Ganpat University
॥ विद्यया समाजोत्कर्षः ॥
Institute of Computer Technology

**Name: Tushar Panchal**

**En.No: 21162101014**

**Sub: IOT (Internet OF Things)**

**Branch: CBA**

**Batch:71**

# ----------PRACTICAL 06----------

**Interface Smoke sensor with Arduino and test it with a buzzer & LED.**

**Parts needed :**

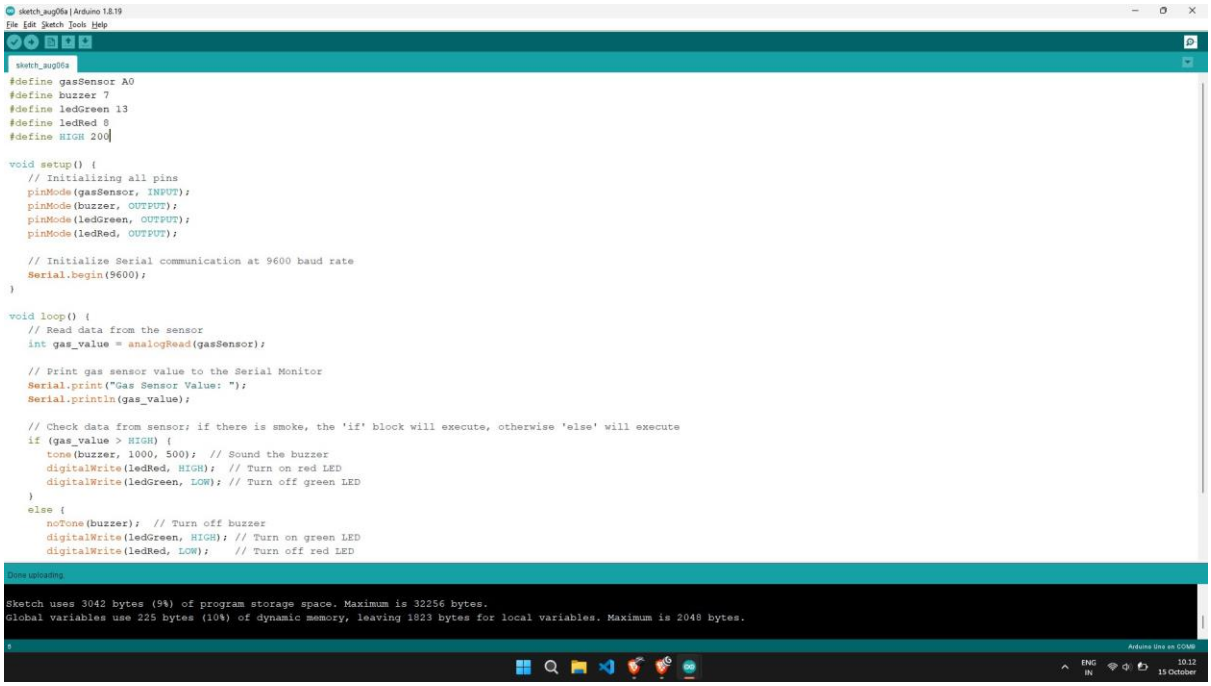
1) Arduino uno
2) Leds
3) Gas Sensor
4) Buzzer
5) Jumper wires

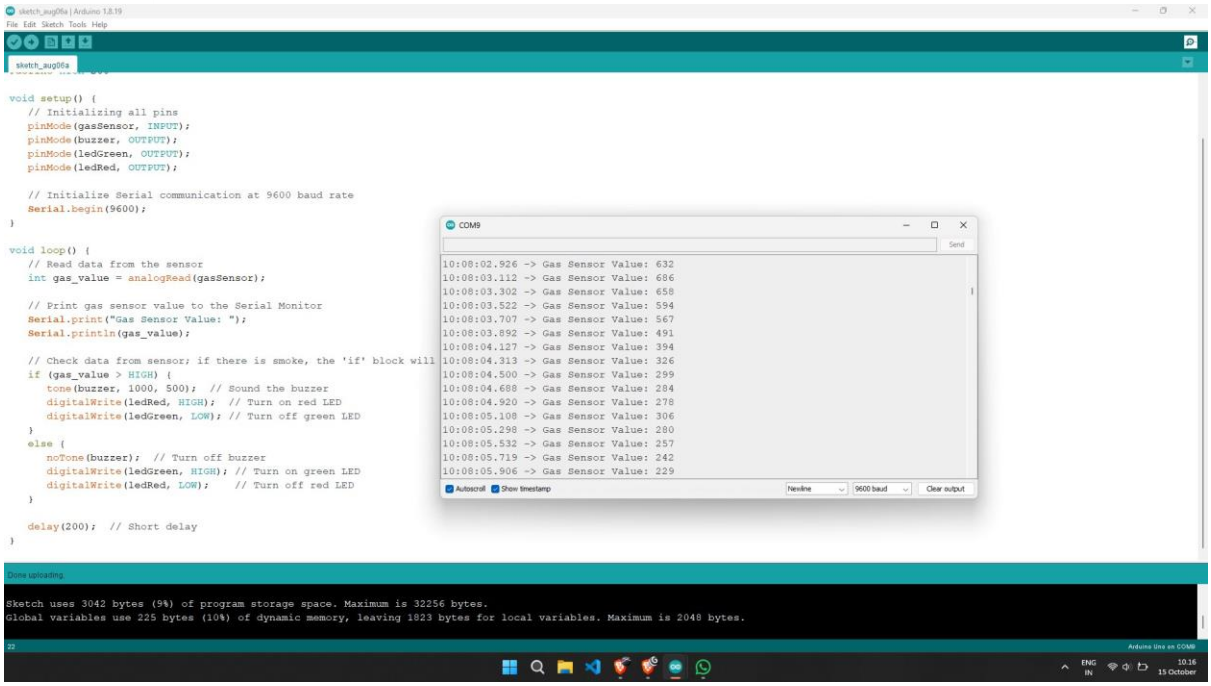
## ✓ Source Code :

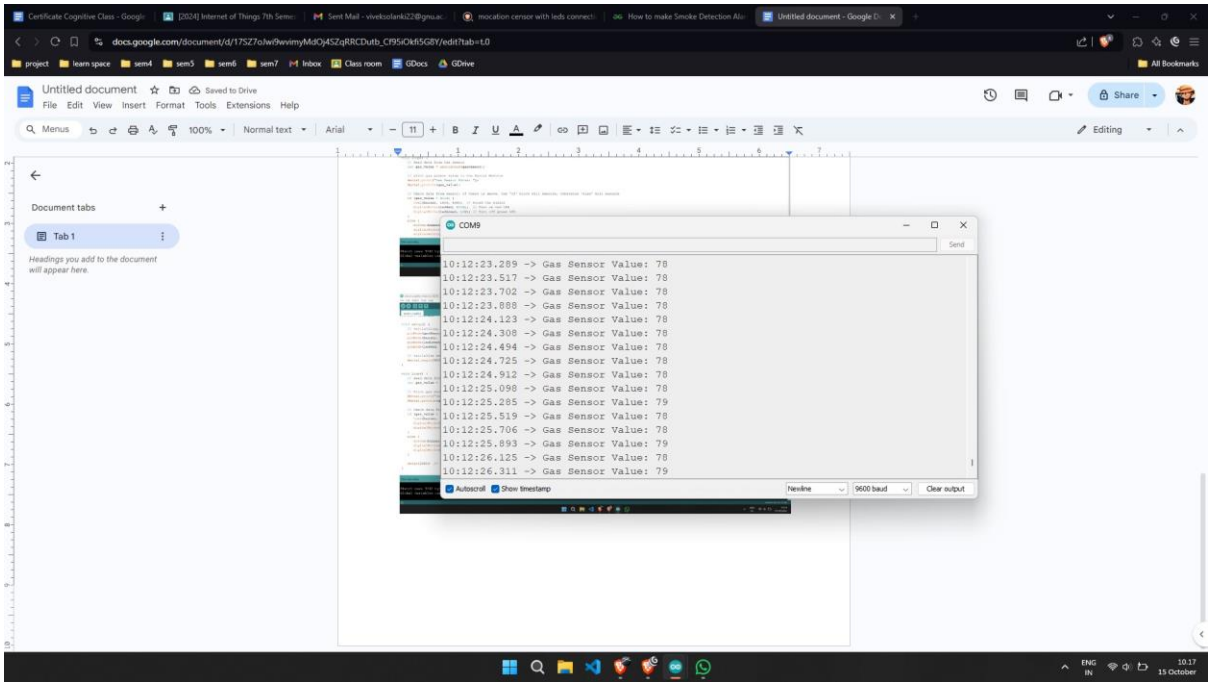
```
#define gasSensor A0
#define buzzer 7
#define ledGreen 13
#define ledRed 8
#define HIGH_THRESHOLD 200

void setup() {
  // Initializing all pins
  pinMode(gasSensor, INPUT);
  pinMode(buzzer, OUTPUT);
  pinMode(ledGreen, OUTPUT);
  pinMode(ledRed, OUTPUT);

  // Initialize Serial communication at 9600 baud rate
  Serial.begin(9600);
```

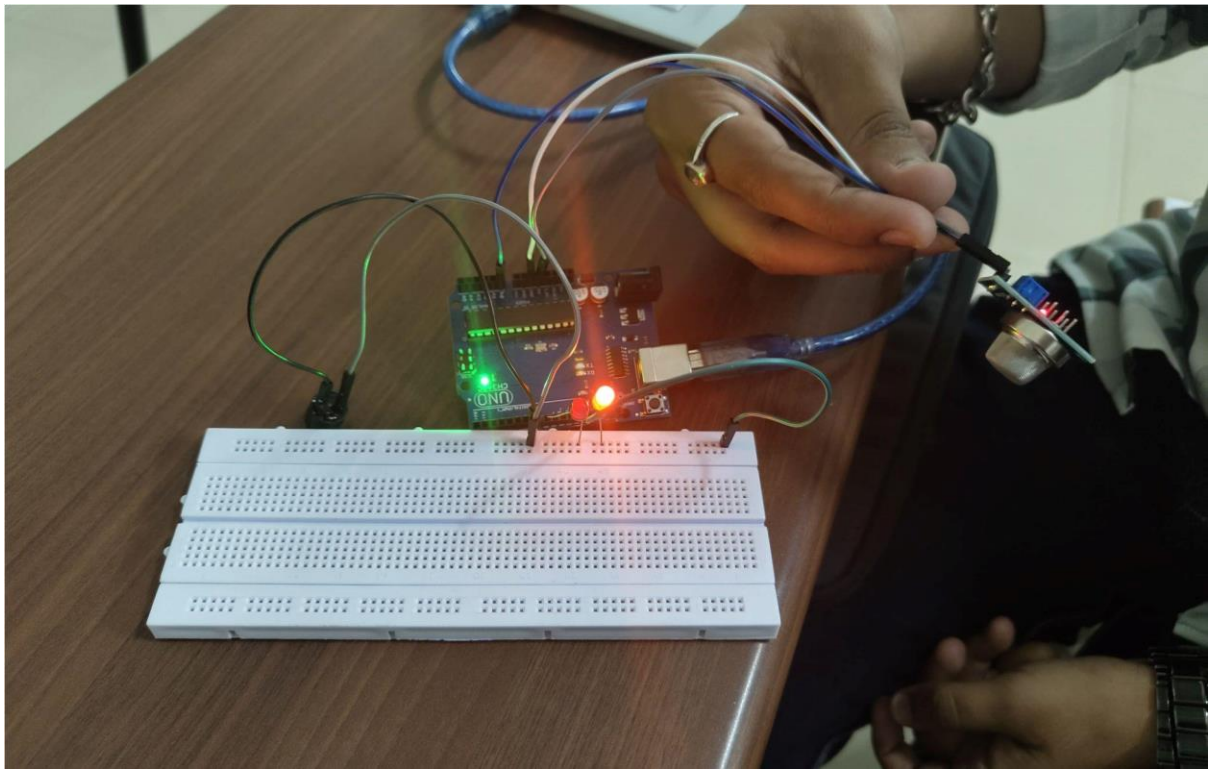
```
}

void loop() {
  // Read data from the sensor
  int gas_value = analogRead(gasSensor);

  // Print gas sensor value to the Serial Monitor
  Serial.print("Gas Sensor Value: ");
  Serial.println(gas_value);

  // Check data from sensor; if there is smoke, the 'if' block will
execute, otherwise 'else' will execute
  if (gas_value > HIGH_THRESHOLD) {
    tone(buzzer, 1000, 500);  // Sound the buzzer
    digitalWrite(ledRed, HIGH);  // Turn on red LED
    digitalWrite(ledGreen, LOW);  // Turn off green LED
  } else {
    noTone(buzzer);  // Turn off buzzer
    digitalWrite(ledGreen, HIGH);  // Turn on green LED
    digitalWrite(ledRed, LOW);  // Turn off red LED
  }

  // Short delay
  delay(200);
}
```

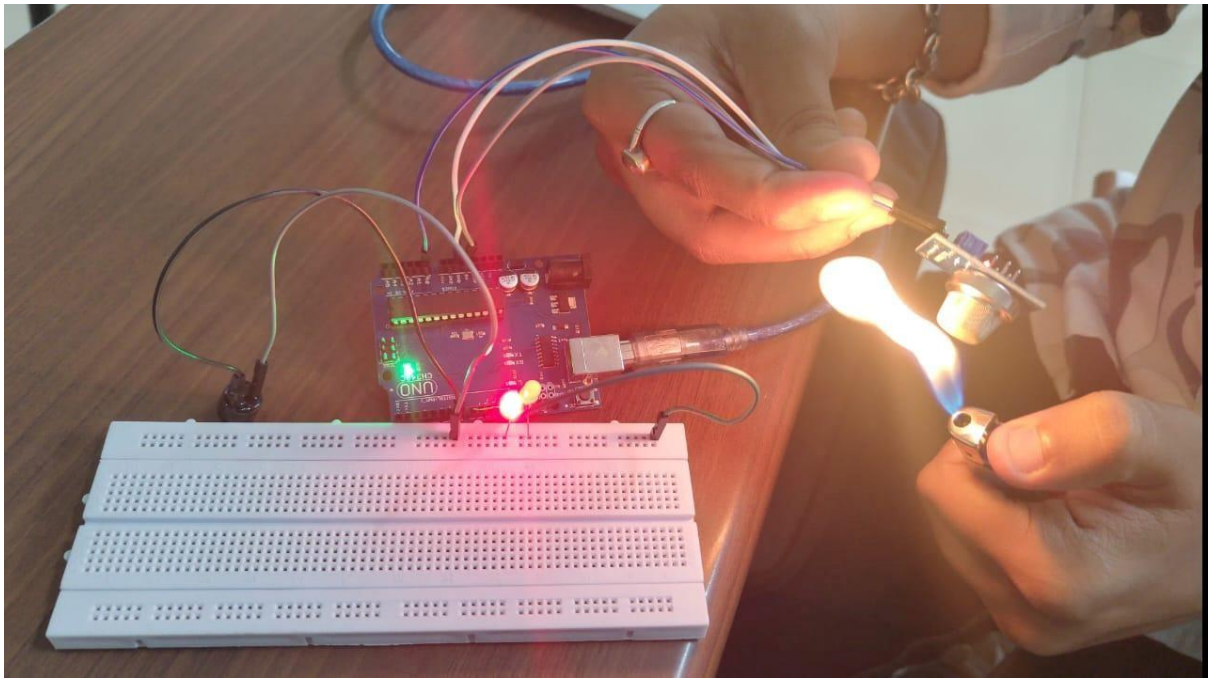
✓ **Output :**




sketch_aug06a | Arduino 1.8.19
File Edit Sketch Tools Help
sketch_aug06a
void setup() {
// Initializing all pins
pinMode(gasSensor, INPUT);
pinMode(buzzer, OUTPUT);
pinMode(ledGreen, OUTPUT);
pinMode(ledRed, OUTPUT);
// Initialize Serial communication at 9600 baud rate
Serial.begin(9600);
}
void loop() {
// Read data from the sensor
int gas_value = analogRead(gasSensor);
// Print gas sensor value to the Serial Monitor
Serial.print("Gas Sensor Value: ");
Serial.println(gas_value);
// Check data from sensor; if there is smoke, the 'if' block will
if (gas_value > HIGH) {
tone(buzzer, 1000, 500); // Sound the buzzer
digitalWrite(ledRed, HIGH); // Turn on red LED
digitalWrite(ledGreen, LOW); // Turn off green LED
}
else {
noTone(buzzer); // Turn off buzzer
digitalWrite(ledGreen, HIGH); // Turn on green LED
digitalWrite(ledRed, LOW); // Turn off red LED
}
delay(200); // Short delay
}
COM9
Send
10:08:02.926 -> Gas Sensor Value: 632
10:08:03.112 -> Gas Sensor Value: 686
10:08:03.302 -> Gas Sensor Value: 658
10:08:03.522 -> Gas Sensor Value: 594
10:08:03.707 -> Gas Sensor Value: 567
10:08:03.892 -> Gas Sensor Value: 491
10:08:04.127 -> Gas Sensor Value: 394
10:08:04.313 -> Gas Sensor Value: 326
10:08:04.500 -> Gas Sensor Value: 299
10:08:04.688 -> Gas Sensor Value: 284
10:08:04.920 -> Gas Sensor Value: 278
10:08:05.108 -> Gas Sensor Value: 306
10:08:05.298 -> Gas Sensor Value: 280
10:08:05.532 -> Gas Sensor Value: 257
10:08:05.719 -> Gas Sensor Value: 242
10:08:05.906 -> Gas Sensor Value: 229
Autoscroll
Show timestamp
Newline
9600 baud
Clear output
Done uploading.
Sketch uses 3042 bytes (9%) of program storage space. Maximum is 32256 bytes.
Global variables use 225 bytes (10%) of dynamic memory, leaving 1823 bytes for local variables. Maximum is 2048 bytes.
22
Arduino Uno on COM8
ENG
IN
10:16
15 October


docs.google.com/document/d/17SZ7oIwi9wvimyMdOj4SZqRRCDutb_CI95iOkfi5G8Y/edit?tab=t.0
Untitled document
File Edit View Insert Format Tools Extensions Help
Saved to Drive
Share
Editing
Menus
100%
Normal text
Arial
11
Document tabs
Tab 1
Headings you add to the document will appear here.
COM9
Send
10:12:23.289 -> Gas Sensor Value: 78
10:12:23.517 -> Gas Sensor Value: 78
10:12:23.702 -> Gas Sensor Value: 78
10:12:23.888 -> Gas Sensor Value: 78
10:12:24.123 -> Gas Sensor Value: 78
10:12:24.308 -> Gas Sensor Value: 78
10:12:24.494 -> Gas Sensor Value: 78
10:12:24.725 -> Gas Sensor Value: 78
10:12:24.912 -> Gas Sensor Value: 78
10:12:25.098 -> Gas Sensor Value: 78
10:12:25.285 -> Gas Sensor Value: 79
10:12:25.519 -> Gas Sensor Value: 78
10:12:25.706 -> Gas Sensor Value: 78
10:12:25.893 -> Gas Sensor Value: 79
10:12:26.125 -> Gas Sensor Value: 78
10:12:26.311 -> Gas Sensor Value: 79
Autoscroll
Show timestamp
Newline
9600 baud
Clear output
ENG
IN
10:17
15 October





✓ **You can also check this virtual diagram:**

https://www.tinkercad.com/embed/ikx2lLdOiYo?editbtn=1