Lab 14

To Explain the Working of Registers, Modes of Operation and Implement Universal Register Using IC

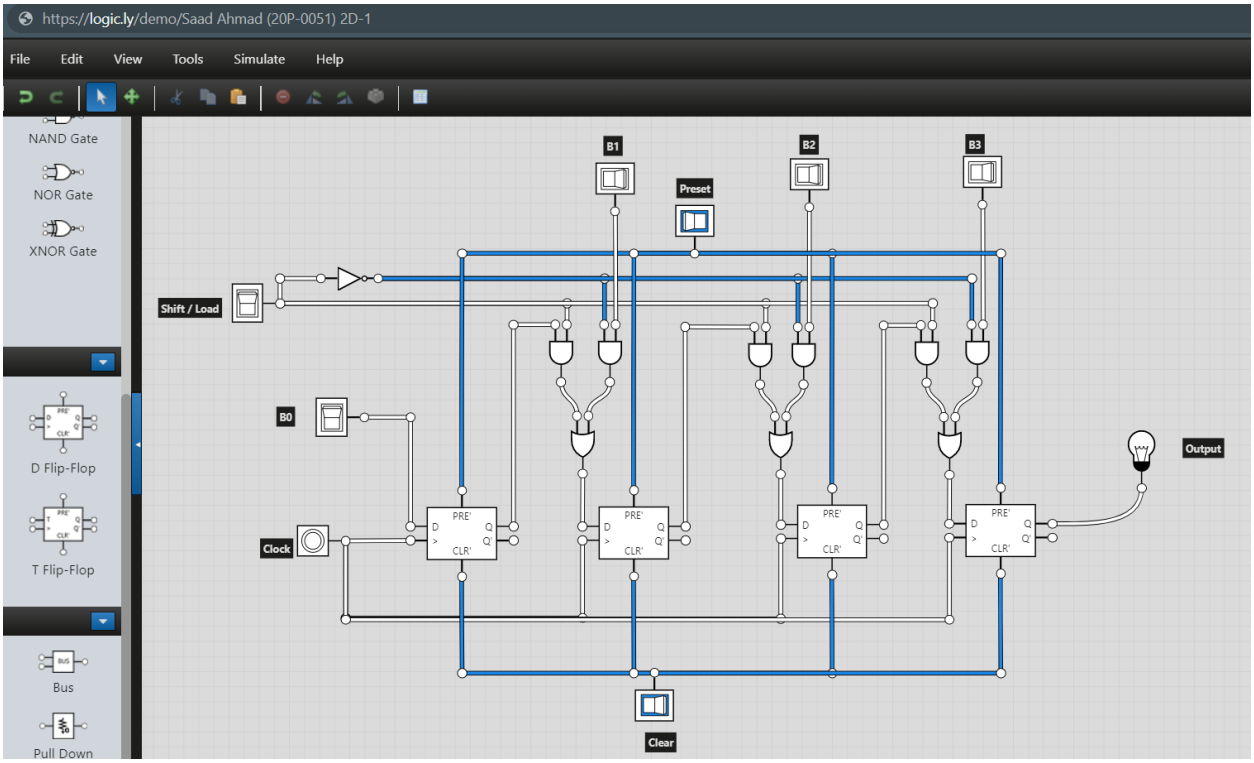
Note: For all the circuits in the tasks, your logic diagrams should be either hand drawn or from the software logicly. Keep them neat and legible. These circuits will be having many connections so, for simulations, make sure that you label the inputs and outputs clearly. Use Label tag in "logically". You can also edit the pictures of your outputs in "paint" easily.

Tasks

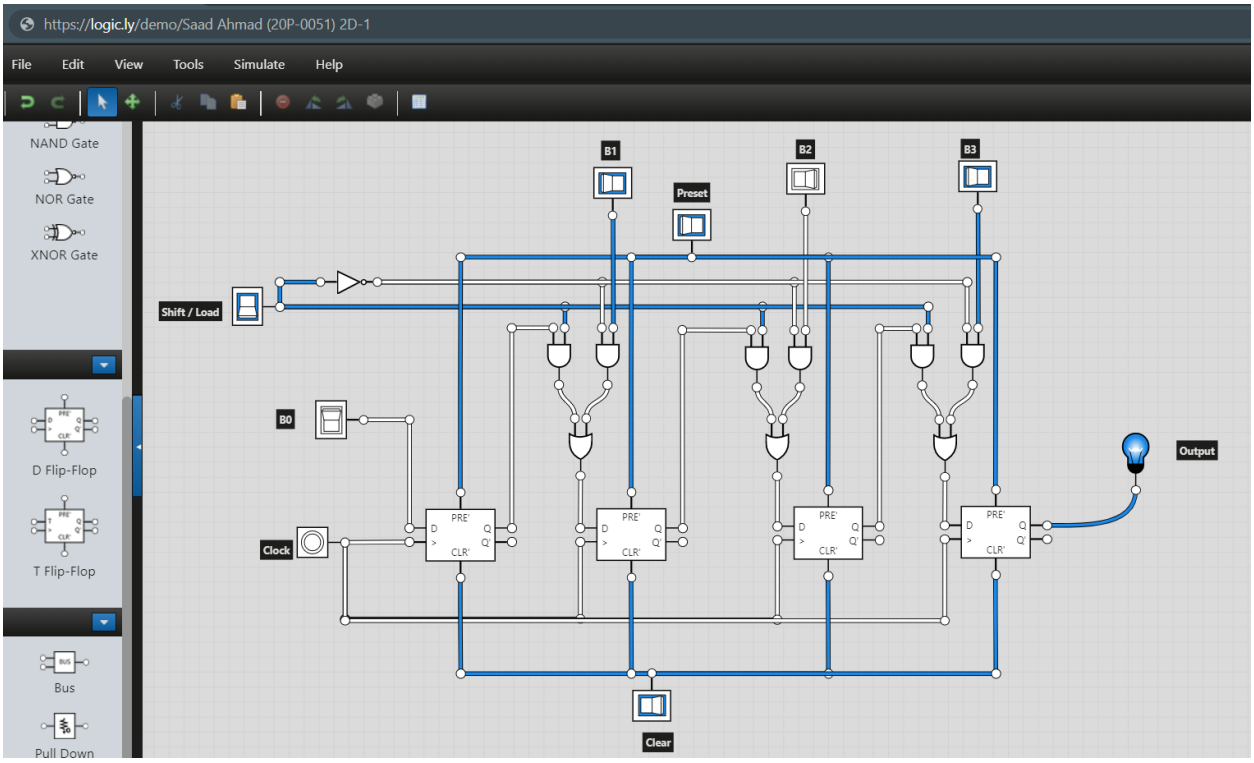
1. **Construct a logic circuit for 4-bit Shift Register working in PISO mode using D Flip Flop. Simulate your circuit to verify the outputs.**

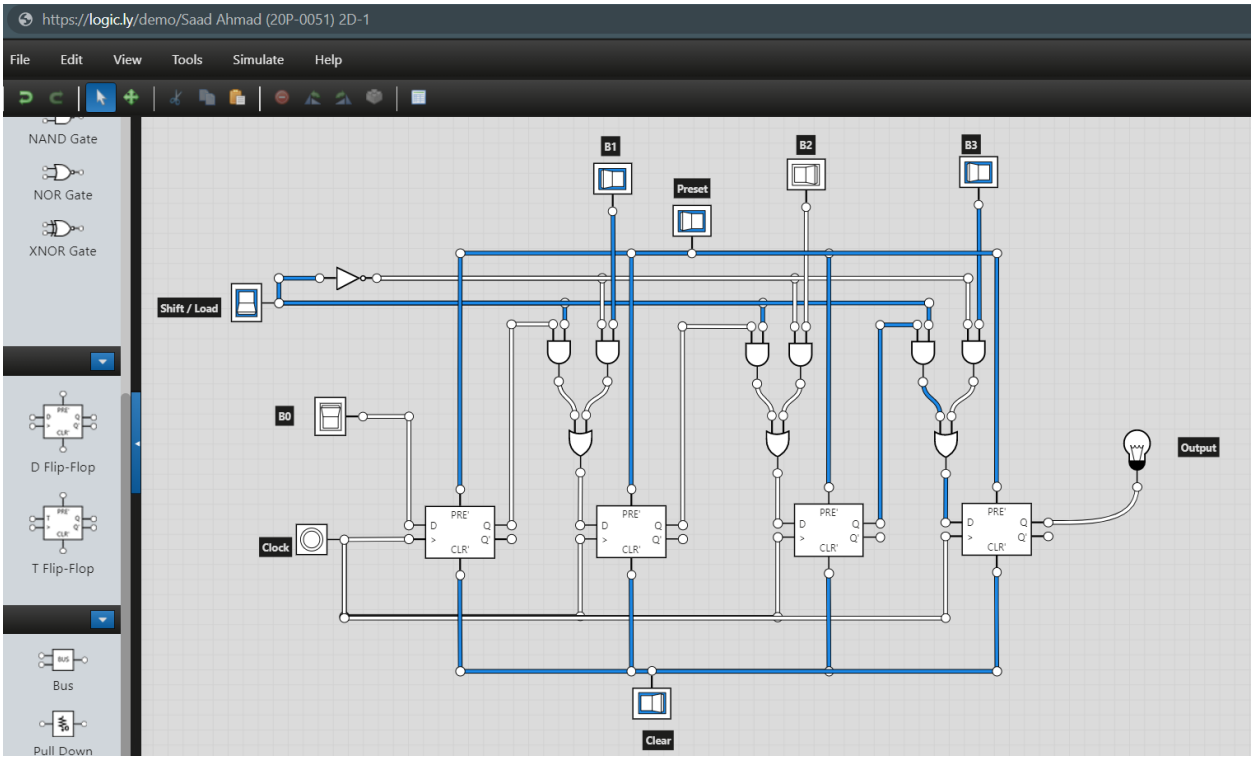
4-Bit Register in PISO Mode

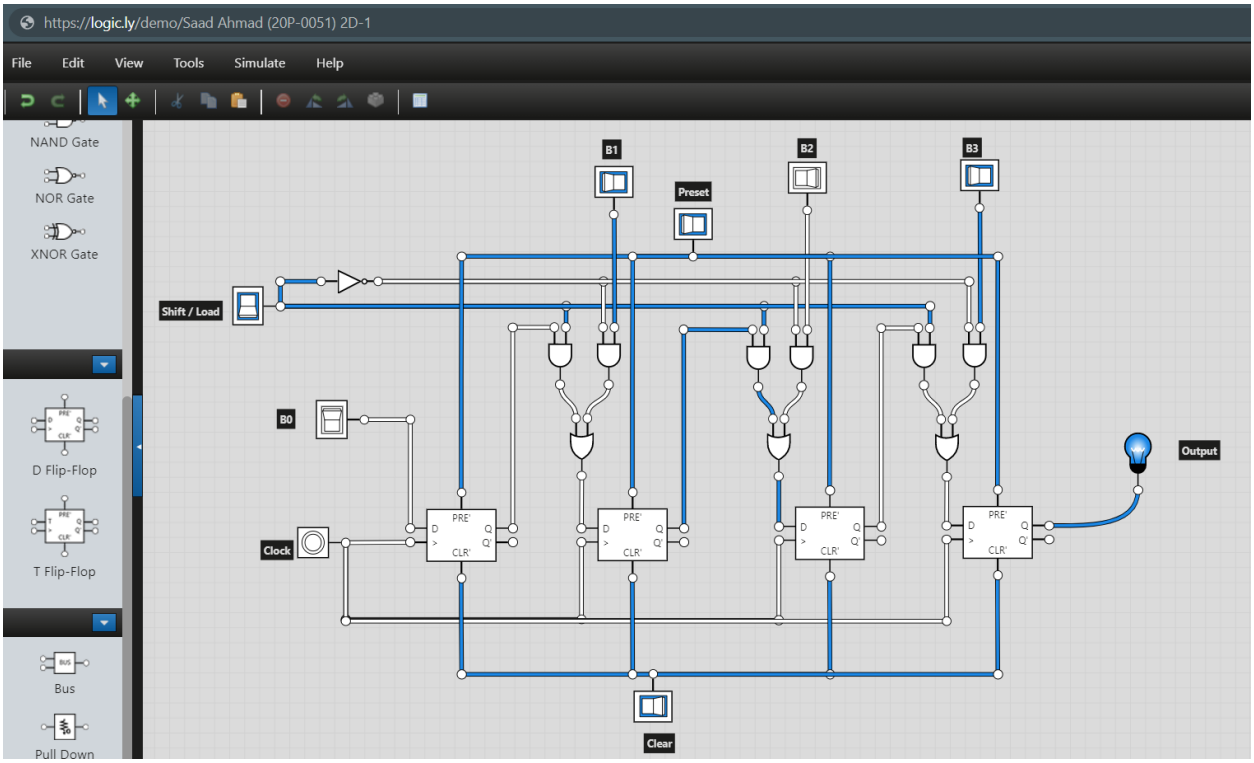
a) Logic Diagram

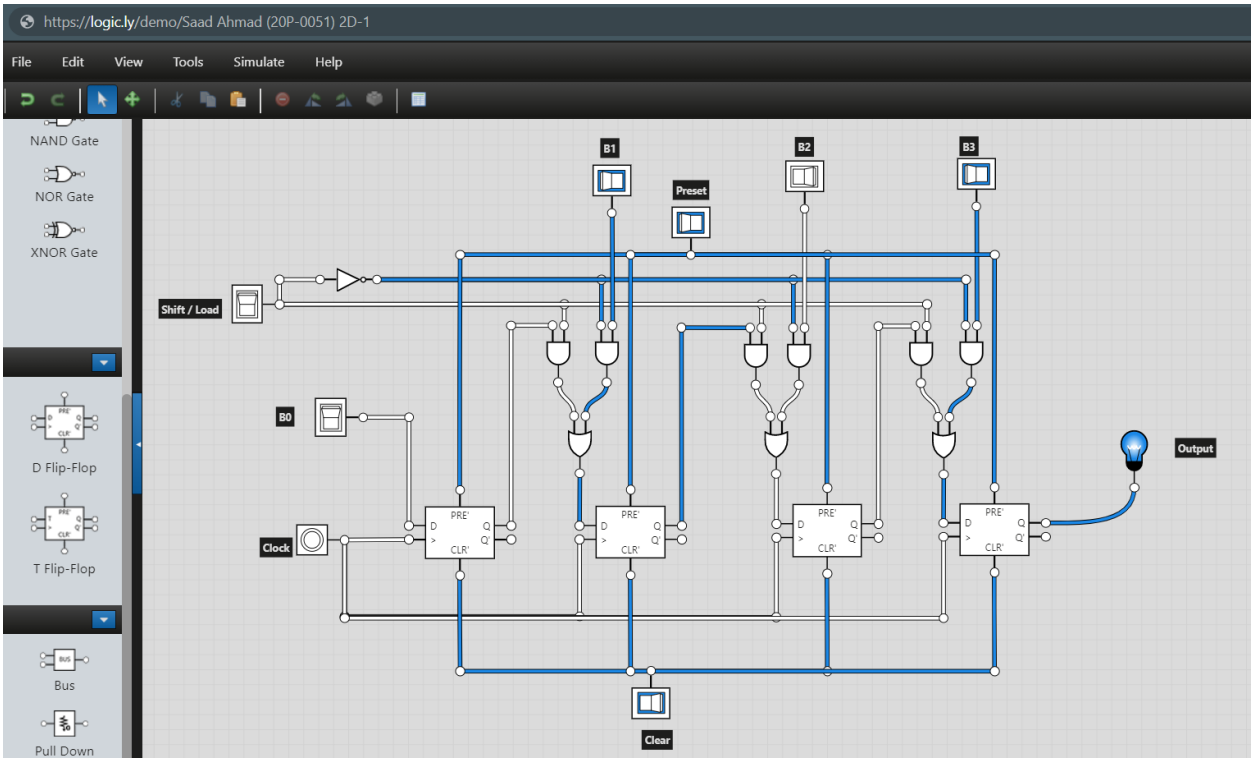


b) Software Simulation






https://logic.ly/demo/Saad Ahmad (20P-0051) 2D-1
File
Edit
View
Tools
Simulate
Help
NAND Gate
NOR Gate
XNOR Gate
D Flip-Flop
T Flip-Flop
Bus
Pull Down
B1
B2
B3
Preset
Shift / Load
B0
Clock
Output
Clear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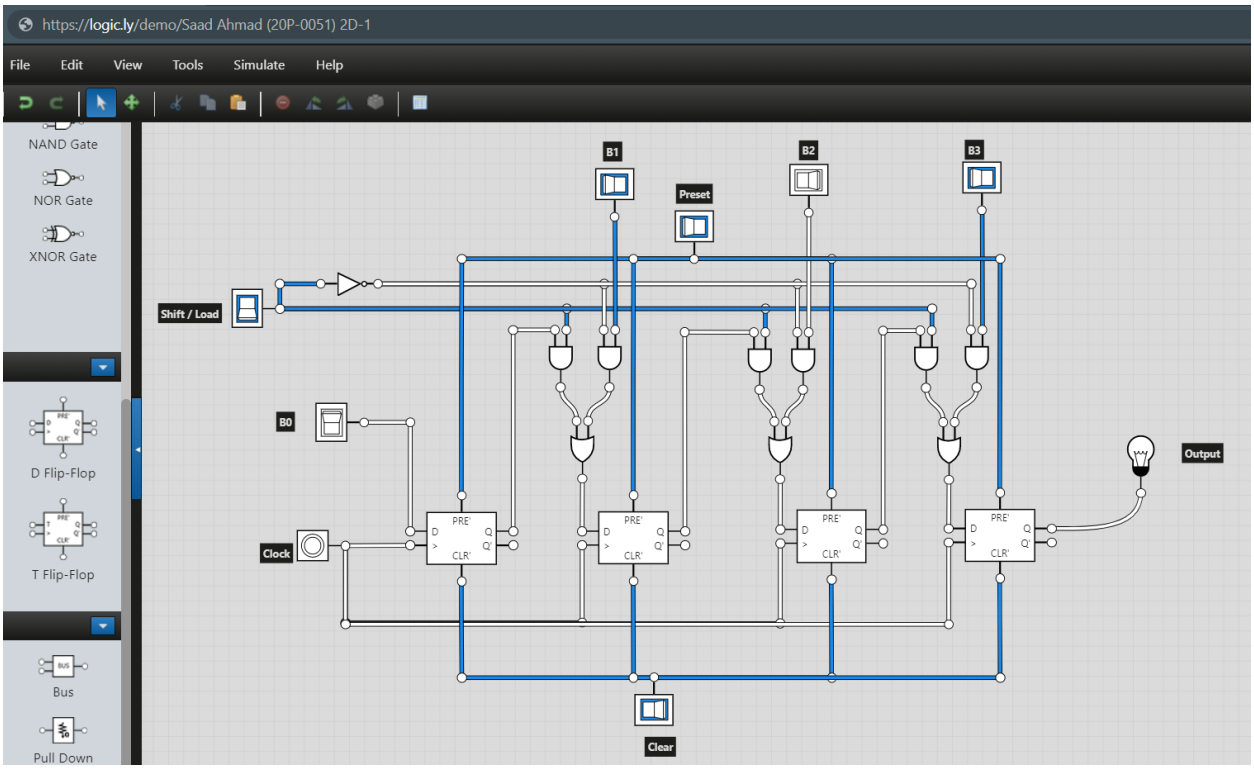
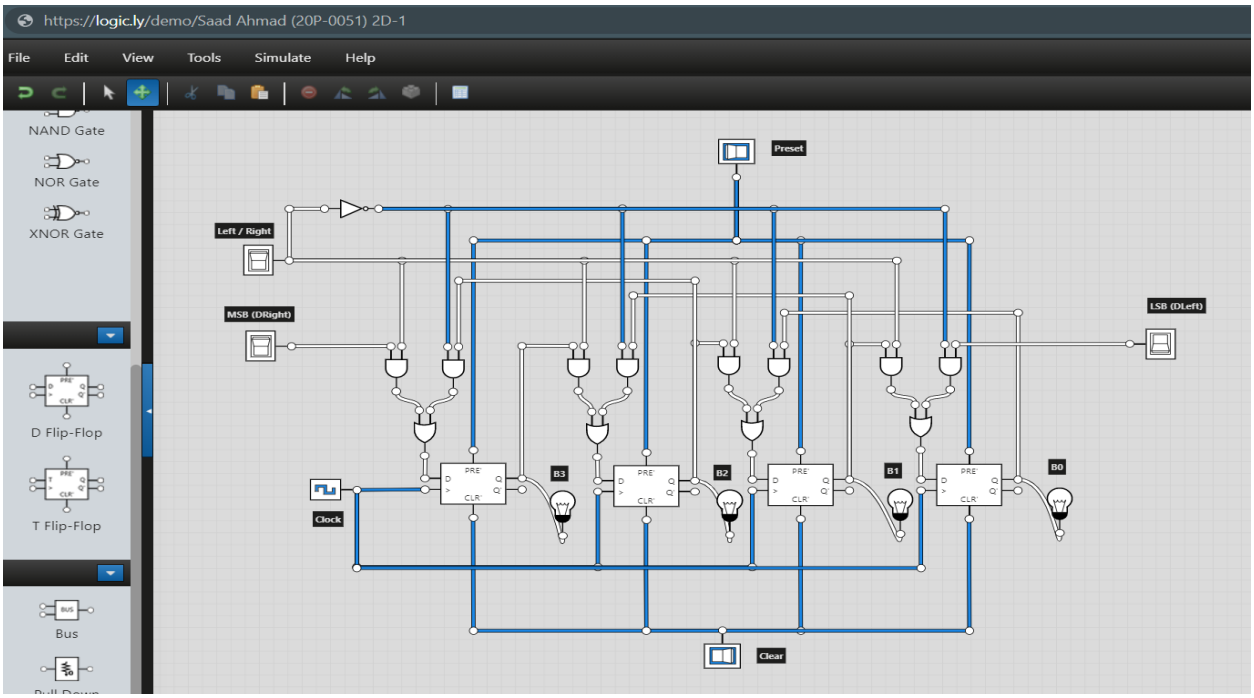
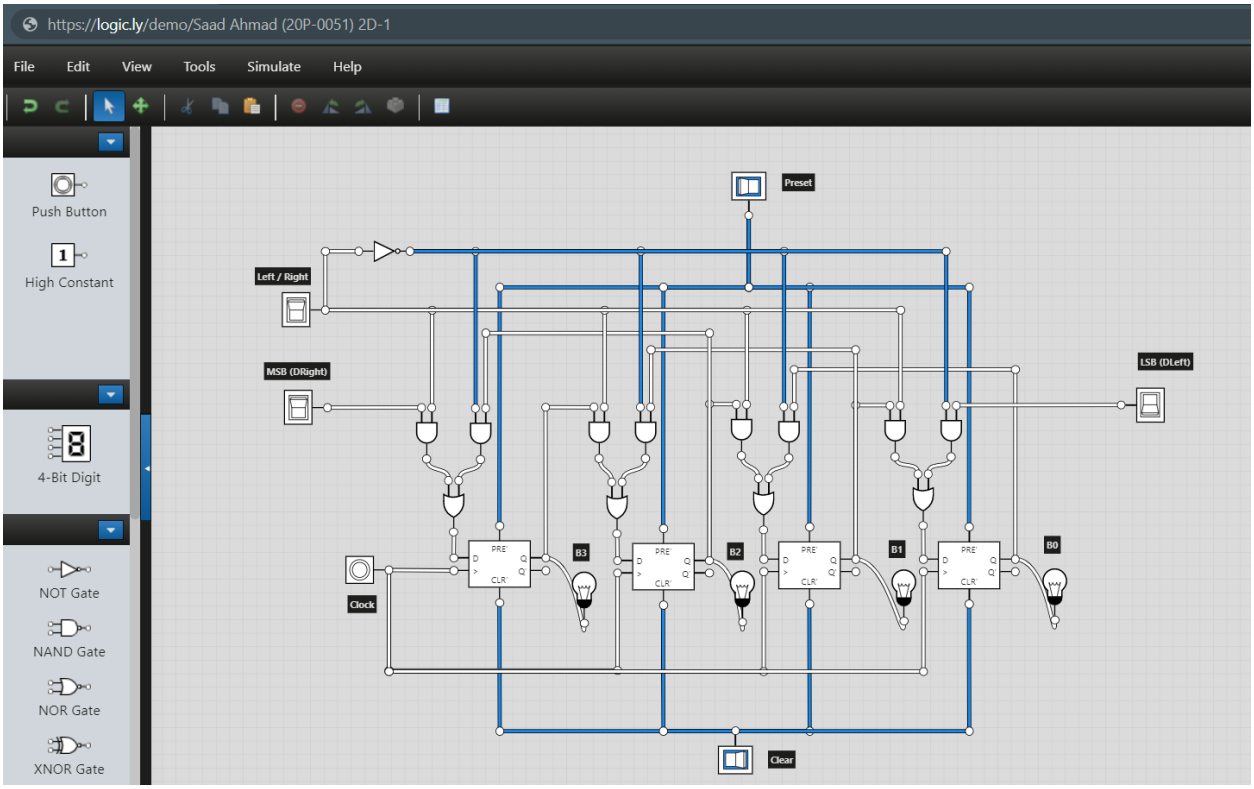


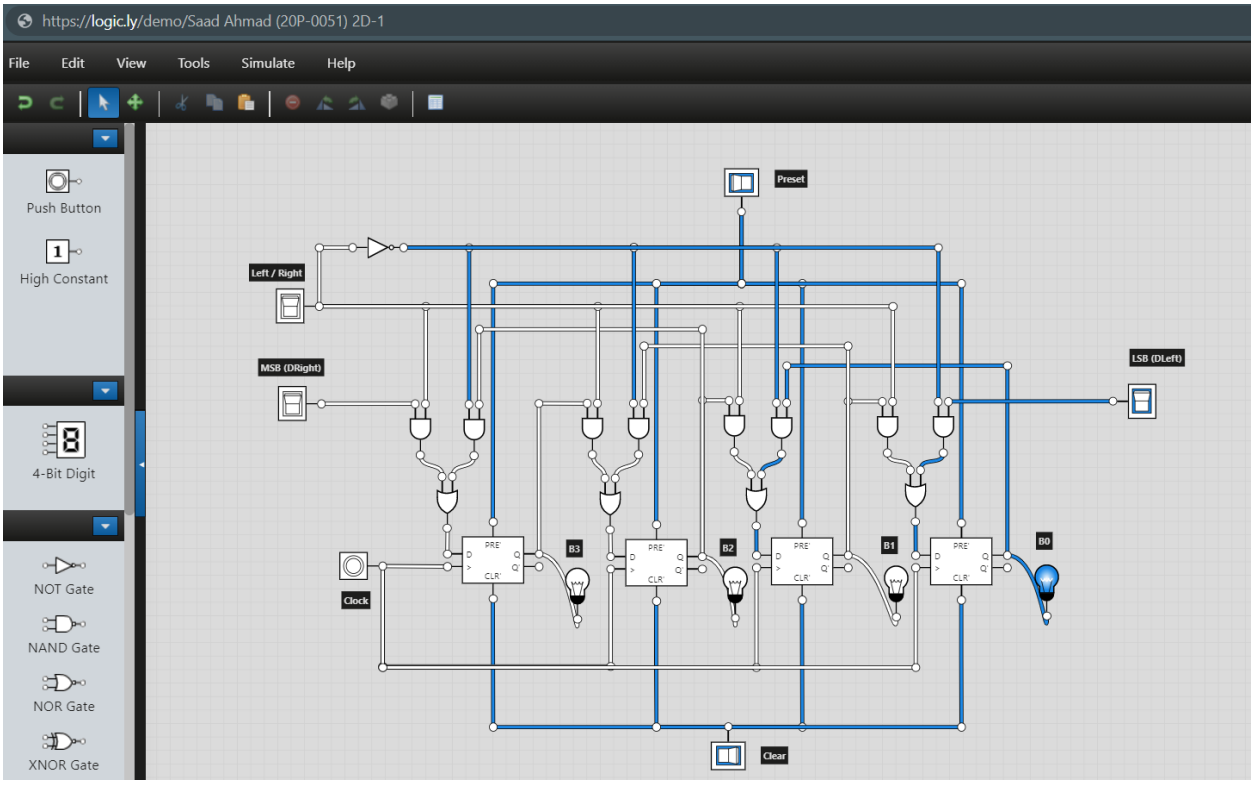
2. **Construct a logic circuit for 4-bit Bidirectional (Left/Right) Shift Register using D Flip Flop. Simulate your circuit to verify the outputs.**

a) Logic Diagram



b) Software Simulation

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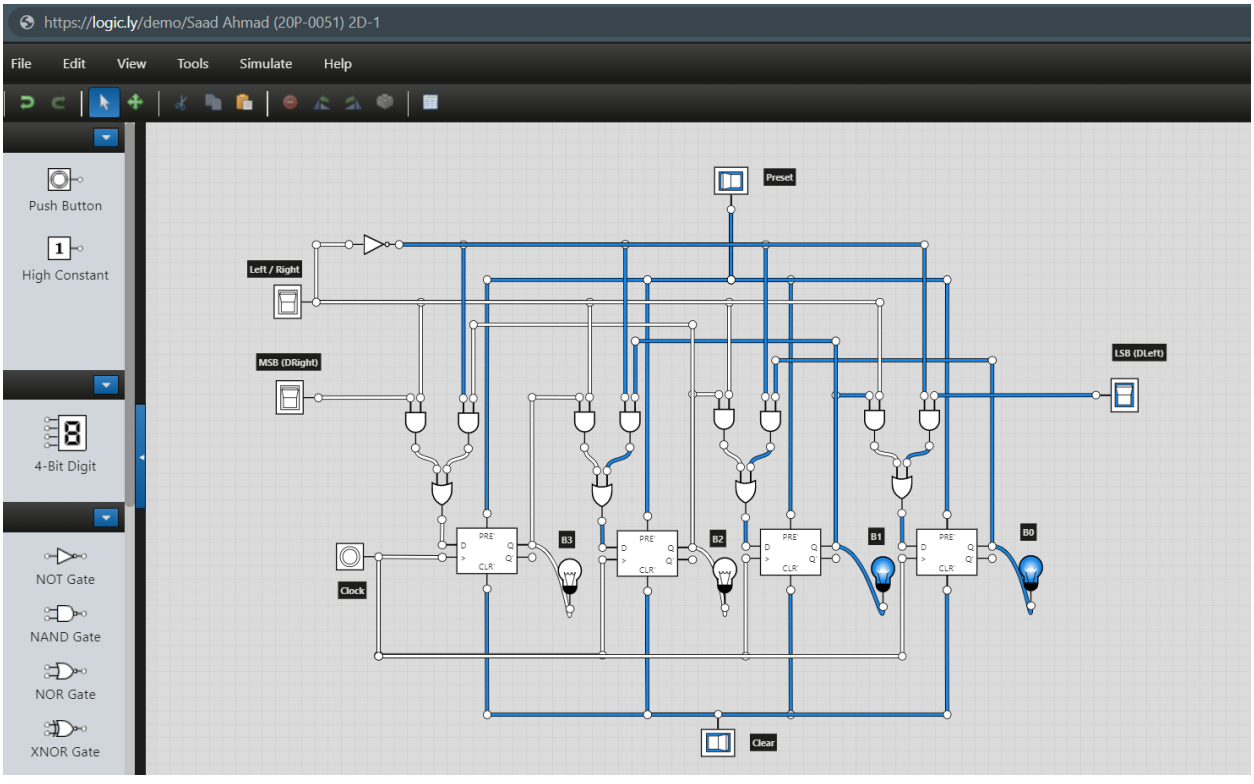
File
Edit
View
Tools
Simulate
Help
Push Button
High Constant
4-Bit Digit
NOT Gate
NAND Gate
NOR Gate
XNOR Gate
Preset
Left / Right
MSB (DRight)
LSB (DLeft)
Clock
Clear
B3
B2
B1
B0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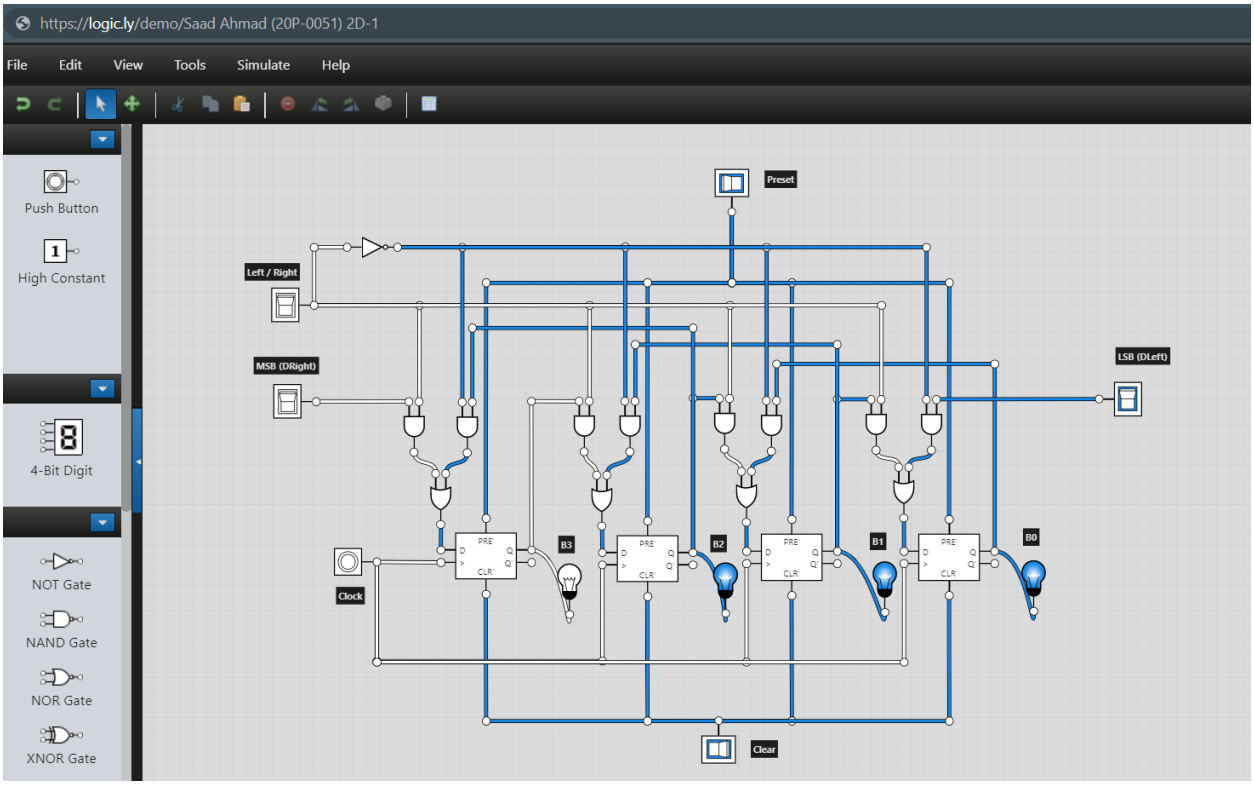
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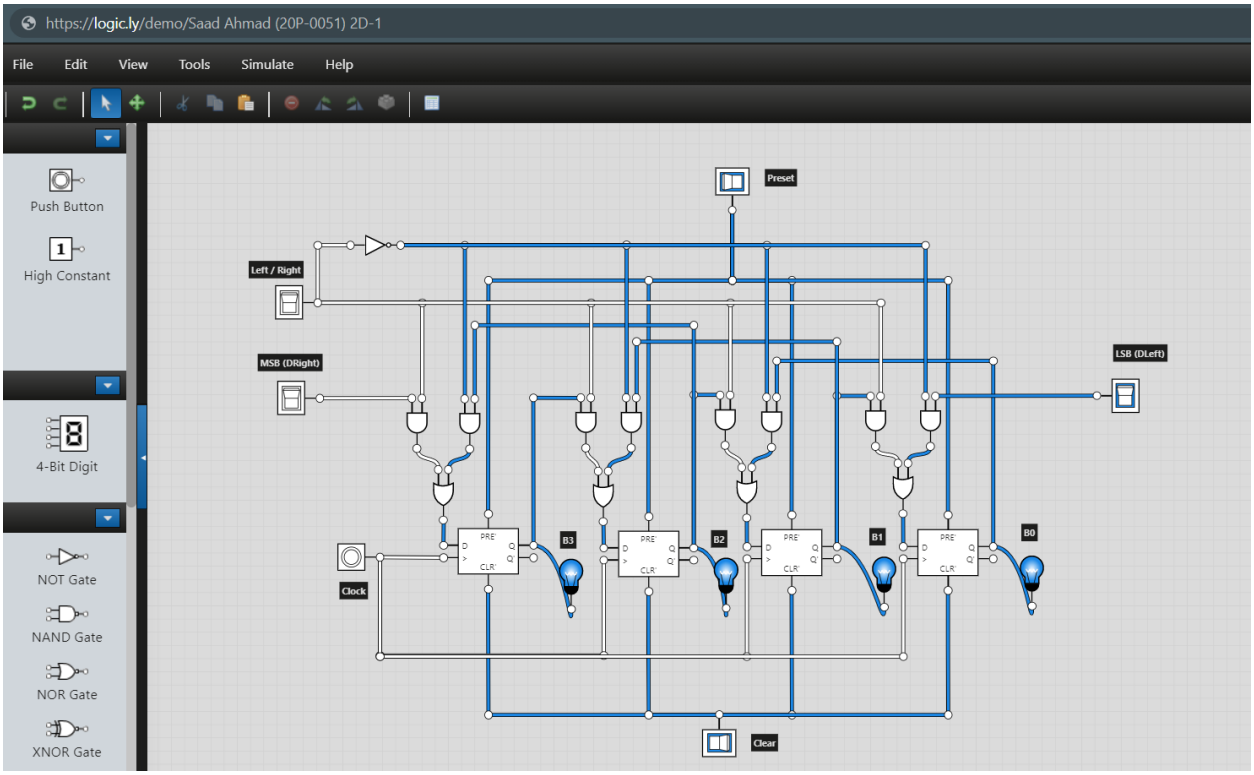
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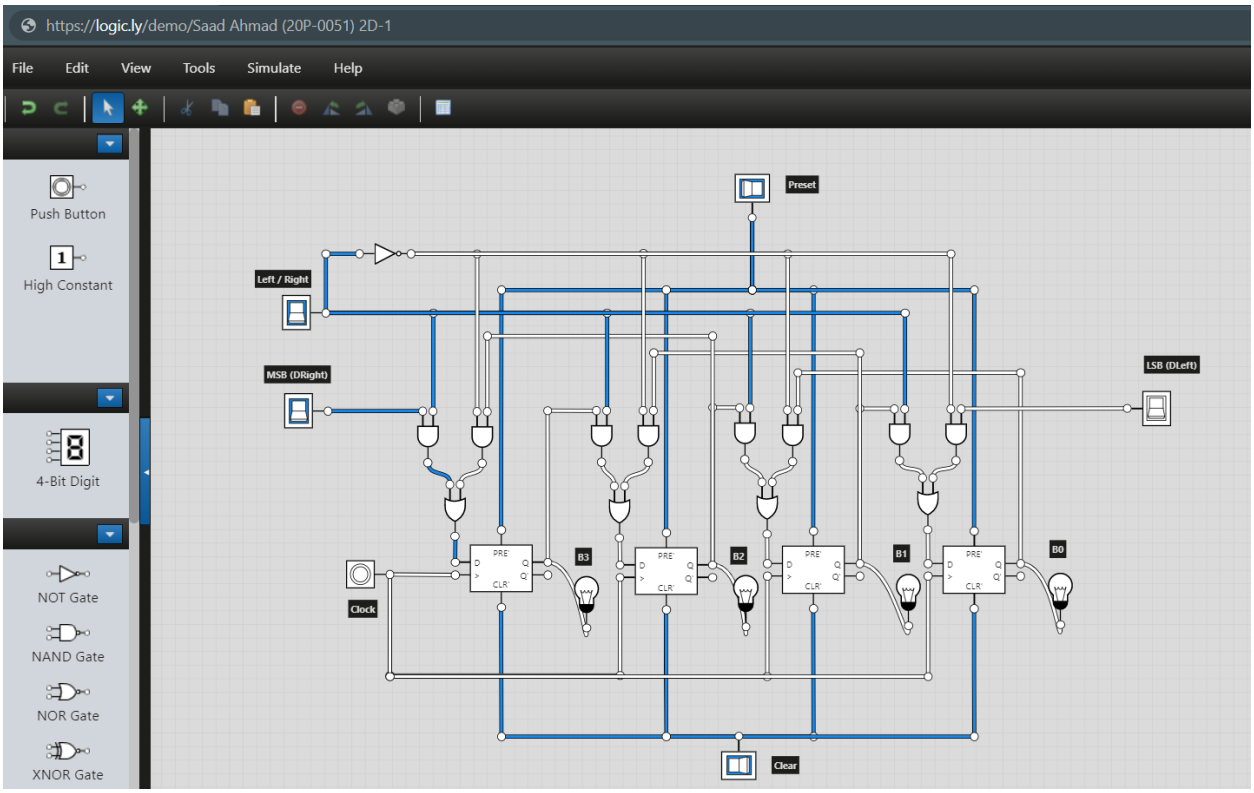
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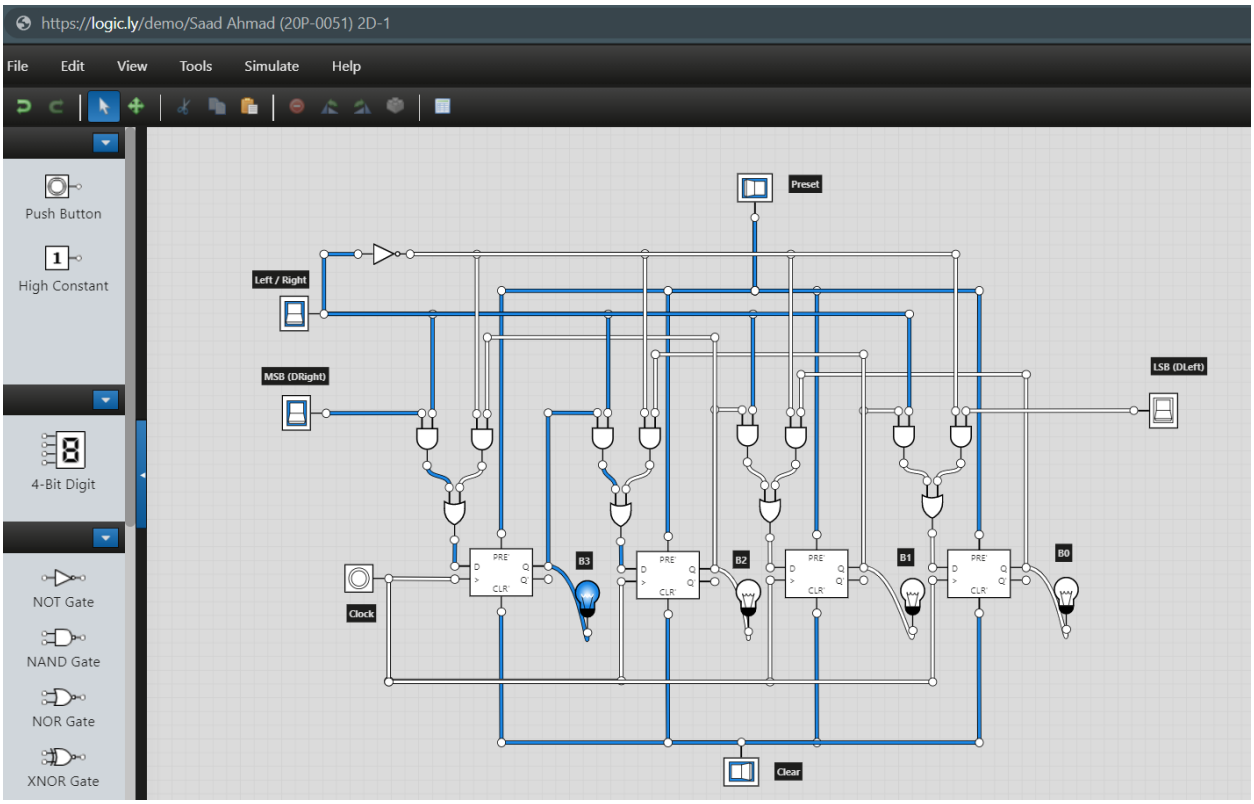
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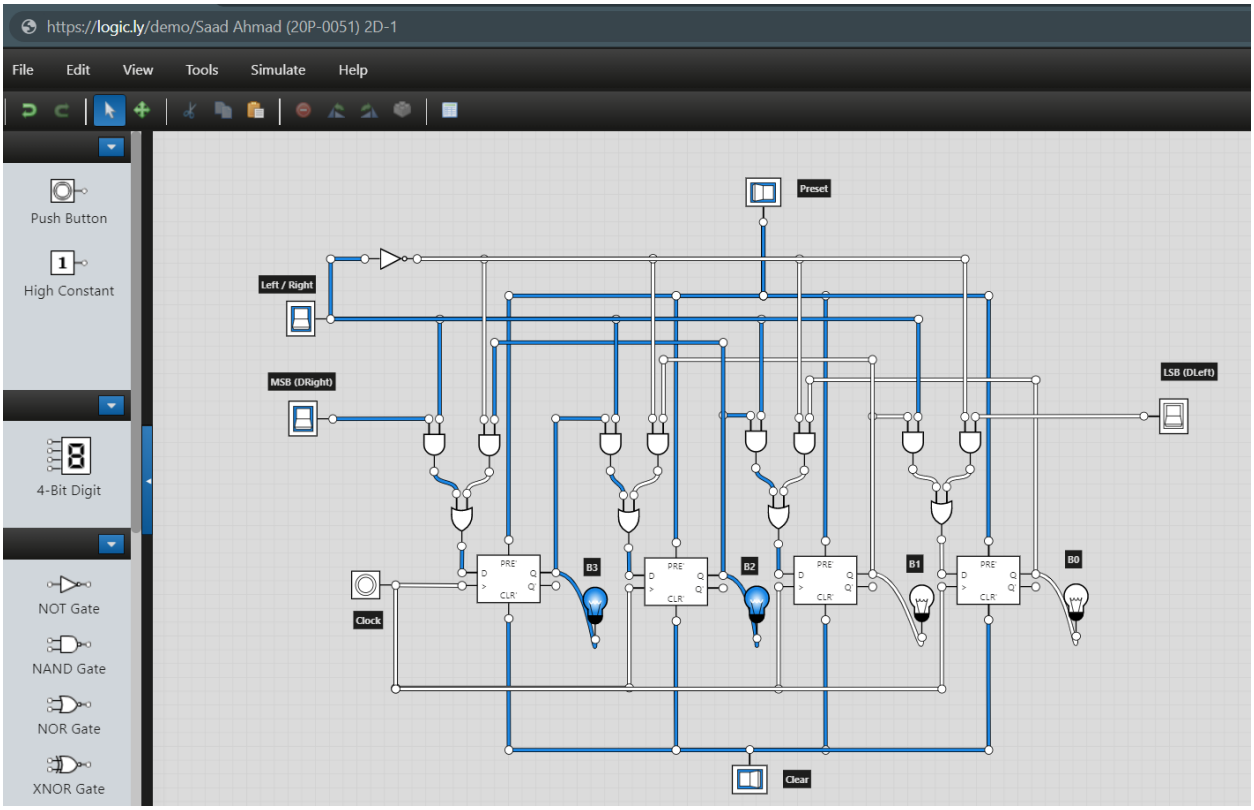
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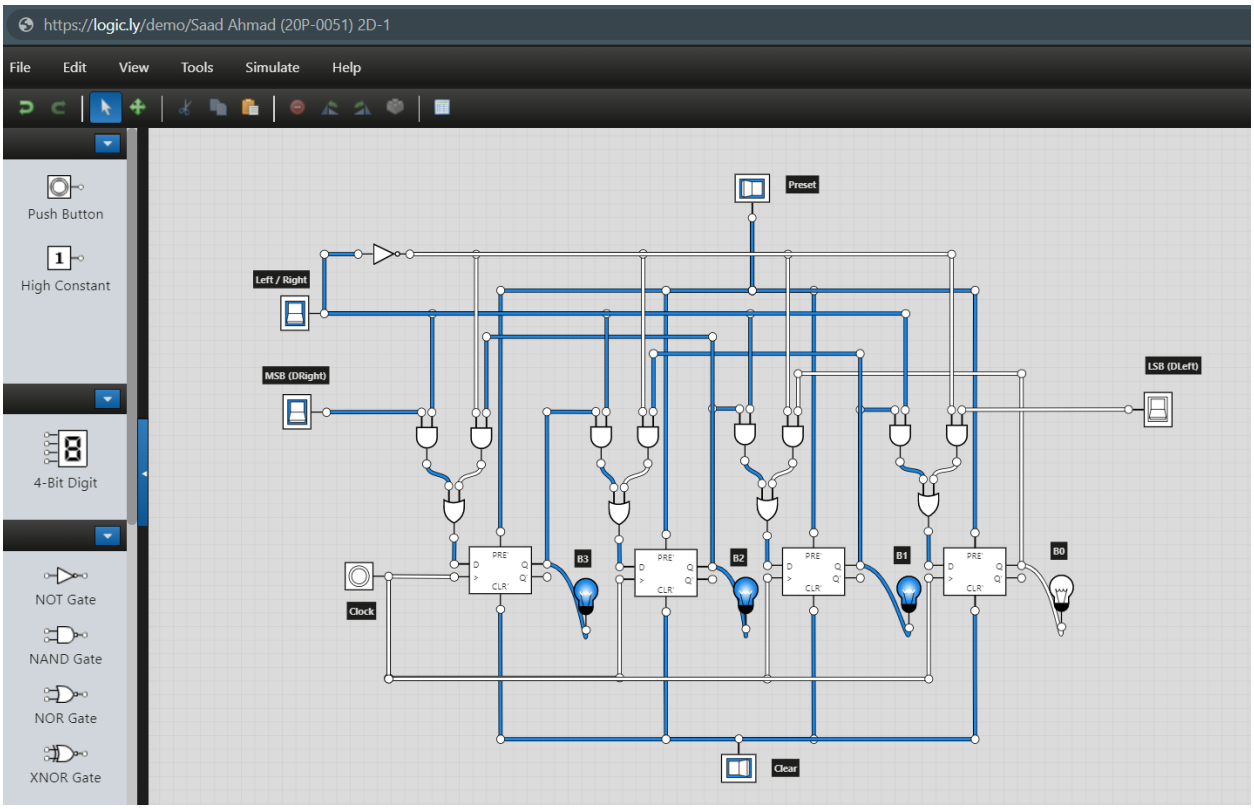
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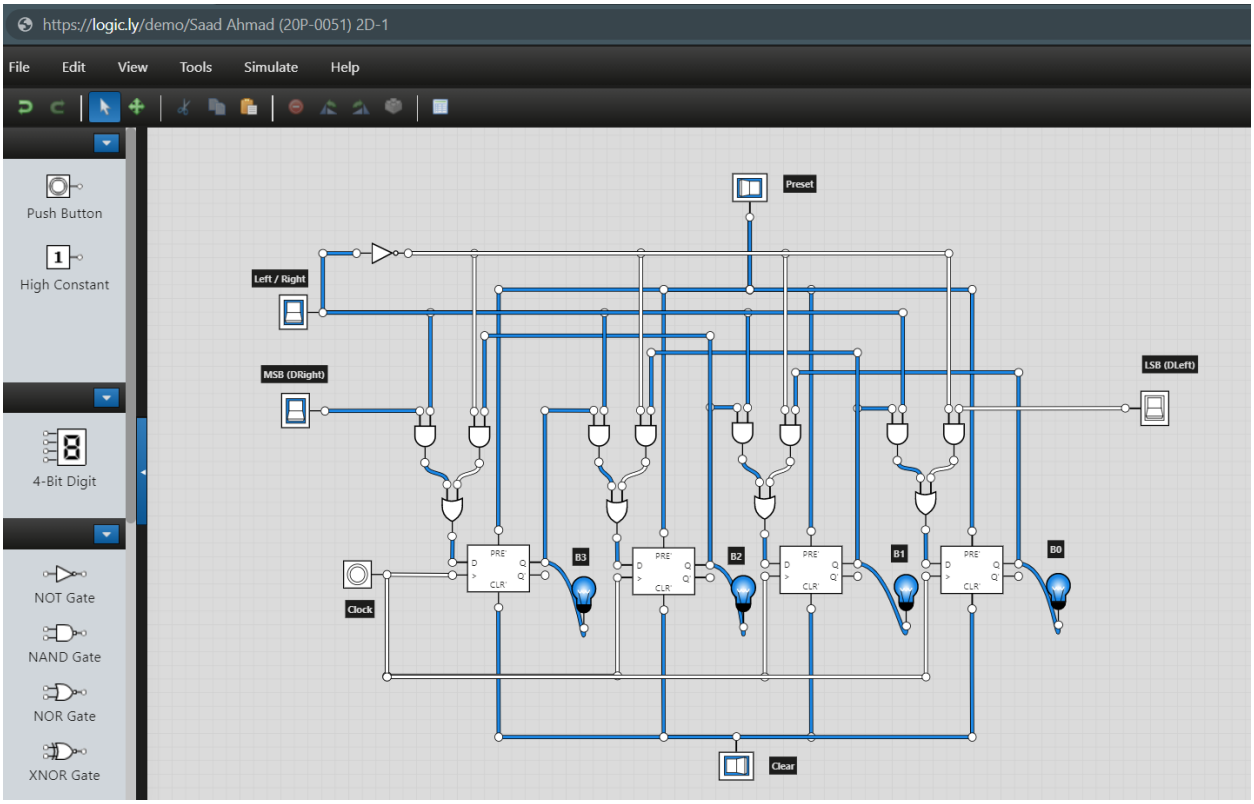
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