



North South University

**Department of Electrical and Computer
Engineering**

Project Title: 7 Segment Display

Requirements:

1. Project Report.
2. Software Implementation.
3. Hardware Implementation.

Phase 1: Combinational part

Project Report:

- Truth Table
- 1st Canonical Form (Solve it)
- 2nd Canonical Form (Solve it)
- Using NAND gates (Solve it)
- Using NOR gates (Solve it)
- Using SOP and POS (Solve it)
- K-map (Solve it)
- Using MUX and Decoder
- Mention the cost

Software Implementation: Implement All the mentioned (above) circuits in Logisim and choose the optimized one and explain why it is optimized. (briefly)

Hardware Implementation: Now implement the chosen circuit in Hardware.

Phase 2: Sequential part

Project Report:

- Truth Table, Excitation Table, Characteristics Table
- Solve it Using J-K Flip Flop.
- Solve it Using T Flip Flop.

- Solve it Using D Flip Flop.
- Mention the cost

Software Implementation: Implement All the mentioned (above) circuits in Logisim and choose the optimized one and explain why it is optimized. (briefly)

Hardware Implementation: Now implement the chosen circuit in Hardware.

Seven Segment Display Group-Wise:

GROUP NUMBER	DISPLAY
1	2S-10321DLDD
2	1SL-2D032D213
3	3S-DD231-20121
4	DLD231-S32012
5	032DL-21D31DS1
6	DL2-31D230S12
7	0DS-23L12D1D2
8	23DS1-S2013211