

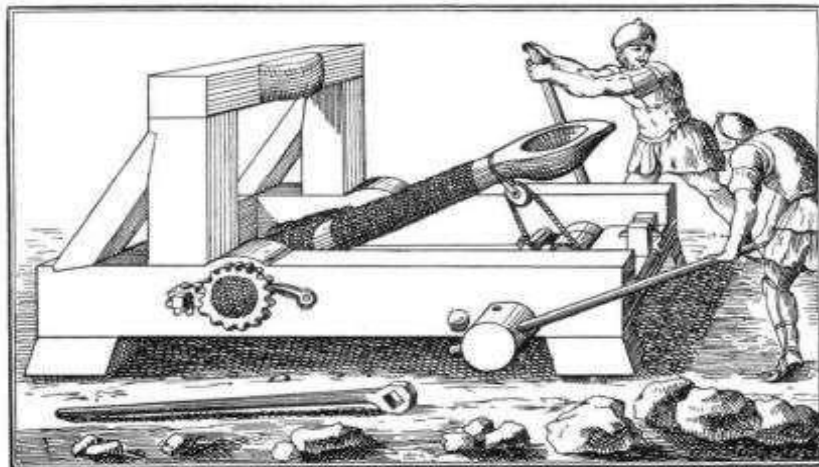


**DEPARTMENT  
OF  
ELECTRONICS AND COMMUNICATION ENGINEERING**



**THAPAR INSTITUTE**  
OF ENGINEERING & TECHNOLOGY  
(Deemed to be University)

**Handout/Assignment-1**  
for  
**Engineering Design Project-I (UTA013)**



**INSTRUCTOR INCHARGE**

GROUP -2

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ROLL NO. - 102283044

## ASSIGNMENT 1-C

A) Using Tinkercad, hook up 5 LEDs to pins 2 through 6 (with resistors). Modify the code to turn on each one in order and then extinguish them in order

## Schematic-

q1 (A)

React  0  

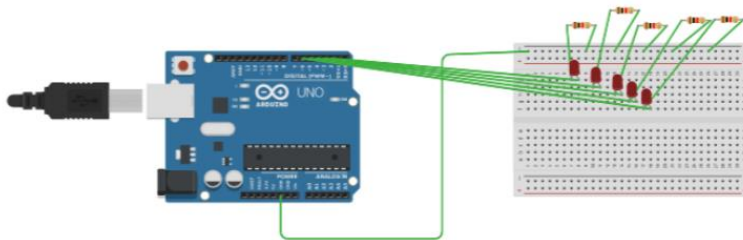


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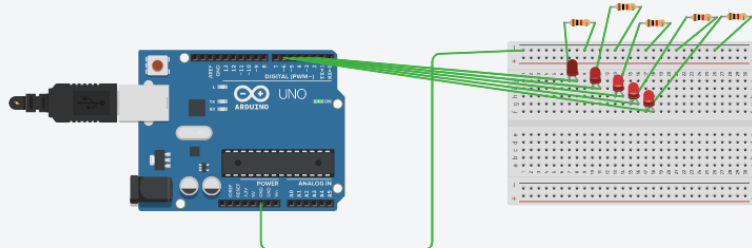
**hverma50\_be22**

Edited 9/6/22, Created 9/6/22

Tinker this

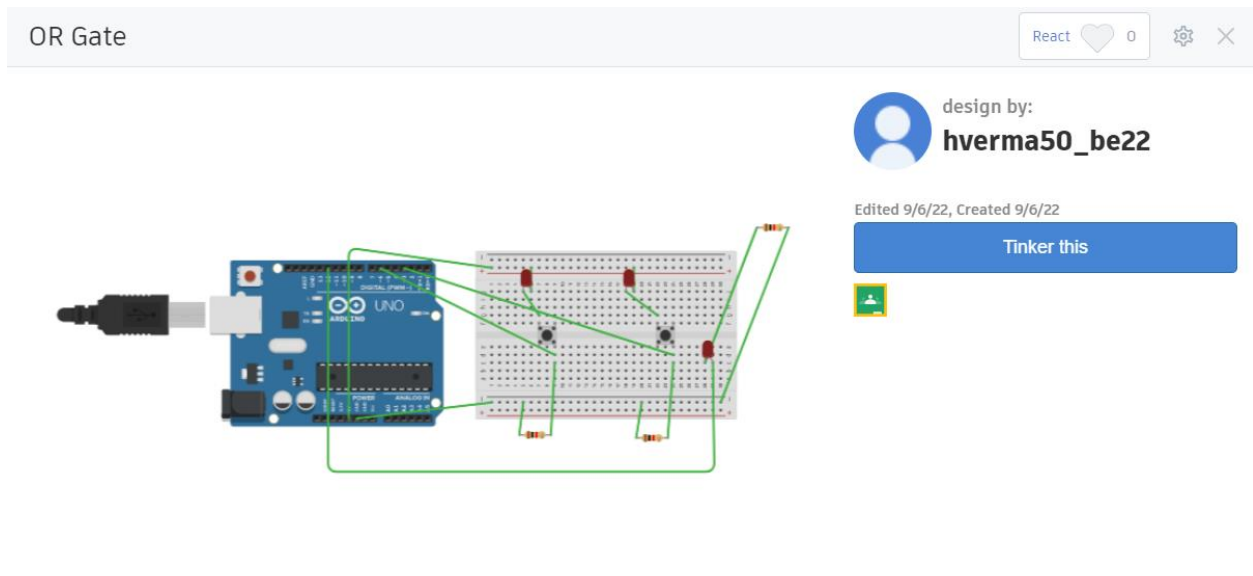


## CODE-

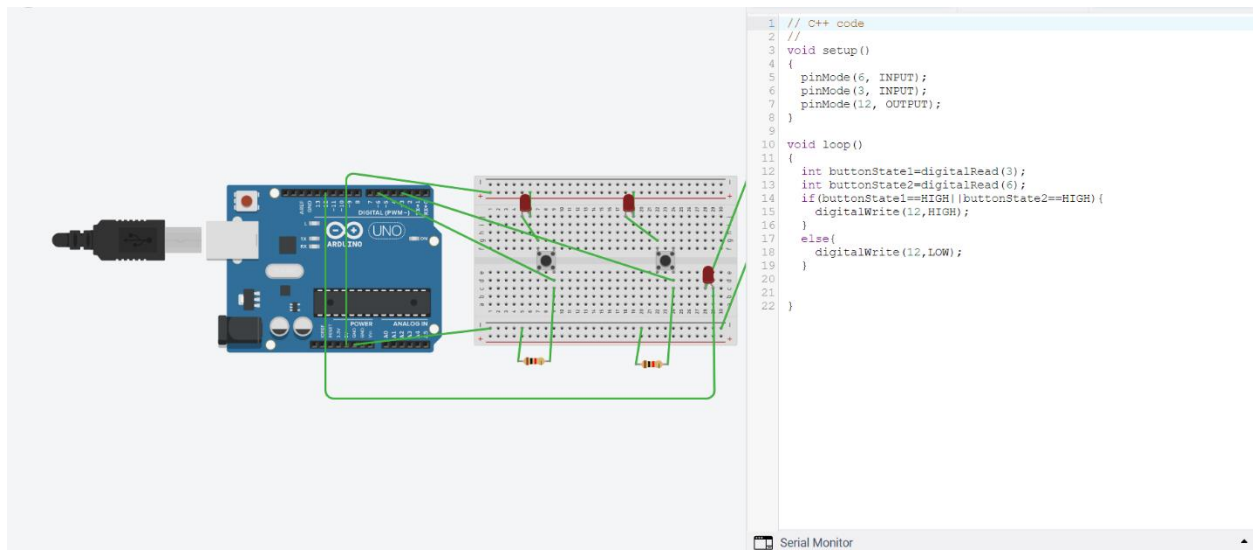


```
1 // C++ code
2 //
3 void setup()
4 {
5     pinMode(2, OUTPUT);
6     pinMode(3, OUTPUT);
7     pinMode(4, OUTPUT);
8     pinMode(5, OUTPUT);
9     pinMode(6, OUTPUT);
10 }
11
12
13 void loop()
14 {
15     for(int i=2;i<7;i++){
16         digitalWrite(i,HIGH);
17         delay(1000);
18     }
19     for(int i=2;i<7;i++){
20         digitalWrite(i,LOW);
21         delay(1000);
22     }
23 }
24 }
```

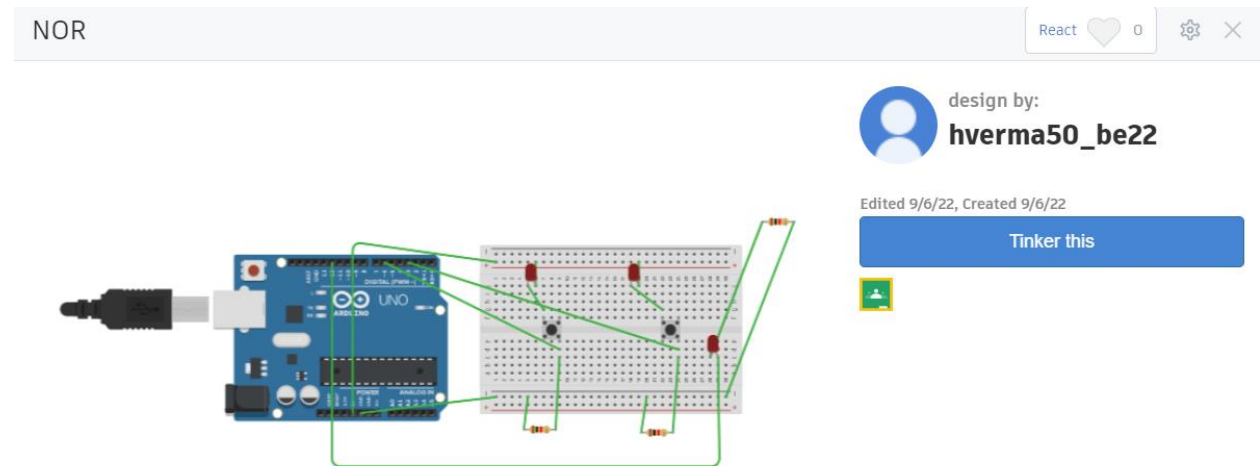
B) With the help of Tinkercad, use push buttons to simulate the behaviour of listed logic gates (Without using ICs of logic gates) (OR gate)  
Schematic-



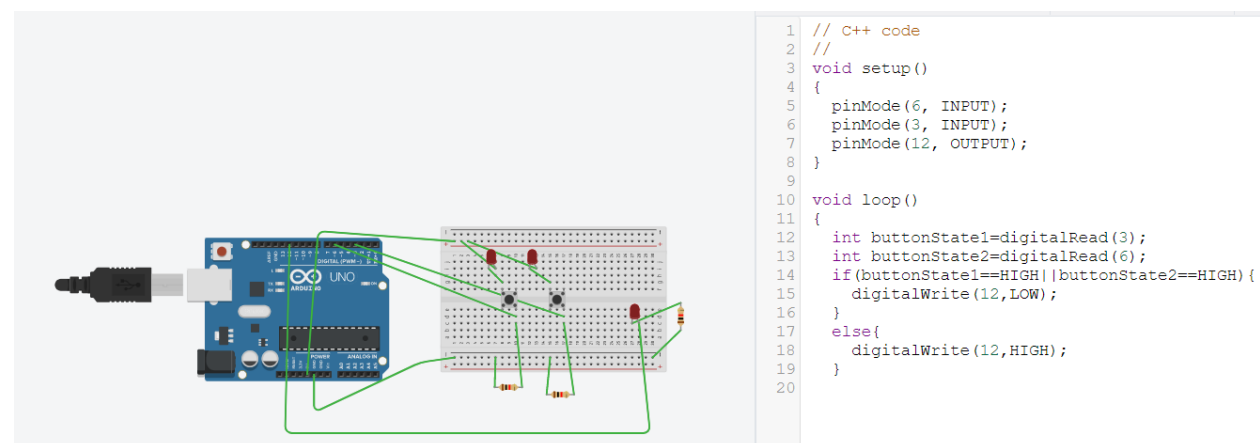
CODE-



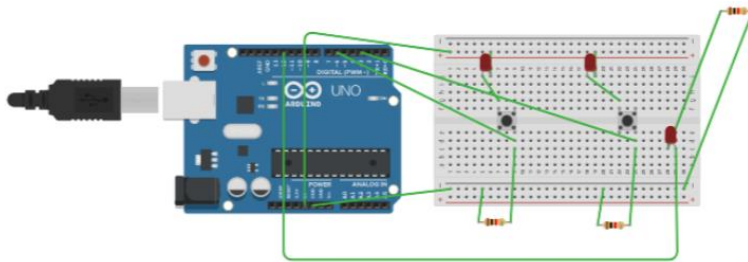
# (NOR gate) Schematic-



## CODE-



## (XNOR gate) Schematic-



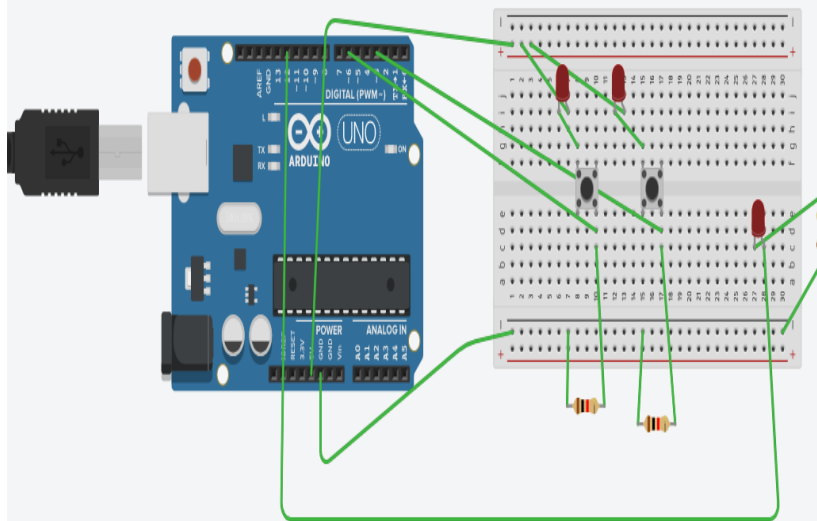
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[Tinker this](#)

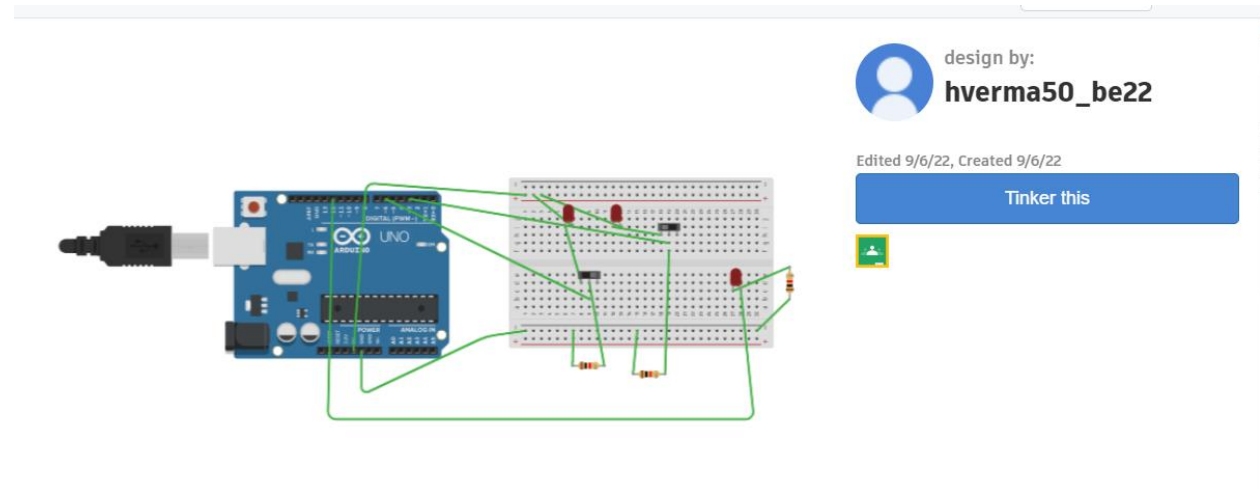


## CODE-

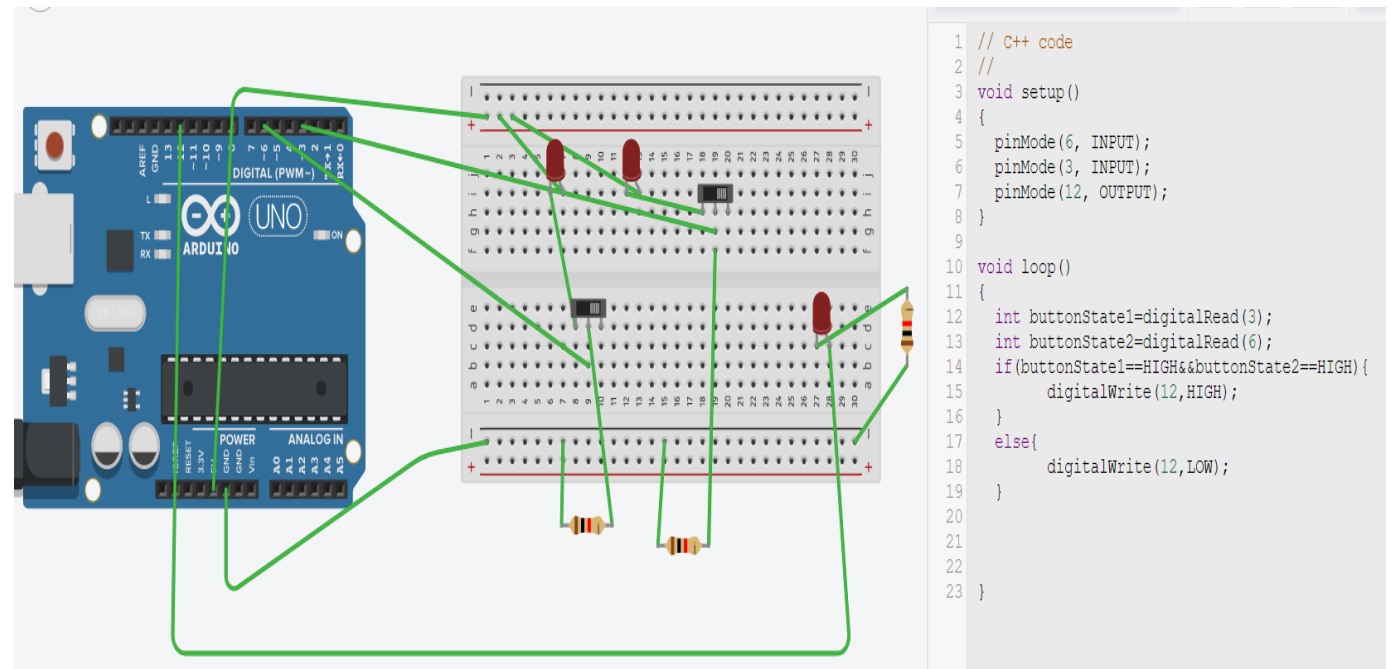


```
1 // C++ code
2 //
3 void setup()
4 {
5     pinMode(6, INPUT);
6     pinMode(3, INPUT);
7     pinMode(12, OUTPUT);
8 }
9
10 void loop()
11 {
12     int buttonState1=digitalRead(3);
13     int buttonState2=digitalRead(6);
14     if(buttonState1==HIGH&&buttonState2==HIGH){
15         digitalWrite(12,HIGH);
16     }
17     else if(buttonState1==LOW&&buttonState2==LOW){
18         digitalWrite(12,HIGH);
19     }
20     else{digitalWrite(12,LOW);}
21
22
23
24 }
```

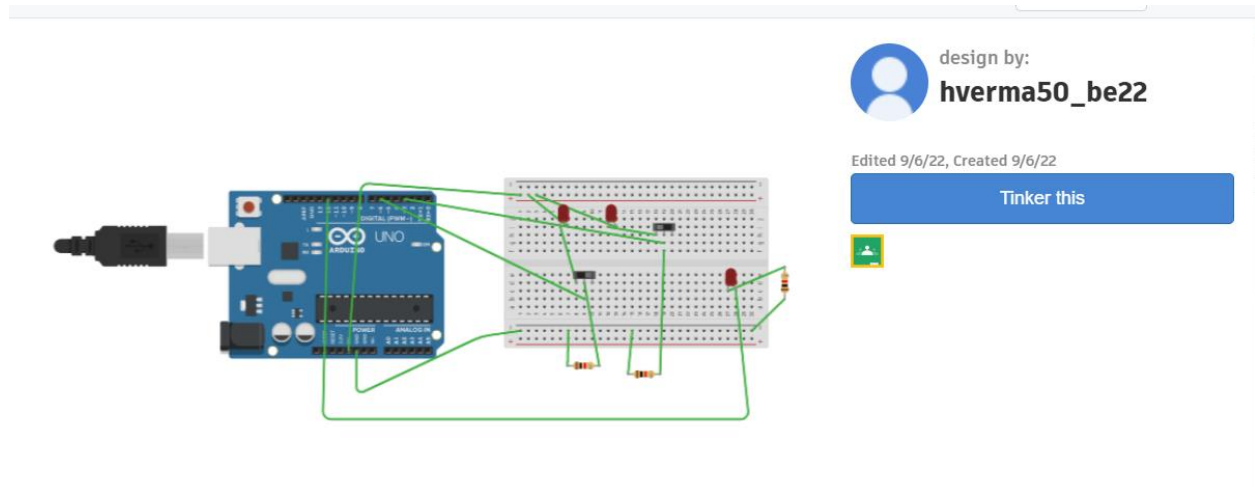
# (AND GATE) SCHEMATIC-



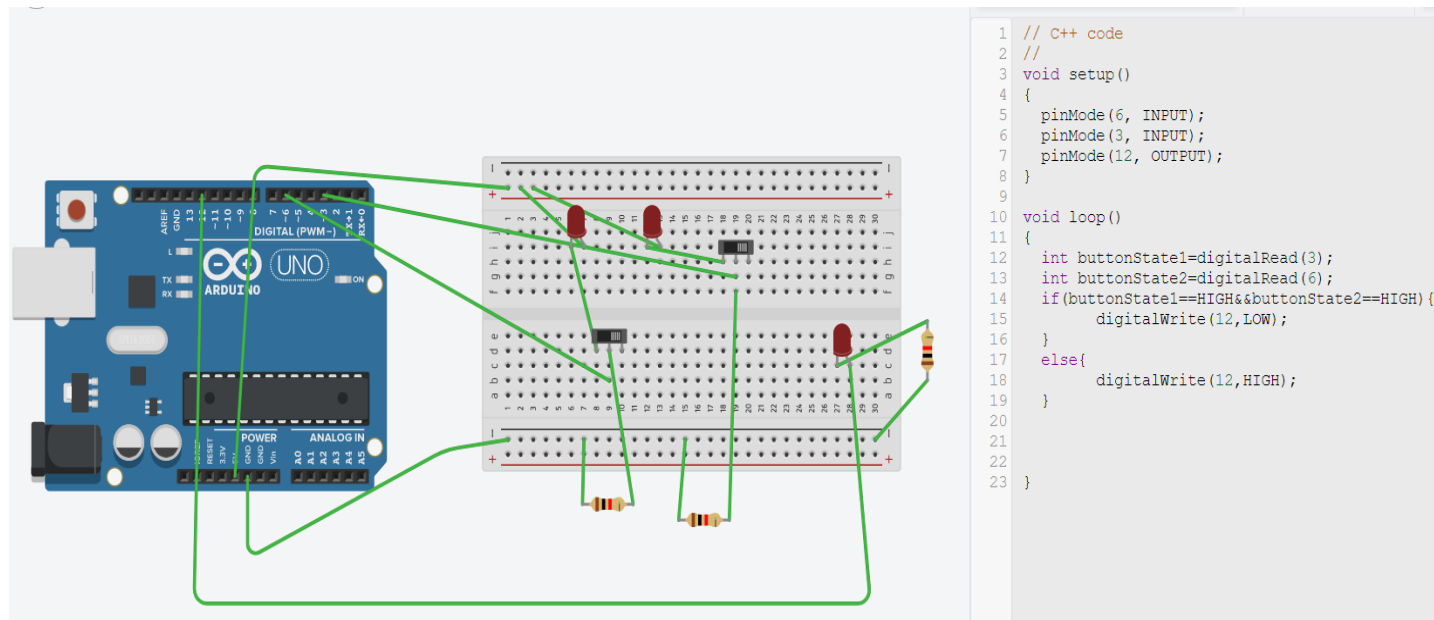
## CODE-



# (NAND GATE) SCHEMATIC-

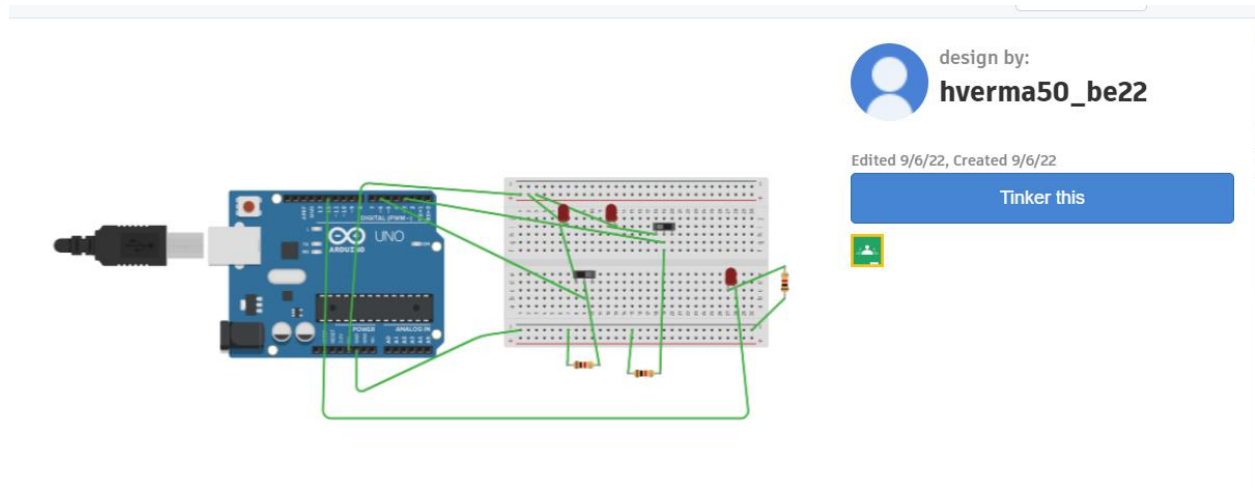


## CODE-





## (XOR) SCHEMATIC-



## CODE-

