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.
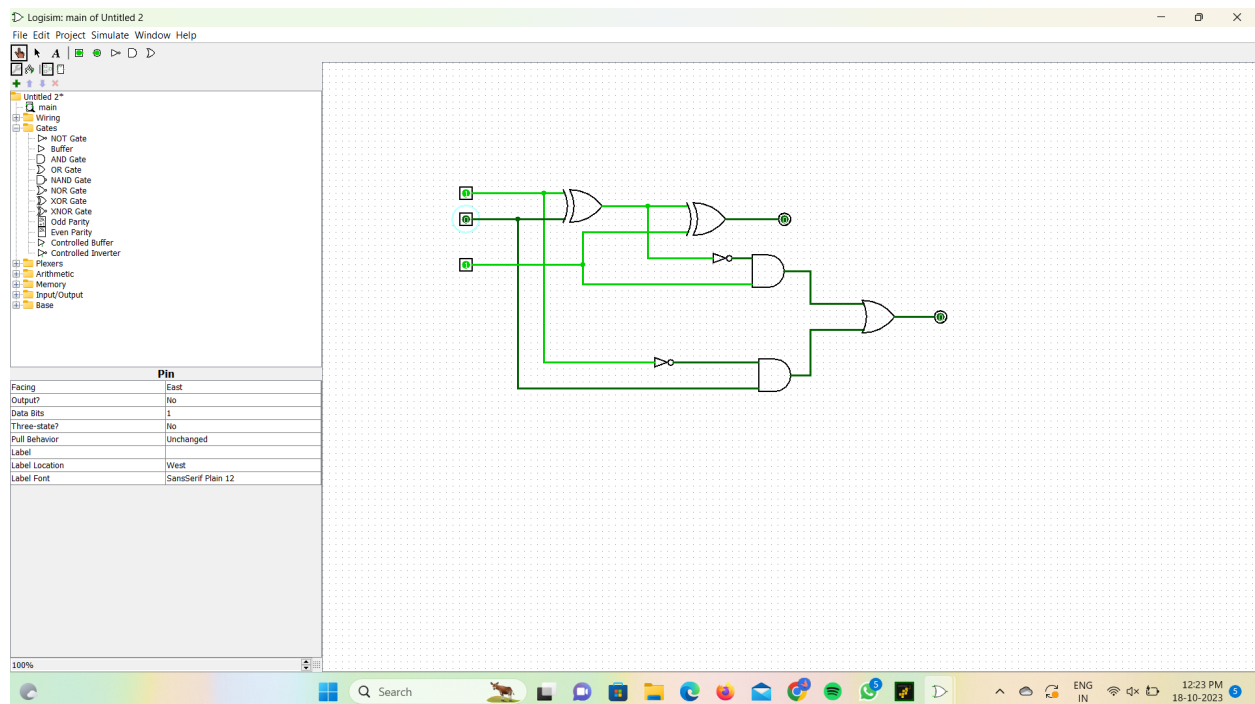
6)   Verify the truth table.

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.