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University of Information Technology and Sciences (UITS)

Lab Report : 5

IT-202 : Digital Logic Design Lab

Sum of Product Implementation by using gates

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23 December,2021

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1 Abstrac

In this Lab I am going to implement sum of product with the help of gate by using breadboard, connecting wires ,ICs-7404(NOT), ICs- 7408(AND), ICs-7432(OR) and logic trainer kit. From this lab we will also know how a circuit can work by connecting NOT gate, AND gate and OR gate together.

2 Related Work

We need to write the truth table of "Sum of Product" for verify logic gates.When all the input combinations of a logic gate are written in a series and their corresponding outputs written along them, then its input/ output combination is called Truth Table.

2.1 Inserting Table Example

A	B	A'	B'	A.B	A'.B'	Output((A.B)+(A'.B'))
0	0	1	1	0	1	1
0	1	1	0	0	0	0
1	0	0	1	0	0	0
1	1	0	0	1	0	1

Table 1: Sum of Product truth table.

3 Methodology

3.1 Insert Image

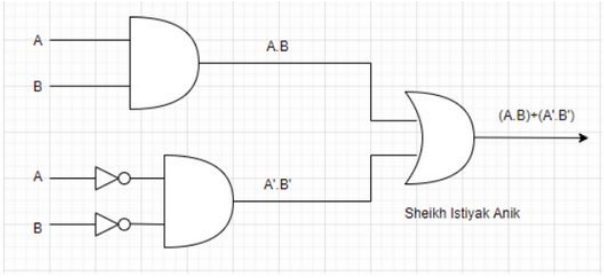

Figure 1: Gate Combination of SOP

3.2 Working Procedure

Lab Task: SOP circuit design
• 1. Check the components for their working.
• 2. Connect AND gate(7408), NOT gate(7404) and OR Gate(7402) to bread- board.
• 3. Connect the wire between voltage 5 to ICs and ground 0. Connect input and output also.
• 4. Verify the truth table.

4 Results

Out is shown in figure-5 for the SOP output.

4.1 Output-1

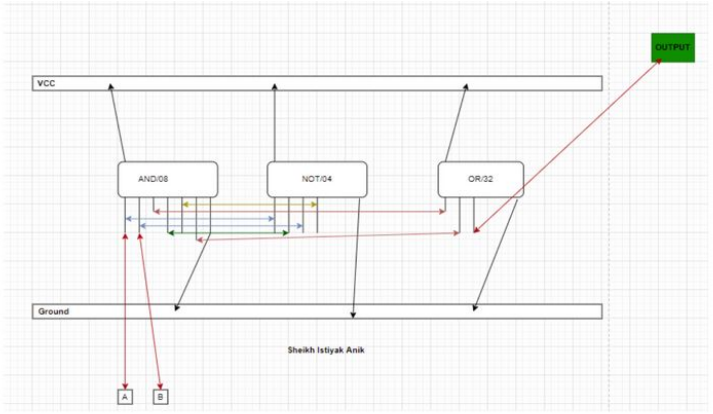

Figure 2: Output-1

5 Conclusion

From this lab we learn by combined AND gate, NOT gate and OR gate we can implement Sum of Product. From this lab we also know how to use breadboard, how we can give input and get output.

References

1.https://www.electronics-tutorials.ws/logic/logic$_4$.*html*
2.*https* : *//www.allaboutcircuits.com/textbook/digital/chpt* − 3/*not* − *gate/*
3.$Outputsectioniscollectfrom SheikhIstiaqAnikID$: 2014755004/