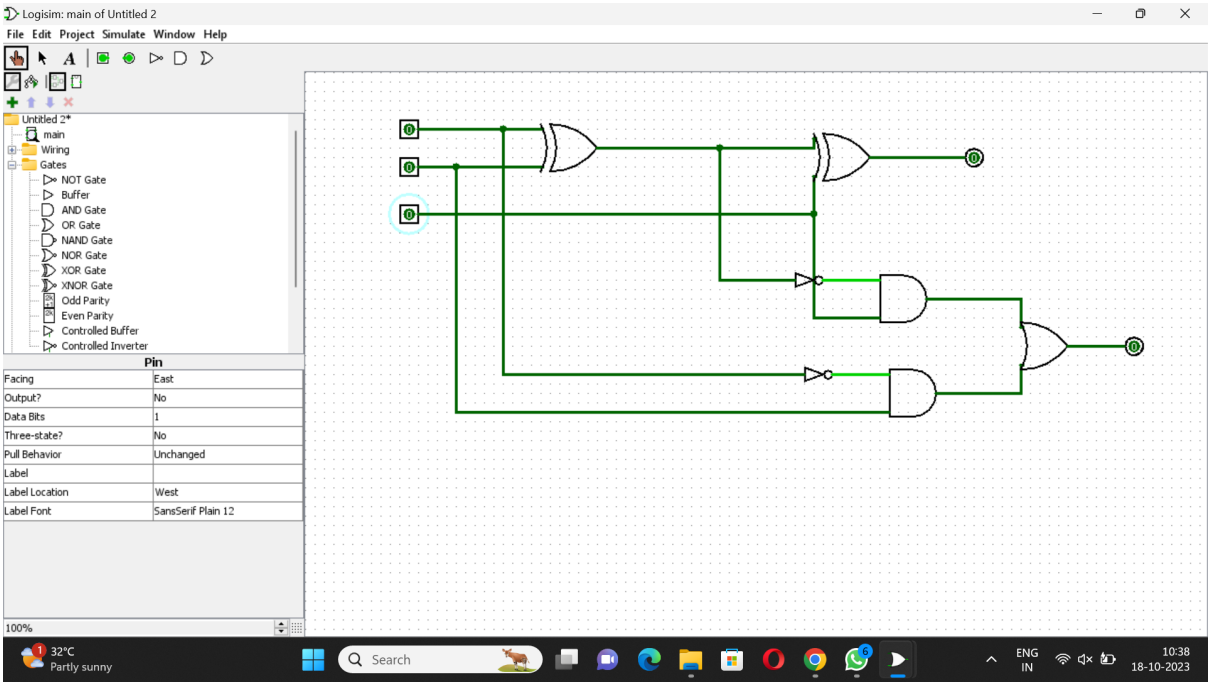
TRUTH TABLE:

Inputs			Outputs	
A	B	$Borrow_{in}$	Diff	Borrow
0	0	0	0	0
0	0	1	1	1
0	1	0	1	1
0	1	1	0	1
1	0	0	1	0
1	0	1	0	0
1	1	0	0	0
1	1	1	1	1

Diff=(A ⊕ B) ⊕ 'Borrowin'

Borrow=A'.B + (A ⊕ B)'

OUTPUT



RESULT:

Thus

full subtractor has been designed and implemented successfully using logisim simulator.