**Description**

The usage of XOR (Exclusive-OR) gates as bit comparators is demonstrated in this circuit. Four XOR gates compare the bits of two 4-bit binary values, each of which is "put" into the circuit by a series of switches. When the "Enter" pushbutton switch is pressed, the green "Go" LED will light up if the two numbers match bit for bit. When the "Enter" pushbutton is hit, the red "No go" LED will light up if the two numbers do not match perfectly.

Your first step should be to define the issue/ contention you will be arguing for and against (Not in Question form, but rather, a statement/claim). Then present supporting arguments, objections, and rebuttals as discussed in class. Make a strong argument and counter argument to cover both sides of the review of your issue. Make sure you research properly and use the proper format to present your argument. Be careful not to fall into the trap of using logical fallacies in your arguments!!

**Component’s list and costs**

1-4001 quad NOR gate = 5 L.E

2-4070 quad XOR gate = 5 L.E

3- (2) eight-position DIP switches = 8 L.E

4-(2) light-emitting diodes = 6 L.E

5- (4) Four 1N914 “switching” diodes = 2 L.E

6- (10) 10 kΩ resistors = 30 L.E

7- (2) 470 Ω resistors = 1 L.E

8- Pushbutton switch, normally open =1.5 L. E

9- (2) 6-volt batteries =260L.E

10- Quad OR gate= 5L.E

**Tinker cad**

<https://www.tinkercad.com/things/7bHAhORNkdr-simple-combination-lock-submition/editel?sharecode=4RGfo5M8-MnJwjUEs1gGZ7djBF5j0O7wbUayOZEfY-g>

Truth table and K-map

Diagram

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