



Inspiring Excellence

**Digital Logic Design (CSE-260)**

**Final Project Submission**

**Group: 02**

**Member Information:**

Name	Id	Theory Section
Sumit Howlader Dipro	18101154	11
Sadab Ul Imam	21301615	11

**Project Model:**

**6-person Majority Electronic vote checker**

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## **Introduction:**

In this project we have presented a 6-person majority electronic vote checker. By using parallel adder and seven segments display we have created an electronic vote checker where it will show us the number of votes provided by the voter in binary values. This project will help us to know about how to implement the IC's manually and a seven-segment display for viewing the outcomes in Decimal format.

This project's primary goal is to depict a voting situation in which the majority of the votes are counted.

Full adders, parallel adders, and a seven-segment display can all benefit from this simple yes/no voting technique.

## **Proposed model:**

For the 6-person majority electronic vote checker we're working on, each bit in the parallel adder represents a cast vote. That was indicated earlier.

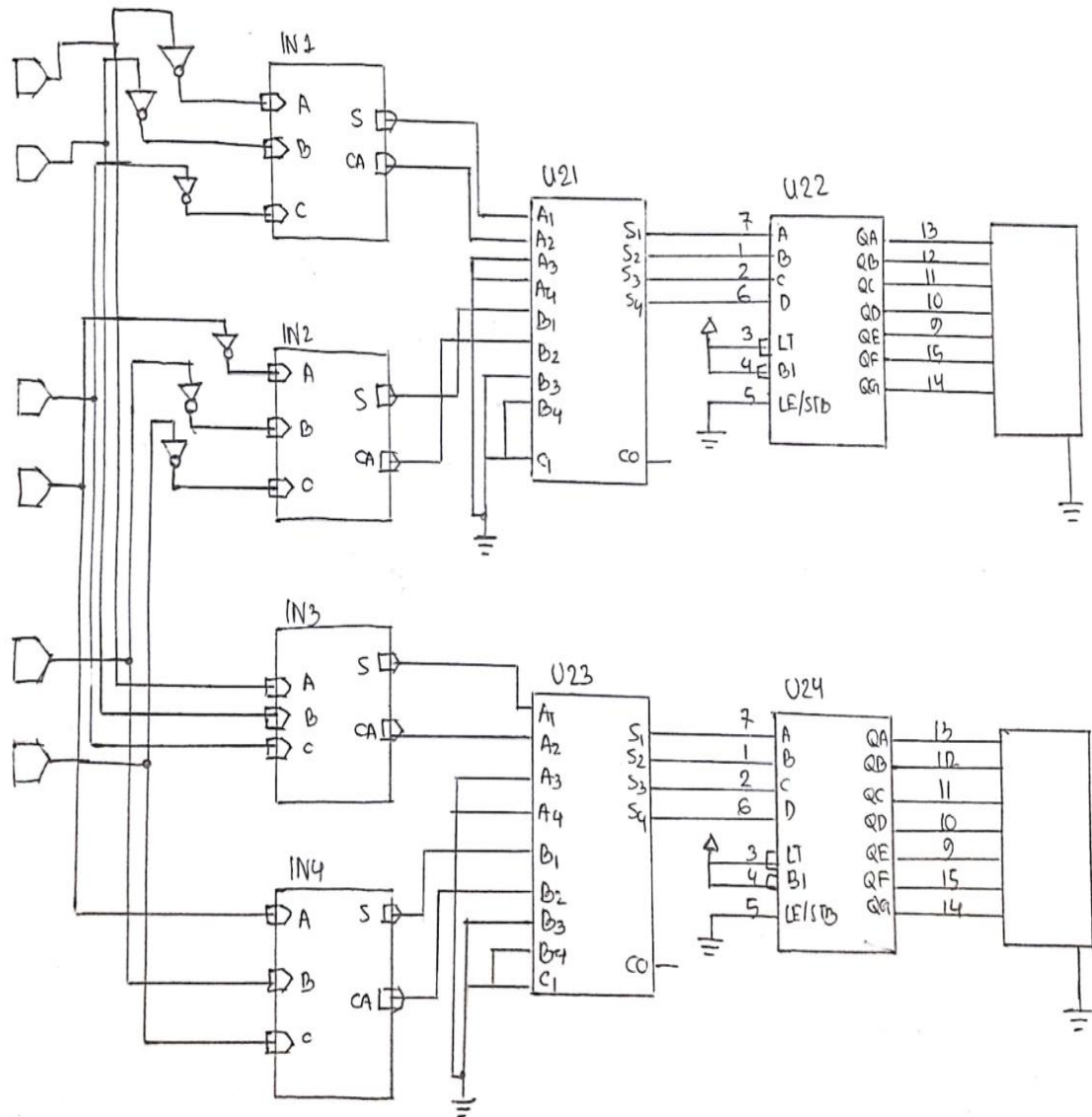
Each of the 7-segment displays will display the digits added together by the adders. That means, when the digits are added together, the output is displayed on the separate 7-segment displays.

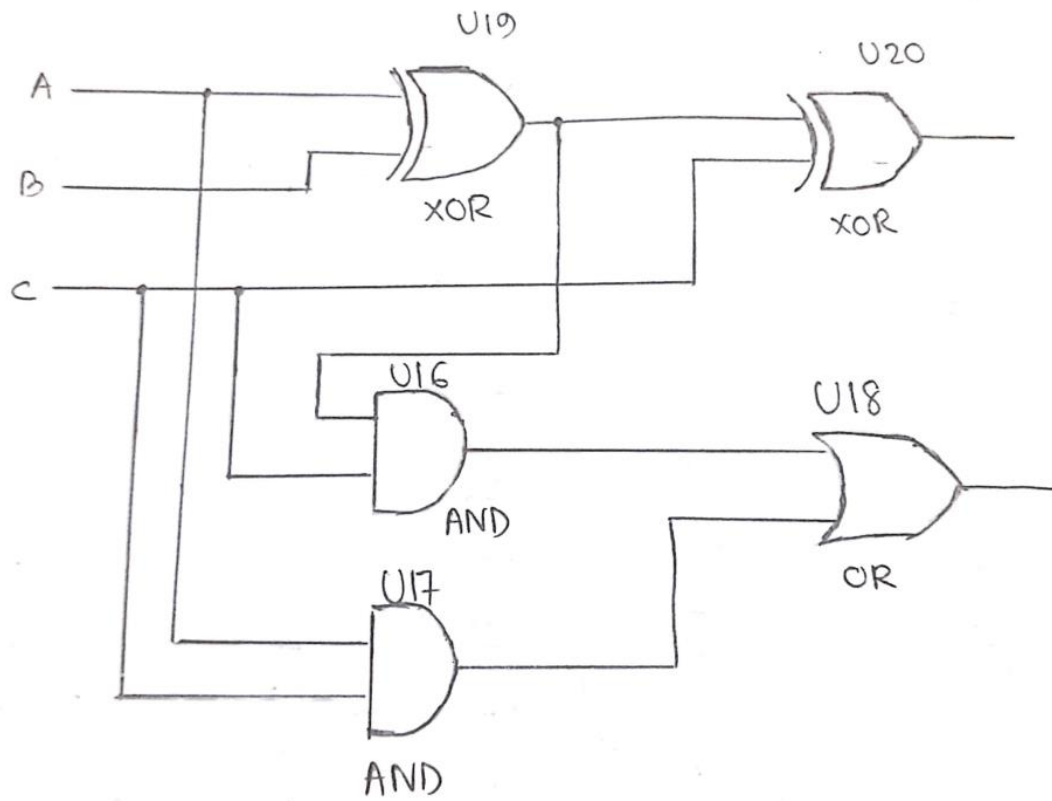
## **Experimental Setup:**

Components used:

- Full Adder
- Seven segment display
- Basic logic gates (AND, OR, NOT)
- Logic toggle
- BCD to seven segment latch.
- 4bit binary adder.

## Experimental Diagram:





### Results and Discussions:

A	B	C	SUM	C
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

### From Truth Table:

$$\text{SUM} = X'Y'Z + XYZ + X'YZ' + XY'Z'$$

$$C = XYZ + XY'Z + XYZ' + X'YZ$$

### **7 Segment Display Board:**

Display Digit	b8	b4	b2	b1	A	B	C	D	E	F	G
0	0	0	0	0	1	1	1	1	1	1	0
1	0	0	0	1	0	1	1	0	0	0	0
2	0	0	1	0	1	1	0	1	1	0	1
3	0	0	1	1	1	1	1	1	0	0	1
4	0	1	0	0	0	1	1	0	0	1	1
5	0	1	0	1	1	0	1	1	0	1	1
6	0	1	1	0	0	0	1	1	1	1	1
7	0	1	1	1	1	1	1	0	0	0	0
8	1	0	0	0	1	1	1	1	1	1	1
9	1	0	0	1	1	1	1	0	0	1	1
off	1	0	1	0	0	0	0	0	0	0	0
off	1	0	1	1	0	0	0	0	0	0	0
off	1	1	0	0	0	0	0	0	0	0	0
off	1	1	0	1	0	0	0	0	0	0	0
off	1	1	1	0	0	0	0	0	0	0	0
off	1	1	1	1	0	0	0	0	0	0	0

### **Conclusion:**

As we designed this project for a maximum of 6 people, the most significant constraint of the project is that it is unable to calculate votes for more than 6 people. In order to do so, we will need to increase the number of parallel adders.