Table of Contents

Introduction:

An electronic voting system is a machinery designed using logical circuits to efficiently calculate and tally votes. Unlike traditional paper-based voting methods, electronic voting systems provide automated processing of votes, ensuring accuracy and efficiency. Our project aims to develop an electronic voting system that utilizes logical circuits to manage and process votes cast by voters. Through this system, voters can cast their votes for their preferred parties, and the system outputs the final tally of votes for each party, determining the winner based on the highest vote count.

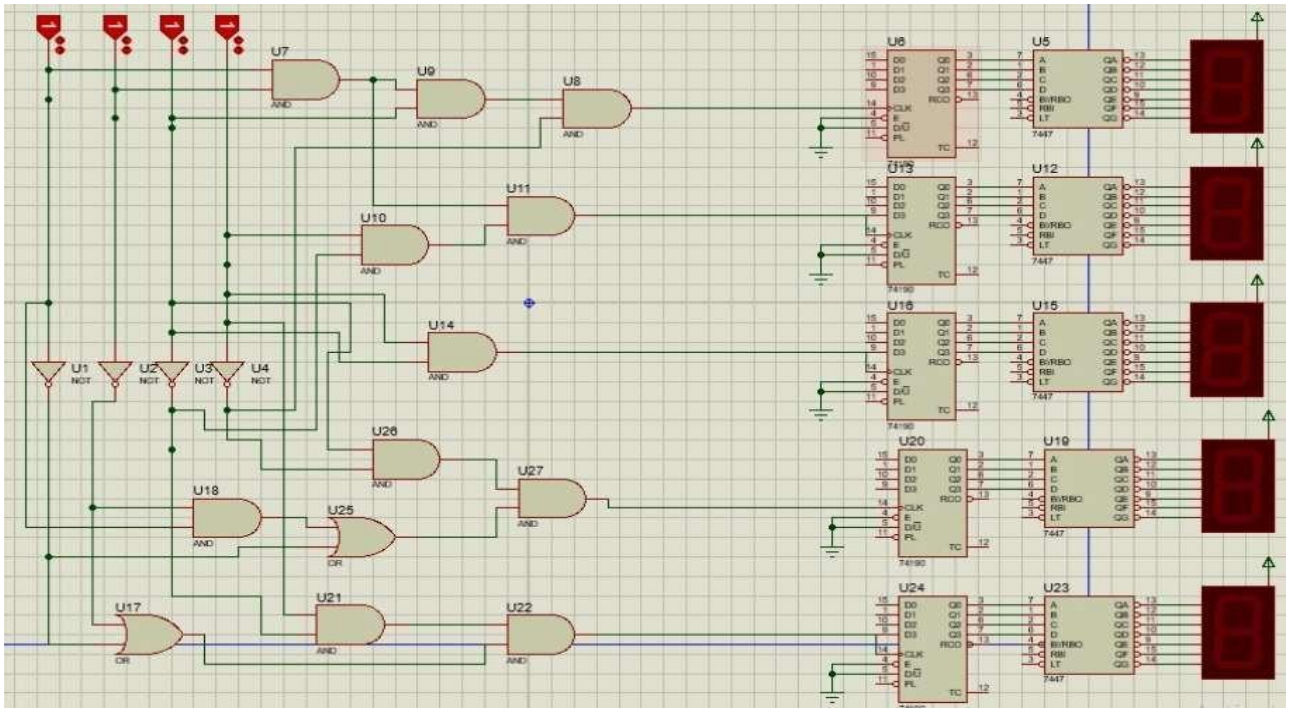
Explanation of Circuit:

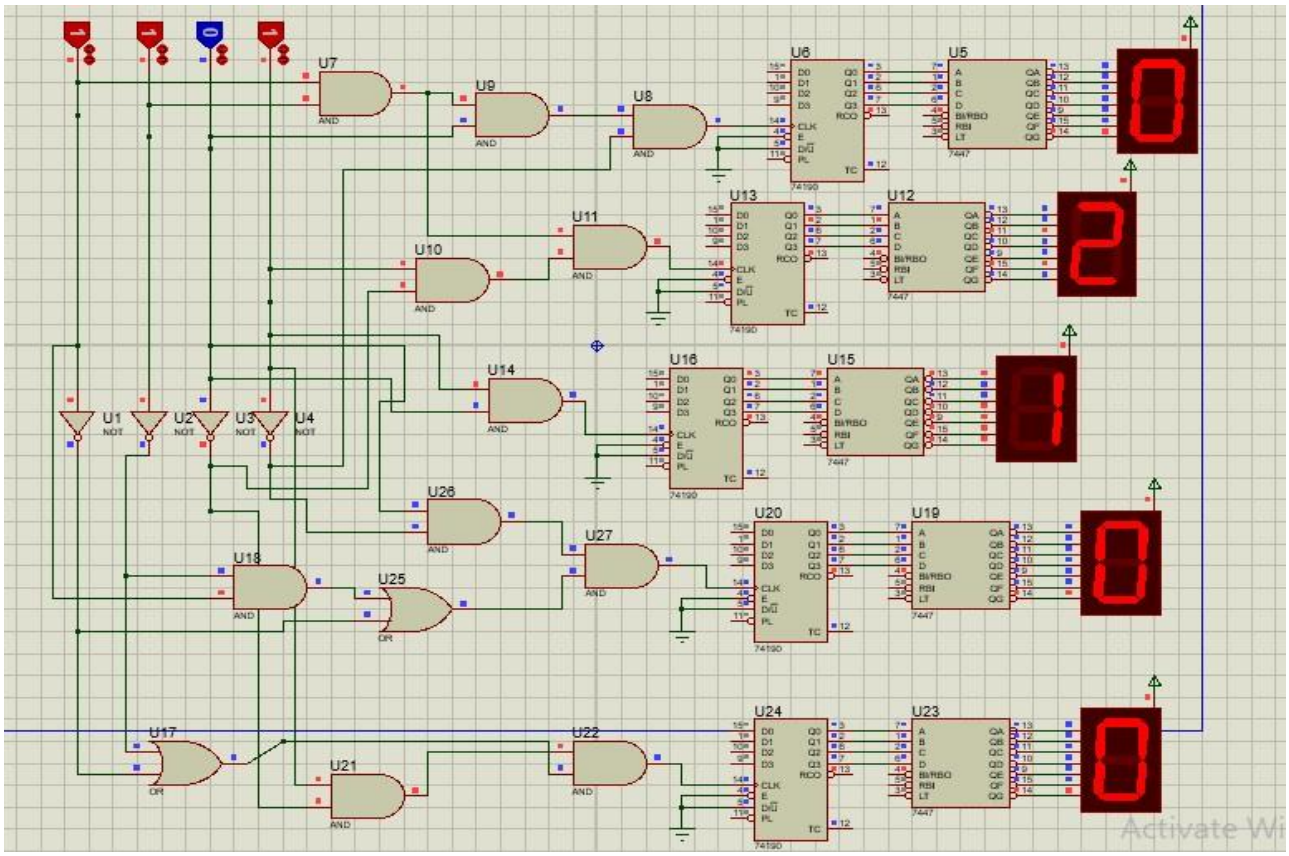
Our electronic voting system circuit comprises four inputs and five outputs. The inputs include the voter's CNIC (Computerized National Identity Card), age verification (age greater than 18), and choices for party 1 and party 2. The outputs consist of LED indicators, with each LED representing a different aspect of the voting process. The first LED displays the count of votes for party 1, the second LED displays the count of votes for party 2, the third LED indicates false votes, the fourth LED indicates votes that are ineligible for party 1, and the fifth LED indicates votes that are ineligible for party 2.

Component Used:

1. Switch - Multiple
2. Voltage Regulator - 1 (e.g., LM7805)
3. Capacitor - 3 (e.g., 0.1µF, 100nF)
4. AND Gates - 3 (e.g., IC 7408)
5. NOT Gates - 2 (e.g., IC 7404)
6. OR Gate - 1 (e.g., IC 7432)
7. Resistors – 5
8. IC 74190 (Decade Counter) - 5
9. 7-Segment Displays (Common Anode) - 5
10. IC 7447 (BCD to 7-Segment Decoder) - 5

Proteus Simulation:





Truth Table:

CNIC	AGE	NATIONALITY	PARTY 1	PARTY 2	P1 VOTE	P2 VOTE	FALSE	P1 FALSE	P2 FALSE	minsterm	
0	0	0	0	0	-	-	-	-	-	0	no vote
0	0	0	0	1					1	1	
0	0	0	1	0				1		2	
0	0	0	1	1			1			3	
0	0	1	0	0	-	-	-	-	-	4	no vote
0	0	1	0	1					1	5	
0	0	1	1	0				1		6	
0	0	1	1	1			1			7	
0	1	0	0	0	-	-	-	-	-	8	no vote
0	1	0	0	1					1	9	
0	1	0	1	0				1		10	
0	1	0	1	1			1			11	
0	1	1	0	0	-	-	-	-	-	12	no vote
0	1	1	0	1					1	13	
0	1	1	1	0				1		14	
0	1	1	1	1			1			15	
1	0	0	0	0	-	-	-	-	-	16	no vote
1	0	0	0	1					1	17	
1	0	0	1	0				1		18	
1	0	0	1	1			1			19	
1	0	1	0	0	-	-	-	-	-	20	no vote
1	0	1	0	1					1	21	
1	0	1	1	0				1		22	
1	0	1	1	1			1			23	
1	1	0	0	0	-	-	-	-	-	24	no vote
1	1	0	0	1					1	25	
1	1	0	1	0				1		26	
1	1	0	1	1			1			27	
1	1	1	0	0	-	-	-	-	-	28	no vote
1	1	1	0	1		1				29	
1	1	1	1	0	1					30	
1	1	1	1	1			1			31	

Precautions:

- Handle electronic parts with care to avoid damaging them during construction and use.
- Follow guidelines to established design when creating circuits to ensure they work properly and reliably.
- Implement security measures to protect the integrity of the voting process, guarding against unauthorized access.
- Check components carefully to prevent issues.

Conclusion:

In conclusion, our project aims to develop an electronic voting system that enhances the efficiency and accuracy of the voting process. By utilizing logical circuits and integrated circuits, we have created a system capable of processing votes and determining the outcome of an election in a streamlined manner. The electronic voting system has real-life applications in various electoral processes, offering a reliable and convenient alternative to traditional paperbased voting methods.