

ASSIGNMENT - 1

DATE	17th September 2022
TEAM ID	PNT2022TMID35759
PROJECT NAME	Gas Leakage Monitoring and Alerting System

HOME AUTOMATION SYSTEM

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)//(in terms of centimeter)
```

```
{
```

```
    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);
```

```
//LED ON

if(t>=15)//(in terms of celsius)
{
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
}

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

//LED OFF
if(t<15)
{
    digitalWrite(8,LOW);
    digitalWrite(7,LOW);
}
}
```

Output:

