THE UNIVERSITY OF AZAD JAMMU & KASHMIR, MUZAFFARABAD

COURSE TITLE	**CALD**
COURSE CODE	**CS-1205**
LAB TITLE	**DE MORGAN'S LAWS**
STUDENT NAME	**HASEEB SHEIKH**
STUDENT ROLL NUMBER	**2024-SE-31**
INSTRUCTOR NAME	**ENGR. SIDRA RAFIQUE**
SUBMISSION DATE	**JUNE 04, 2025**

DEPARTMENT OF SOFTWARE ENGINEERING

Contents

CALD

Lab 4

Objective:

To verify De Morgan's Laws using hardware circuits and EWB simulations.

Apparatus:

Hardware:

Breadboard, connecting wires, IC 7408 (AND gate), IC 7404 (NOT gate), IC 7432 (OR gate), Power supply (e.g., +5V DC), LEDs.

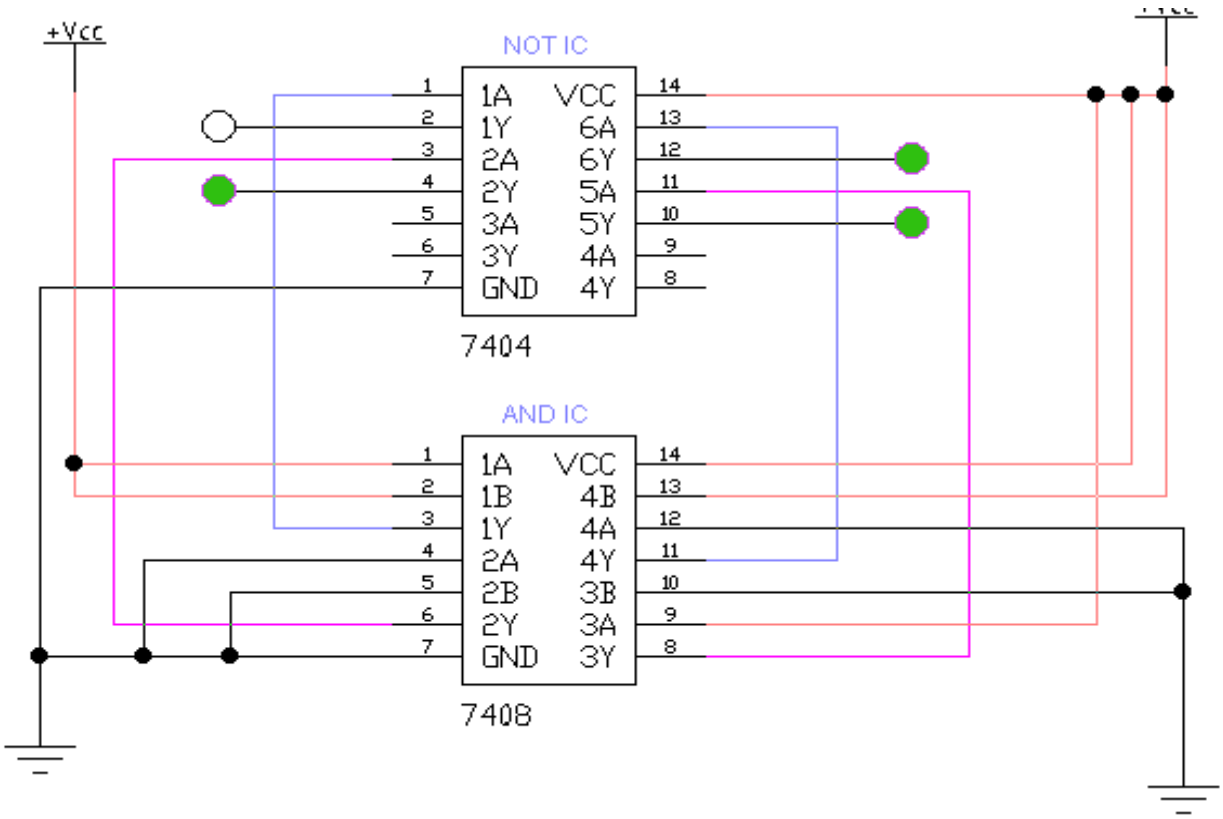
Software:

Electronic Workbench (EWB).

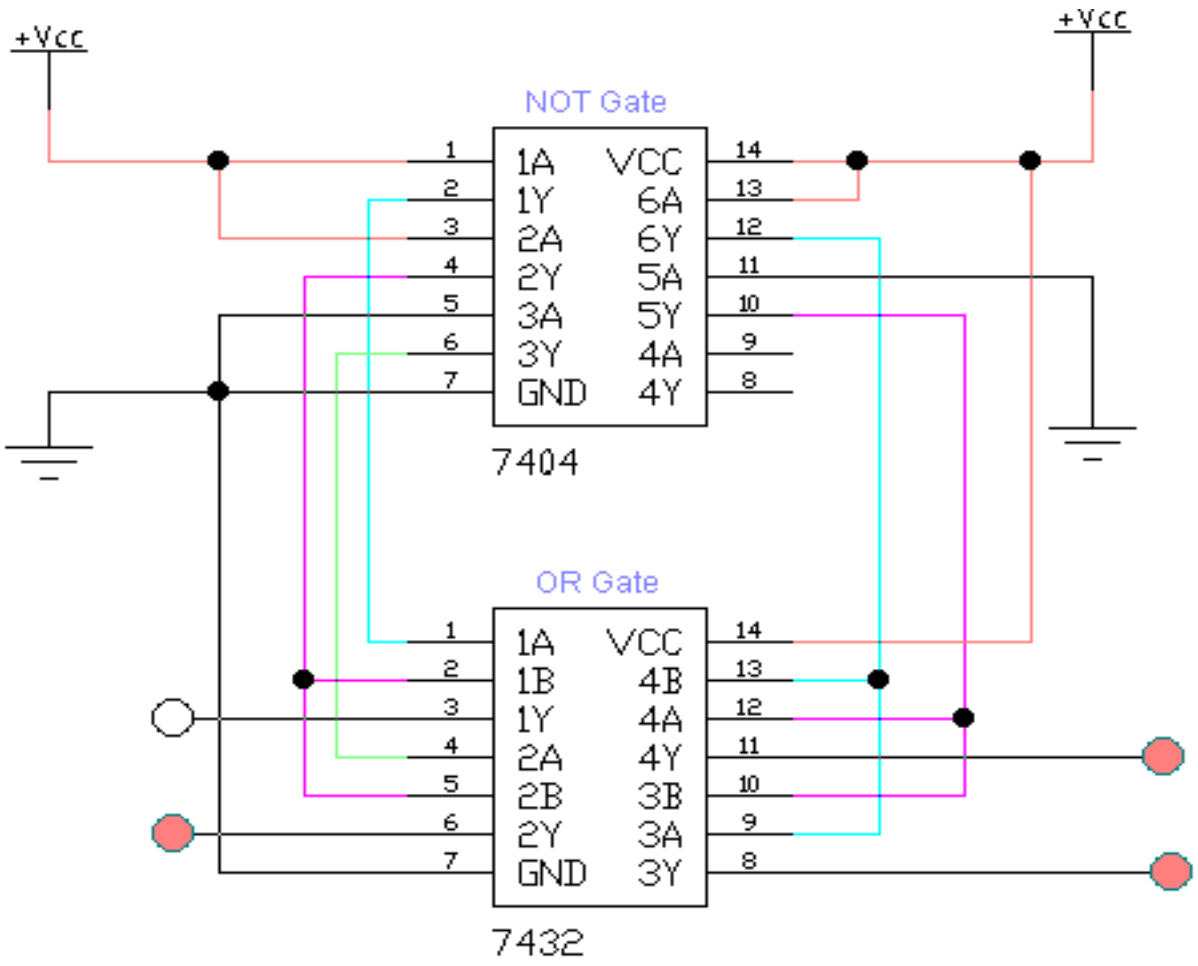
Experiment on EWB

1: First De Morgan's Law

Left Hand Side:



Right Hand Side:

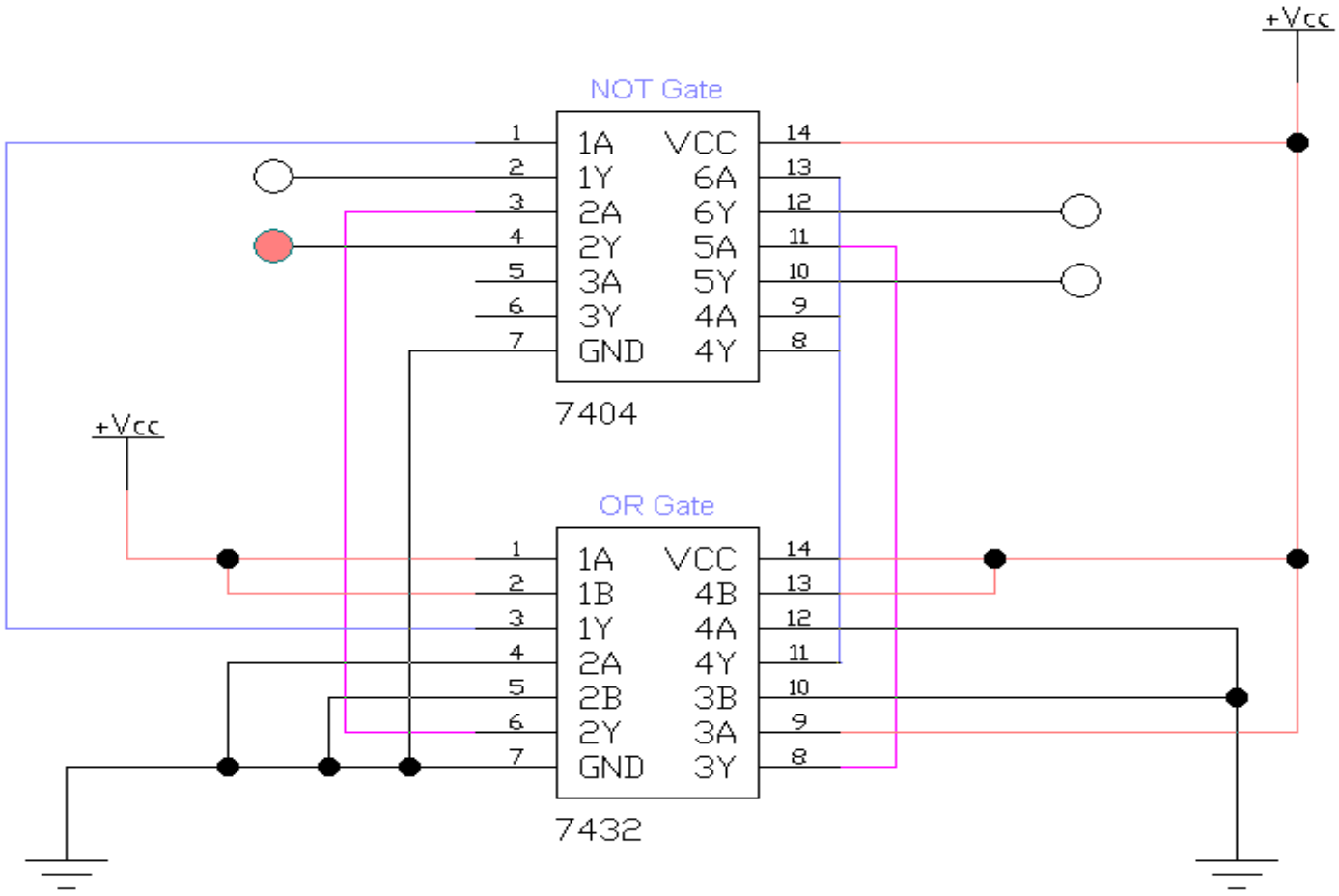


2: Verification using truth table

A	B	(AB)'	(A' + B')
0	0	1	1
0	1	1	1
1	0	1	1
1	1	0	0

3: Second De Morgan's Law

Left Hand Side:



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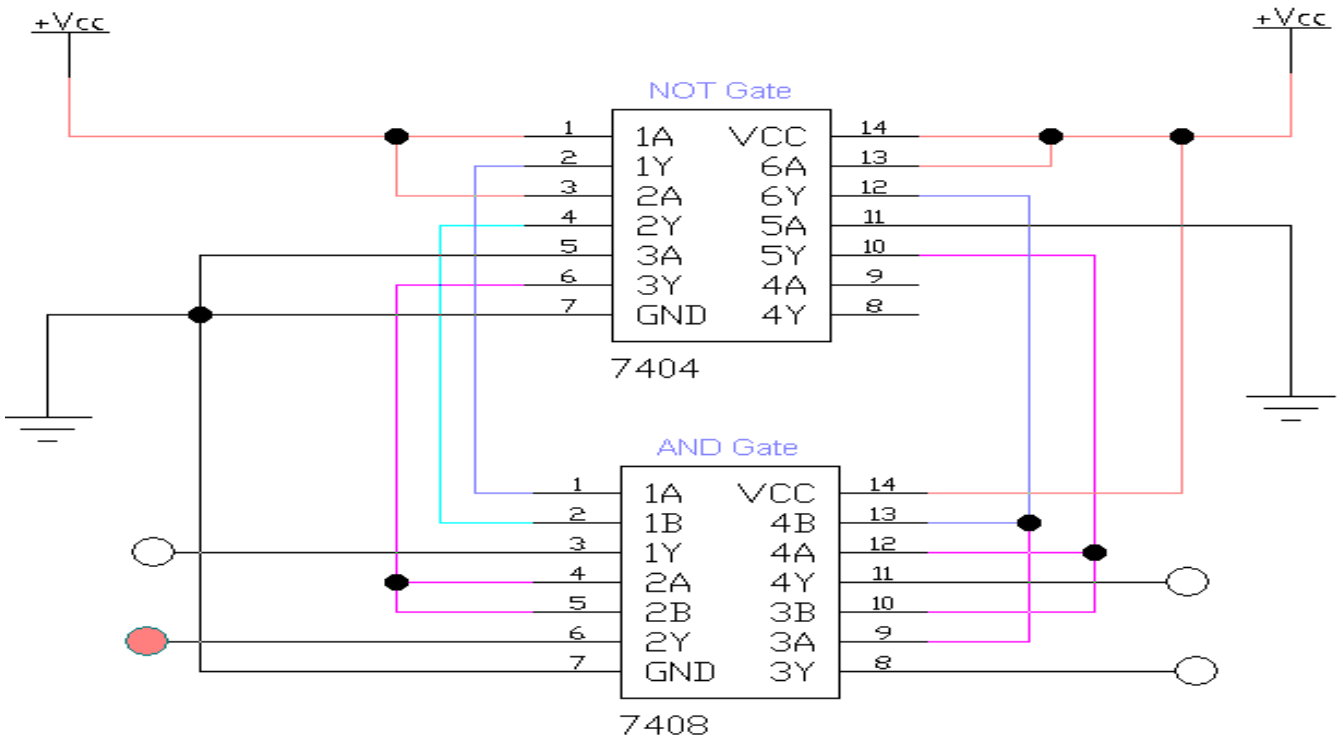
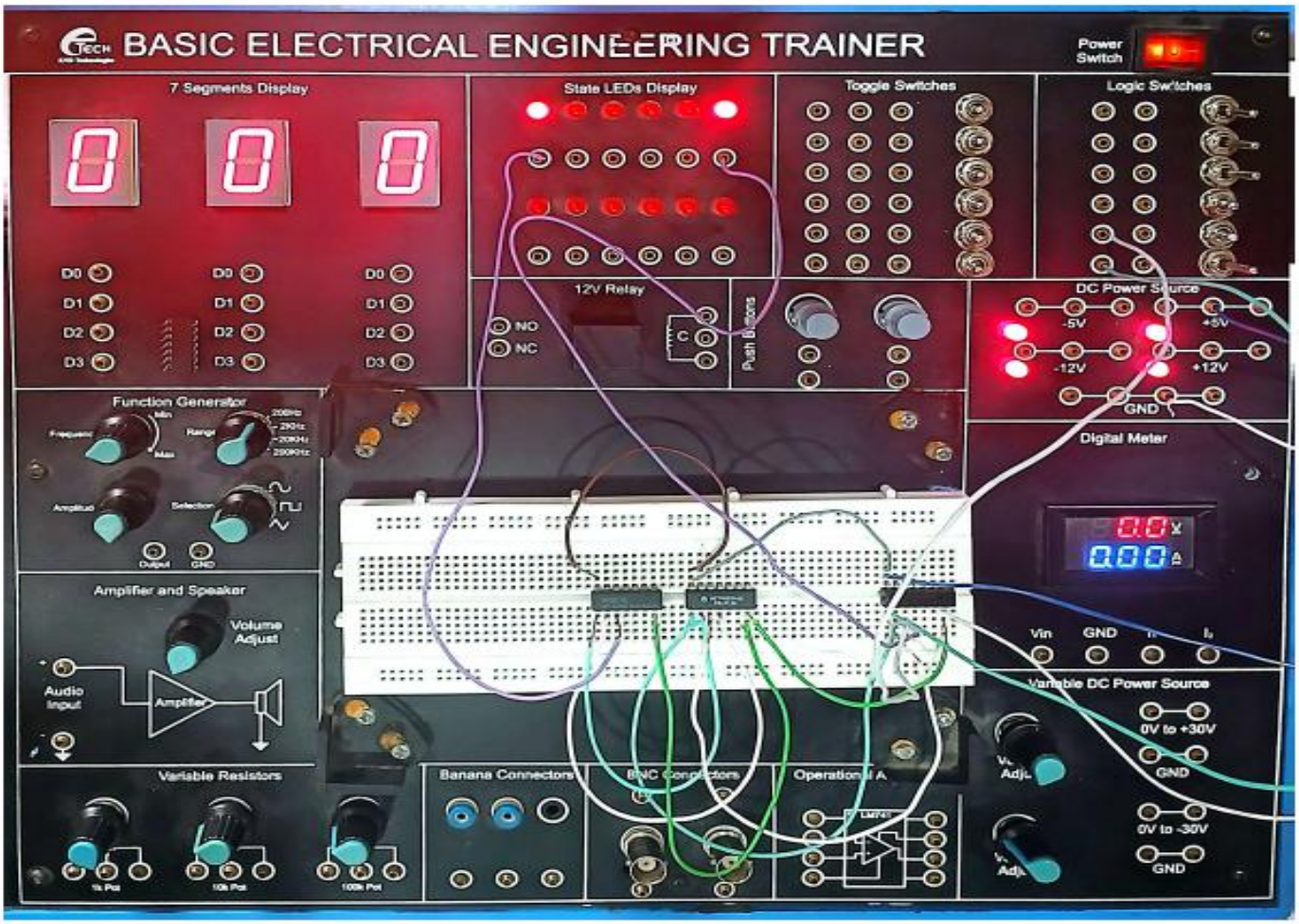


4: Verification using truth table

A	B	(A + B)’	(A’.B’)
0	0	1	1
0	1	0	0
1	0	0	0
1	1	0	0

Experiment on Hardware



Right Hand Side