

# Assignmet 1 : XOR logic Implementation

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## 1 ABSTRACT

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

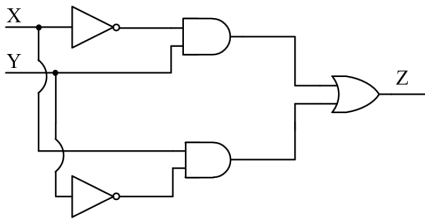


Fig. 1:  $Z = X!Y + !XY$

## 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

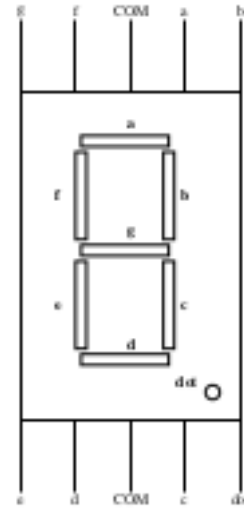


Fig. 2: Seven segment display

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

Fig. 3

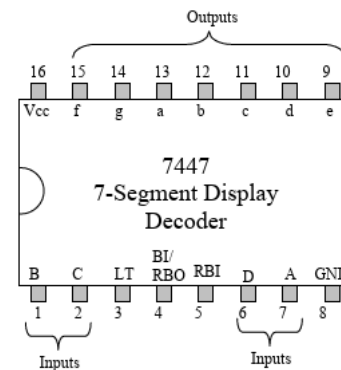


Fig. 4

### 3 PROCEDURE

1. Connect the circuit as inputs(X,Y) to 0 and 1
2. Connect A pin of 7447 to D2 of Arduino.
3. Connect B,C and D pins of 7447 to GND.
4. Vary the inputs D5 and D6 and observe the output accordingly in the seven segment display.

**Observe the circuit by executing the link provided below.**

<https://github.com/sindhu023/FWC/ide>