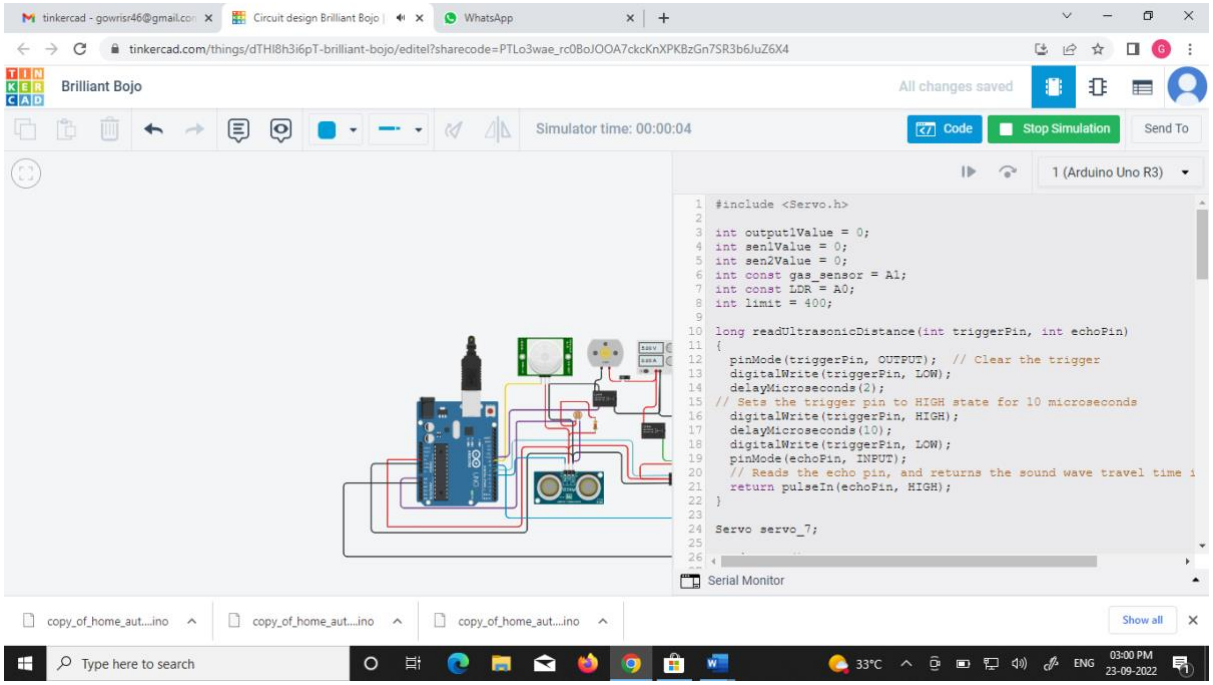
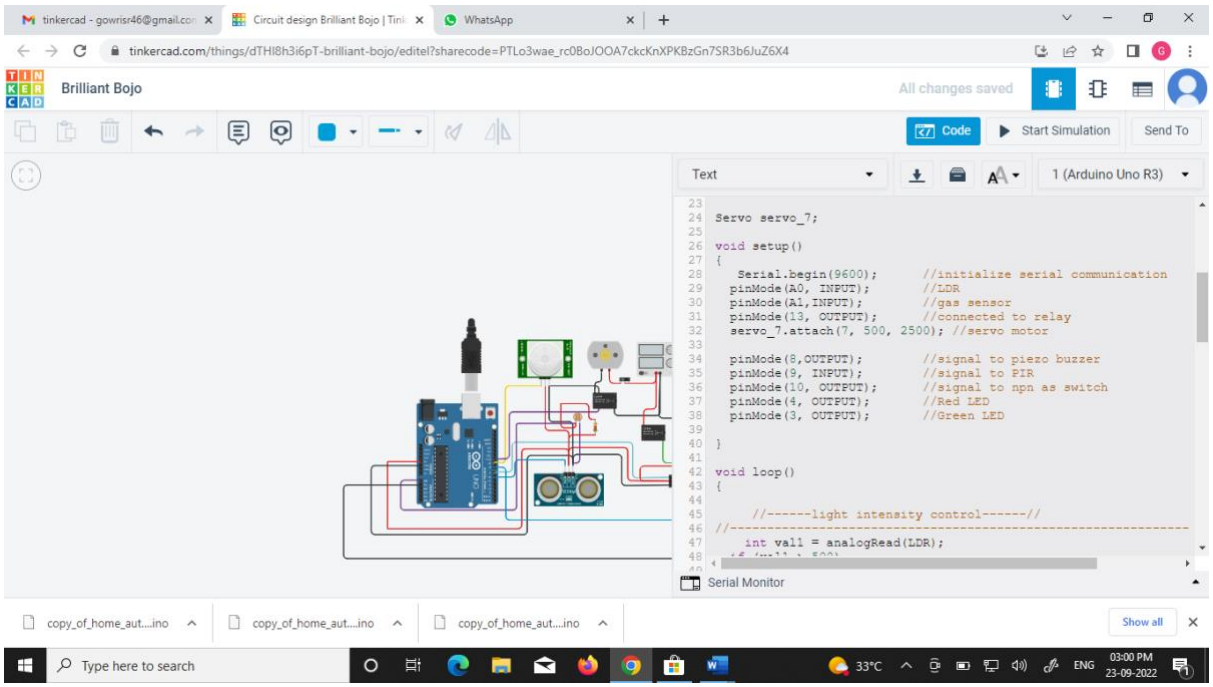
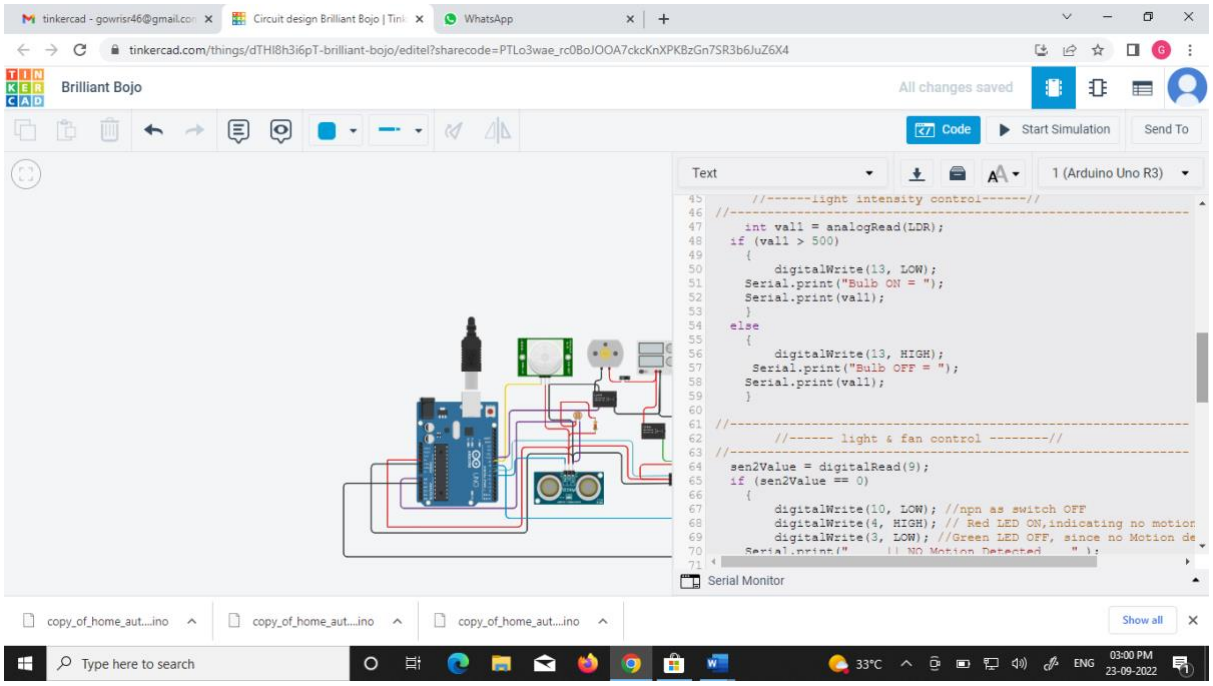
SMART HOME AUTOMATION



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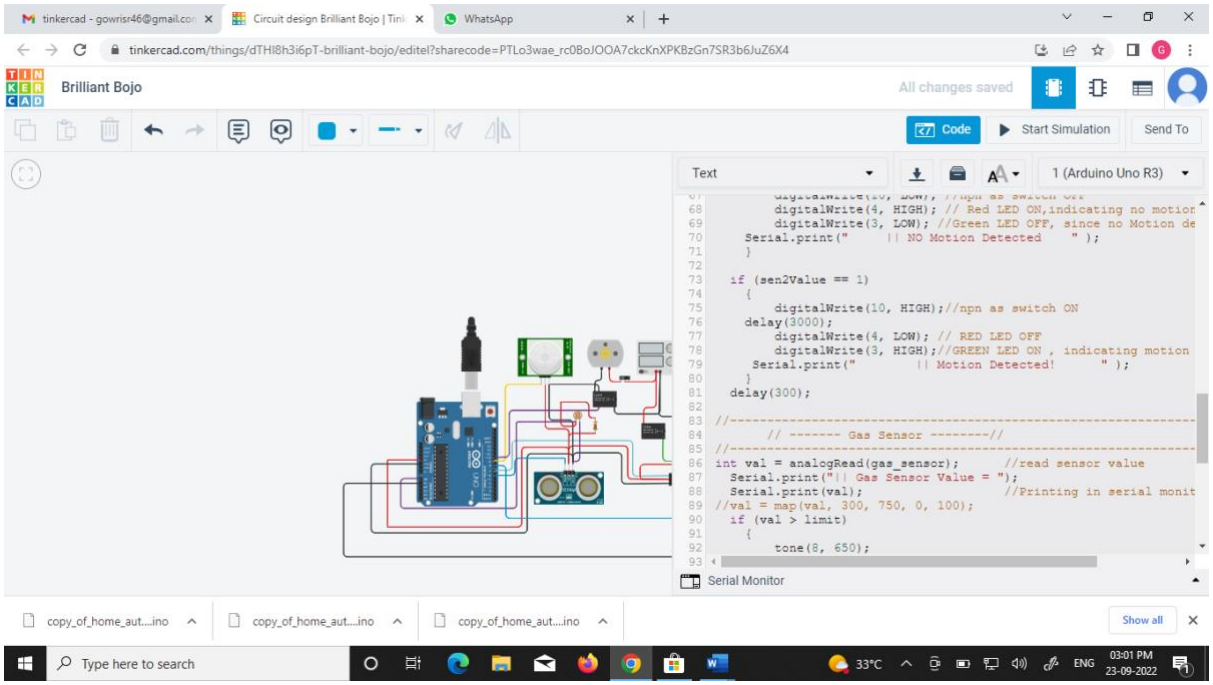
Brilliant Bojo
All changes saved
Code
Start Simulation
Send To
Text
1 (Arduino Uno R3)
//------light intensity control------//
int val1 = analogRead(LDR);
if (val1 > 500)
{
digitalWrite(13, LOW);
Serial.print("Bulb ON = ");
Serial.print(val1);
}
else
{
digitalWrite(13, HIGH);
Serial.print("Bulb OFF = ");
Serial.print(val1);
}
//------ light & fan control --------//
sen2Value = digitalRead(9);
if (sen2Value == 0)
{
digitalWrite(10, LOW); //npn as switch OFF
digitalWrite(4, HIGH); // Red LED ON,indicating no motion
digitalWrite(3, LOW); //Green LED OFF, since no Motion de
Serial.print(" || NO Motion Detected ");
Serial Monitor
copy_of_home_aut....ino
copy_of_home_aut....ino
copy_of_home_aut....ino
Show all
Type here to search
33°C
ENG
03:00 PM
23-09-2022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Brilliant Bojo
All changes saved
Code
Start Simulation
Send To
Text
1 (Arduino Uno R3)
digitalWrite(4, HIGH); // Red LED ON,indicating no motion
digitalWrite(3, LOW); //Green LED OFF, since no Motion de
Serial.print(" || NO Motion Detected ");
}
if (sen2Value == 1)
{
digitalWrite(10, HIGH);//npn as switch ON
delay(3000);
digitalWrite(4, LOW); // RED LED OFF
digitalWrite(3, HIGH);//GREEN LED ON , indicating motion
Serial.print(" || Motion Detected! ");
}
delay(300);
//------- Gas Sensor --------//
int val = analogRead(gas_sensor); //read sensor value
Serial.print("|| Gas Sensor Value = ");
Serial.print(val); //Printing in serial monit
//val = map(val, 300, 750, 0, 100);
if (val > limit)
{
tone(8, 650);
Serial Monitor
copy_of_home_aut....ino
copy_of_home_aut....ino
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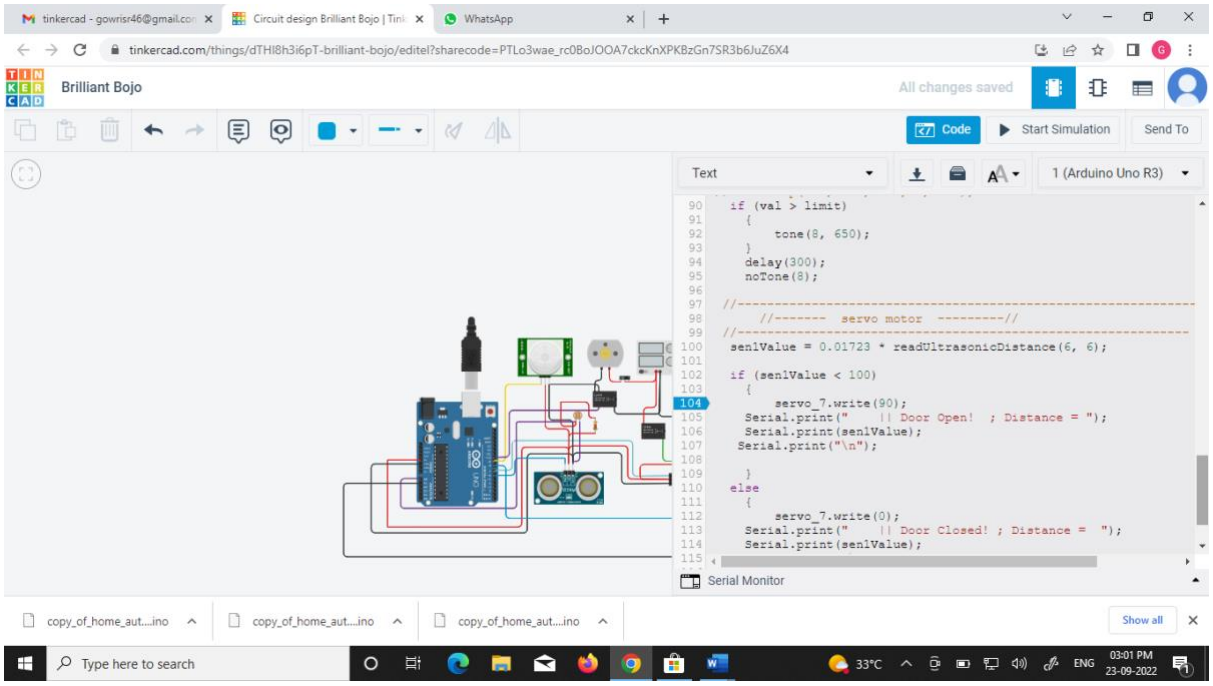
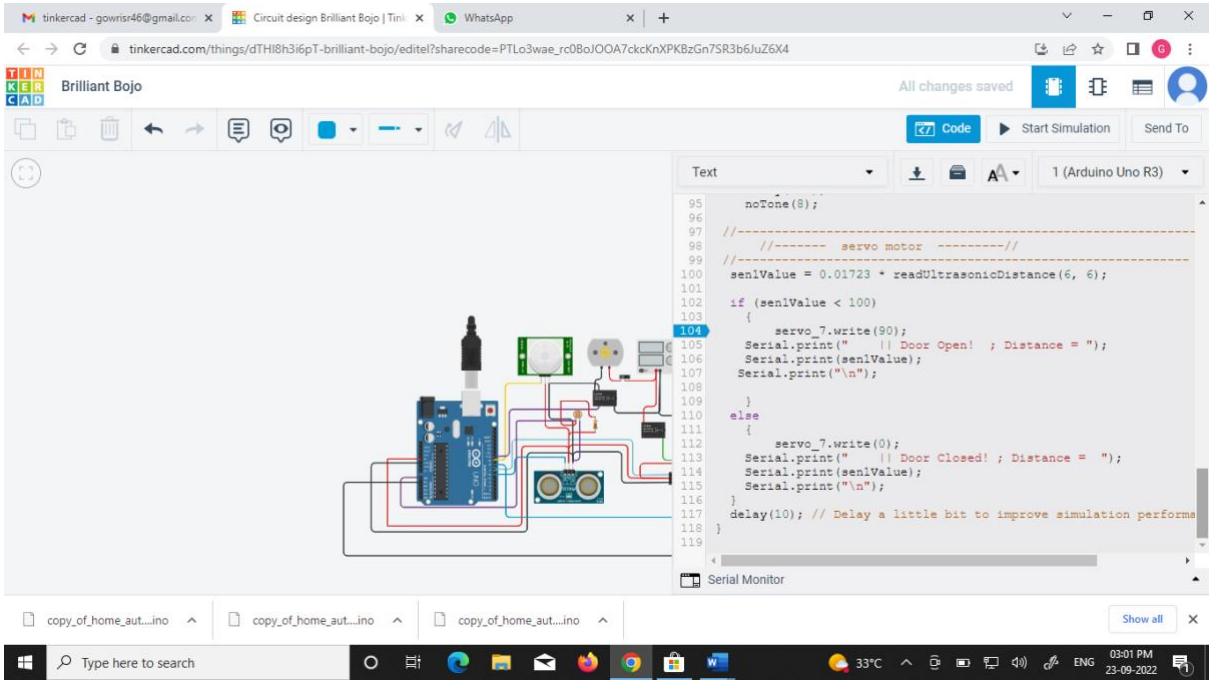
Show all
Type here to search
33°C
ENG
03:01 PM
23-09-2022





CODE:

```
#include <Servo.h>
int output1Value = 0;
int sen1Value = 0;
int sen2Value = 0;
int const gas_sensor = A1;
int const LDR = A0;
int limit = 400;
long readUltrasonicDistance(int triggerPin, int echoPin)
```

```
{
  pinMode(triggerPin, OUTPUT);  // Clear the trigger
  digitalWrite(triggerPin, LOW);
  delayMicroseconds(2);
// Sets the trigger pin to HIGH state for 10 microseconds
  digitalWrite(triggerPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(triggerPin, LOW);
  pinMode(echoPin, INPUT);
  // Reads the echo pin, and returns the sound wave travel time in
microseconds
  return pulseIn(echoPin, HIGH);
}
Servo servo_7;
void setup()
{
   Serial.begin(9600);       //initialize serial communication
  pinMode(A0, INPUT);        //LDR
  pinMode(A1,INPUT);         //gas sensor
  pinMode(13, OUTPUT);       //connected to relay
  servo_7.attach(7, 500, 2500); //servo motor
  pinMode(8,OUTPUT);         //signal to piezo buzzer
  pinMode(9, INPUT);         //signal to PIR
  pinMode(10, OUTPUT);       //signal to npn as switch
  pinMode(4, OUTPUT);        //Red LED
  pinMode(3, OUTPUT);        //Green LED

}
void loop()
{

     //------light intensity control------//
//-----------------------------------------------------------------
    int val1 = analogRead(LDR);
  if (val1 > 500)
      {
      digitalWrite(13, LOW);
    Serial.print("Bulb ON = ");
    Serial.print(val1);
      }
  else
      {
      digitalWrite(13, HIGH);
     Serial.print("Bulb OFF = ");
    Serial.print(val1);
      }
//-----------------------------------------------------------------
        //------ light & fan control --------//
//-----------------------------------------------------------------
  sen2Value = digitalRead(9);
  if (sen2Value == 0)
      {
      digitalWrite(10, LOW); //npn as switch OFF
      digitalWrite(4, HIGH); // Red LED ON,indicating no motion
      digitalWrite(3, LOW); //Green LED OFF, since no Motion detected
    Serial.print("     || NO Motion Detected    " );
      }
```

```
  if (sen2Value == 1)
      {
      digitalWrite(10, HIGH);//npn as switch ON
    delay(3000);
      digitalWrite(4, LOW); // RED LED OFF
      digitalWrite(3, HIGH);//GREEN LED ON , indicating motion detected
     Serial.print("       || Motion Detected!      " );
      }
  delay(300);

//-----------------------------------------------------------------
       // ------- Gas Sensor --------//
//-----------------------------------------------------------------
int val = analogRead(gas_sensor);      //read sensor value
  Serial.print("|| Gas Sensor Value = ");
  Serial.print(val);                        //Printing in serial monitor
//val = map(val, 300, 750, 0, 100);
  if (val > limit)
      {
      tone(8, 650);
      }
      delay(300);
      noTone(8);
 //-----------------------------------------------------------------
      //-------  servo motor  ---------//
 //-----------------------------------------------------------------
  sen1Value = 0.01723 * readUltrasonicDistance(6, 6);
  if (sen1Value < 100)
      {
      servo_7.write(90);
    Serial.print("       || Door Open!  ; Distance = ");
    Serial.print(sen1Value);
   Serial.print("\n");

      }
  else
      {
      servo_7.write(0);
    Serial.print("       || Door Closed! ; Distance =  ");
    Serial.print(sen1Value);
    Serial.print("\n");
  }
  delay(10); // Delay a little bit to improve simulation performance
}
```