

# ELC 2137 Lab 02: Transistor Logic Gates

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## Summary

Gates are made up of switches (on/off). How you connect them determines the type of gate; Transistors are voltage-controlled switches, so we can hook gates together.

## Q&A

1. What logic operation does it implement?  
it's AND gate

## Results

Table 1 is the truth table for the final gate I did in the lab. I kept my NOR gate, and built two more inverters, then I connected one to each input (between the switch and the transistor of the NOR gate). The truth table shows that the final gate is an AND gate.

Table 1: Logic/truth table for the Final gate

A	B	LED
0	0	0
0	1	0
1	0	0
1	1	1

Figure 1 and 2 are the circuit demonstration page I completed, they include the instructor initials and the current paths for inverter, NOR gate, and final gate.

## Code

There is no code require in this lab.

## Circuit Demonstration Page

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### Instructor Initials

Pushbutton "Or Gate"

KEQ

Transistor Not gate

KEQ

Transistor Nor gate

KEQ

Transistor unknown gate

BSS

### Diagrams

On each of the circuits below, draw the current paths and note whether each switch, transistor, and LED is ON or OFF.

Inverter:

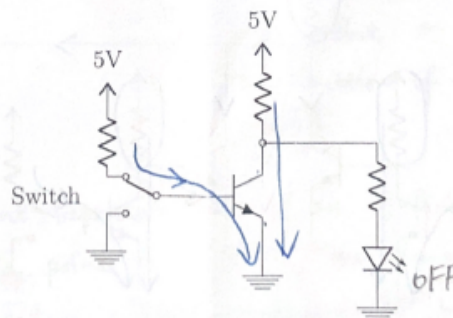
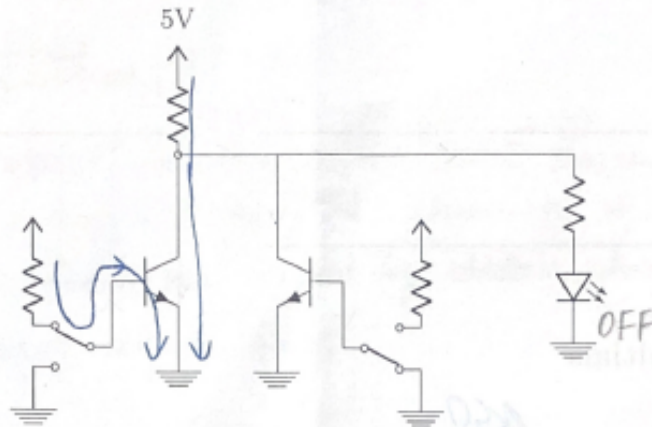


Figure 1: This is the Circuit Demonstration Page 1.

NOR:



Final gate:

