



R V INSTITUTE OF TECHNOLOGY AND MANAGEMENT

DIGITAL COMMUNICATION
Assignment-2

Event - Logic-Labrynth

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Report on Logic Labyrinth Event Participation

1. Aim

The primary goal of the Logic Labyrinth event was to solve logical problems using various logic gates such as AND, OR, NOT, NAND, NOR, XOR, and BUFFER. The event was structured into two rounds.

Round-1

focused on understanding the basic operations of logic gates and applying them to simple problems.

Round-2, we applied this foundational knowledge to solve five challenging logic-based problems within 35 minutes, testing both accuracy and speed.

2. Methods

Round-1:

We explored the functionality of basic logic gates through interactive exercises. This involved determining outputs based on various input combinations, analyzing gate behaviors, and constructing simple logic circuits. This round emphasized learning and applying truth tables in real-time problem-solving.

Round-2:

We were given five complex logic problems with a time limit of 35 minutes. The questions required a deep understanding of logic gates and circuit design. We had to interpret problem statements quickly and construct logical solutions using appropriate gate combinations.

Approach:

We adopted a top-down approach by first analyzing the overall problems and breaking them into smaller logical components. In some cases, we employed a bottom-up approach by assembling solutions from basic gates. This dual strategy helped efficiently tackle problems of varying complexities.

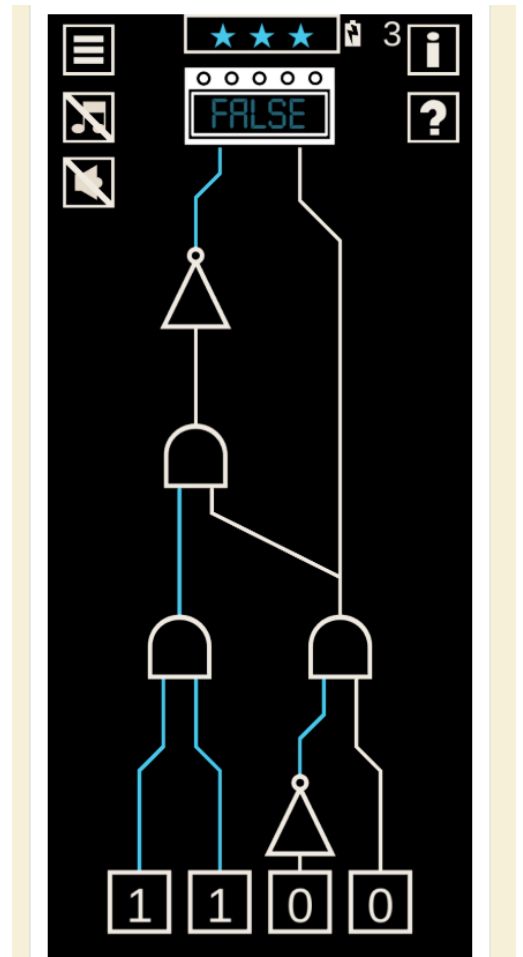
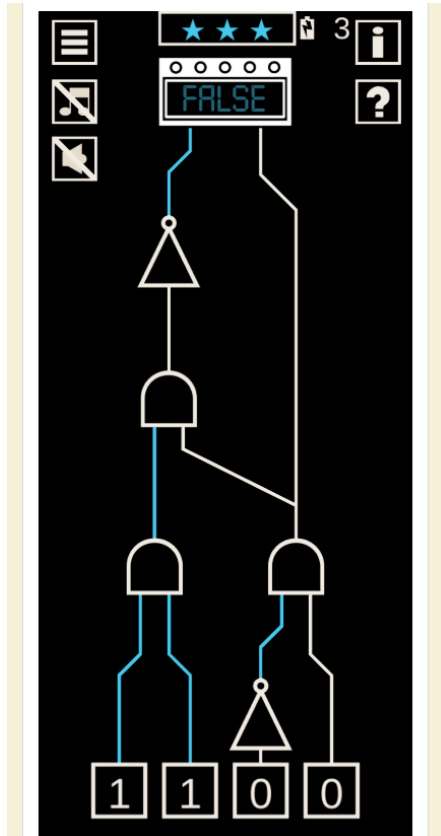
1. The number of solution to this Circuit?

0 0 0 0 0 0 1 1

☐ 64
☐ 32
☐ 28
☐ 20
☐ 42

In reference to above question
list all the solutions.
(2 points per solution)

Your answer



AND Gate

Input A	Input B	Output
0	0	0
0	1	0
1	0	0
1	1	1

OR Gate

Input A	Input B	Output
0	0	0
0	1	1
1	0	1
1	1	1

NOT Gate

Input A	Output
0	1
1	0

NAND Gate

Input A	Input B	Output
0	0	1
0	1	1
1	0	1
1	1	0

NOR Gate

Input A	Input B	Output
0	0	1
0	1	0
1	0	0
1	1	0

XOR Gate

Input A	Input B	Output
0	0	0
0	1	1
1	0	1
1	1	0

BUFFER Gate

Input A	Output
0	0
1	1

3. Personal Experience

Participating in Logic Labyrinth was an exciting and intellectually stimulating experience. The time constraint added intensity, requiring quick thinking and precise application of concepts. Working under pressure helped enhance problem-solving skills. In future events, I would recommend including more practice rounds before the main event to boost participants' confidence and preparedness.

4. Conclusion

The event significantly improved my logical computation skills and strengthened my understanding of logic gates. Their application is essential in everyday electronics, including digital devices, computers, and control systems. The hands-on experience reinforced theoretical knowledge and demonstrated the real-world importance of logical thinking.

5. Participation proof

