XOR logic through Arduino

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Contents

1 Abstract

***Abstract*—This manual shows how to implement XOR logic through Arduino.**

In the ciruit X and Y are digital inputs, Z is digital output.The equivalent circuit is the logic implementation of XOR Gate.

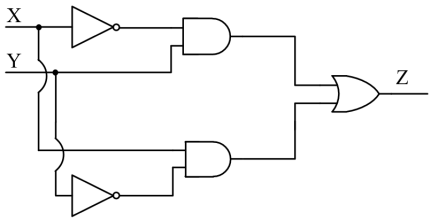

Fig. 1: Z=X!Y+!XY

2 Components

Component	Value	Quantity
Resistor	220 Ohm	1
Arduino	UNO	1
Seven Segment Display		1
Decoder	7447	1
Jumper Wires	M-M	20
Breadboard		1

TABLE I

1.The figure given below is the pin diagram of Seven Segment Display.

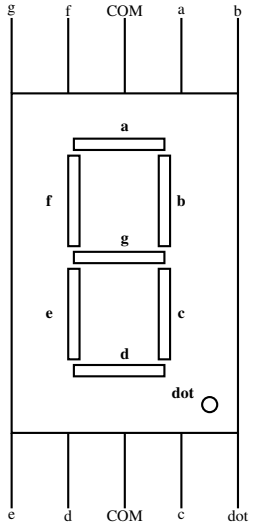

Fig. 2

2.The table given below is the connections between 7447 BCD Decoder and Seven Segment Display

7447	$\bar{a}$	$\bar{b}$	$\bar{c}$	$\bar{d}$	$\bar{e}$	$\bar{f}$	$\bar{g}$
Display	a	b	c	d	e	f	g

TABLE II

3.The diagram below shows the pin diagram of 7447 BCD Decoder.The output pins of 7447 is connected to Seven Segment Display using Table 2.

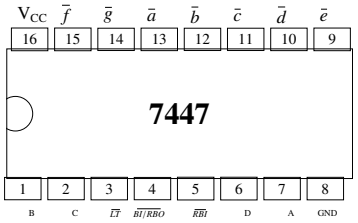

Fig. 3

3 Procedure

1. connect the circuit using 7447 BCD-Seven segment display decoder and Arduino.
2. connect the seven segment pins to 7447 using Table 2.
3. connect the pin A of 7447 to D2 of Arduino and remaining pins B,C and D to GND.
4. connect the pins D5,D6 to 1 and 0.Change the pins simultaneously to verify the XOR truth table. 5. Verify the XOR operation in arduino using the following code and making pin connections according to fig 2,Table 2 .

Observe the circuit and verify the program by executing the link provided below.

https://github.com/sindhu023/FWC/