

# SNS COLLEGE OF TECHNOLOGY

## DEPARTMENT OF ECE

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PROJECT: Industry-specific intelligent fire management system

PROJECT CODE:

```
int t=2;
```

```
int e=3;
```

```
void setup()
```

```
{
```

```
  Serial.begin(9600);
```

```
  pinMode(t,OUTPUT);
```

```
  pinMode(e,INPUT);
```

```
  pinMode(12,OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
  //ultrasonic sensor
```

```
  digitalWrite(t,LOW);
```

```
  digitalWrite(t,HIGH);
```

```
  delayMicroseconds(10);
```

```
  digitalWrite(t,LOW);
```

```
  float dur=pulseIn(e,HIGH);
```

```
  float dis=(dur*0.0343)/2;
```

```
  Serial.print("Distance is: ");
```

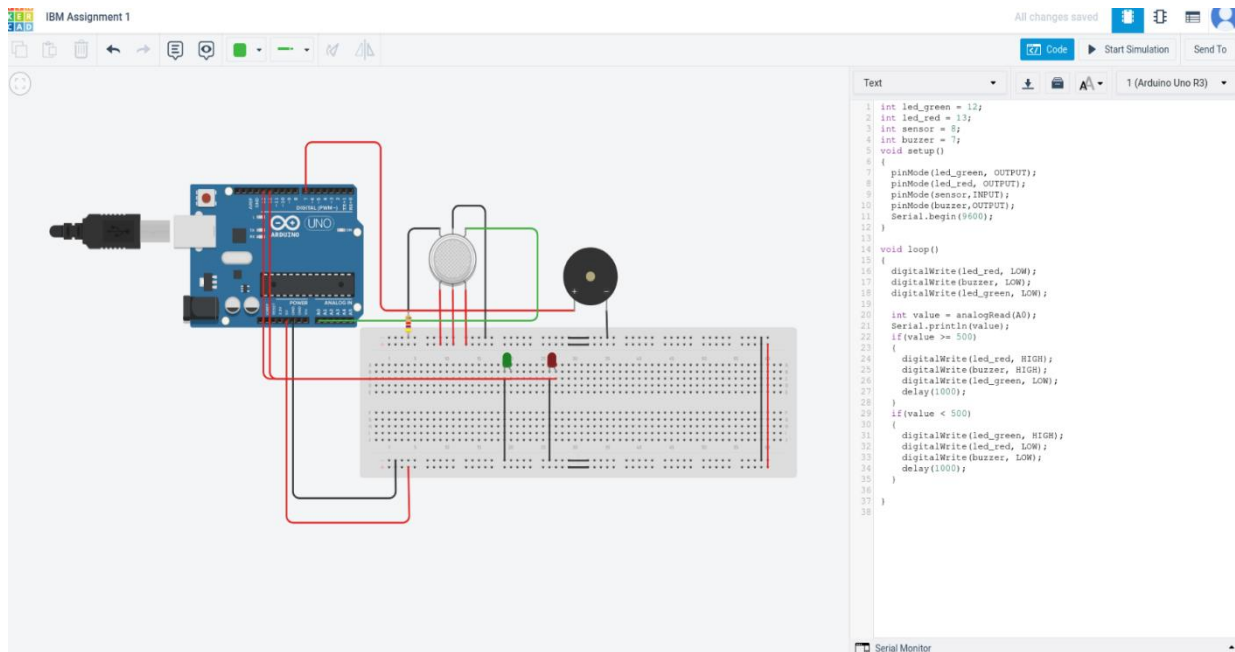
```
  Serial.println(dis);
```

```
//LED ON
if(dis>=100)
{
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
}

//Buzzer For ultrasonic Sensor
if(dis>=100)
{
    for(int i=0; i<=30000; i=i+10)
    {
        tone(12,i);
        delay(1000);
        noTone(12);
        delay(1000);
    }
}
```

```
//Temperate Sensor
double a= analogRead(A0);
double t=((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
Serial.println(t);
delay(1000);
}
}
```

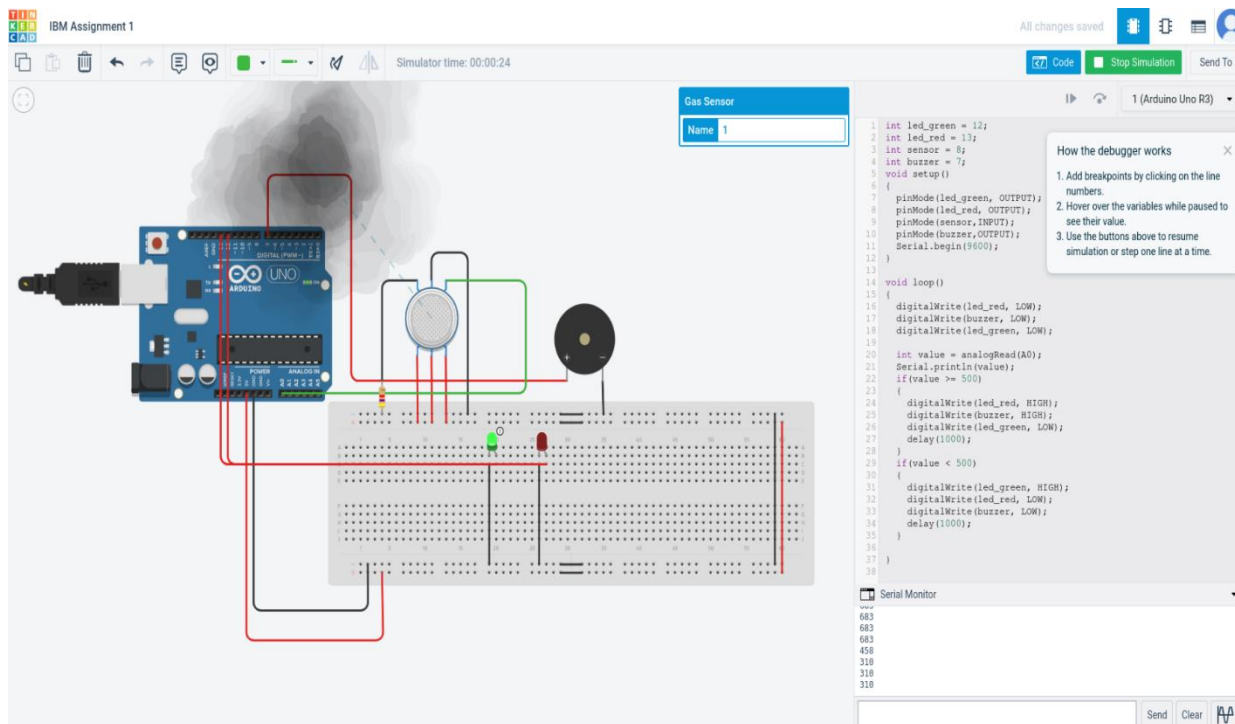
## CIRCUIT WITH CODE:



The screenshot shows the Arduino IDE interface with a circuit diagram on the left and the code on the right. The circuit diagram depicts an Arduino Uno connected to a breadboard. A gas sensor is connected to the Arduino's A0 pin. Two LEDs, one red and one green, are connected to digital pins 12 and 13 respectively. A buzzer is connected to digital pin 7. The code on the right is as follows:

```
1 int led_green = 12;
2 int led_red = 13;
3 int sensor = 8;
4 int buzzer = 7;
5 void setup()
6 {
7   pinMode(led_green, OUTPUT);
8   pinMode(led_red, OUTPUT);
9   pinMode(sensor, INPUT);
10  pinMode(buzzer, OUTPUT);
11  Serial.begin(9600);
12 }
13
14 void loop()
15 {
16   digitalWrite(led_red, LOW);
17   digitalWrite(buzzer, LOW);
18   digitalWrite(led_green, LOW);
19
20   int value = analogRead(A0);
21   Serial.println(value);
22   if(value >= 500)
23   {
24     digitalWrite(led_red, HIGH);
25     digitalWrite(buzzer, HIGH);
26     digitalWrite(led_green, LOW);
27     delay(1000);
28   }
29   if(value < 500)
30   {
31     digitalWrite(led_green, HIGH);
32     digitalWrite(led_red, LOW);
33     digitalWrite(buzzer, LOW);
34     delay(1000);
35   }
36 }
37
38
```

## CIRCUIT WITH OUTPUT:



The screenshot shows the same Arduino IDE interface as above, but with the Serial Monitor open at the bottom. The Serial Monitor displays the output of the code, showing the values read from the gas sensor. The output is as follows:

```
683
683
683
458
318
318
```