Experiment Name: Implementation of full adder using decoder.

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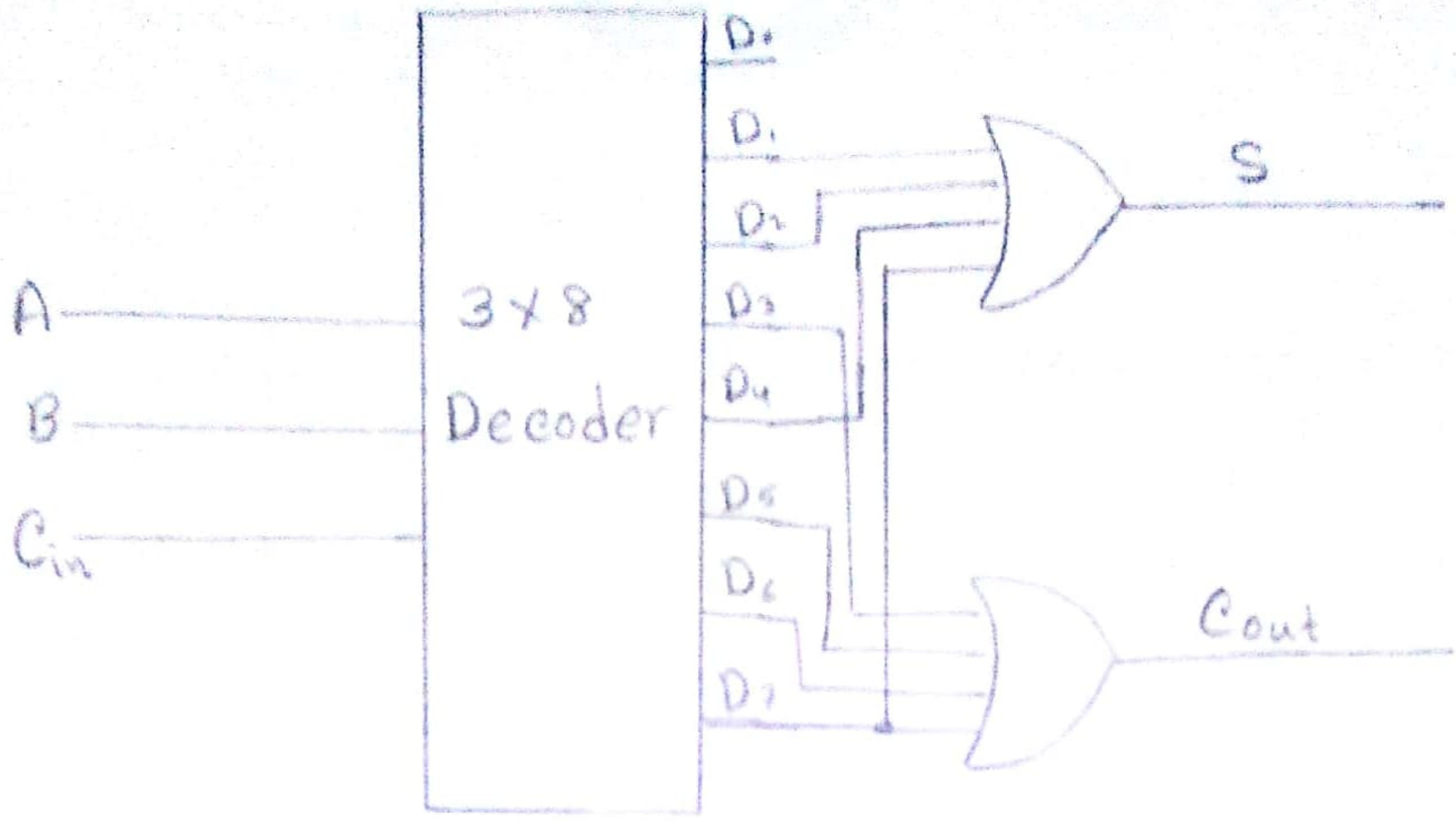
Experiment: Implementation of full adder using decoder.

Theory: A 3x8 Decoder has 3 input line and 2^3 or 8 output line. We can easily use the three inputs as input of full adder and can find output from 8 output line of full adder. To do this we need two or gate to find sum and carry from the output of decoder.

Sum is with D_1, D_2, D_4, D_7 And carry is with D_3, D_5, D_6, D_7. There no need of D_0 in adder.

Instruments: wire, bread board, power source, decode IC(74HC230) and 4 input OR gate

Circuit:



Truth Table:

A	B	Cin	Remar	S	Cout
0	0	0	✓	0	0
0	0	1	✓	1	0
0	1	0	✓	1	0
0	1	1	✓	0	1
1	0	0	✓	1	0
1	0	1	✓	0	1
1	1	0	✓	0	1
1	1	1	✓	1	1

Result and Discussion: From the circuit we have desinged which results we get is similar to the result of full adder. So the circuit and logics are right.

Pre-caustion:

1. Connect the circuit when design is complete.
2. Please cheack the circuit before connecting.
3. Ware shoes in the lab.
4. After finishing experiment switch off the power source.