

ASSIGNMENT – I

DOMAIN:-IOT

TOPIC:-SMART HOME

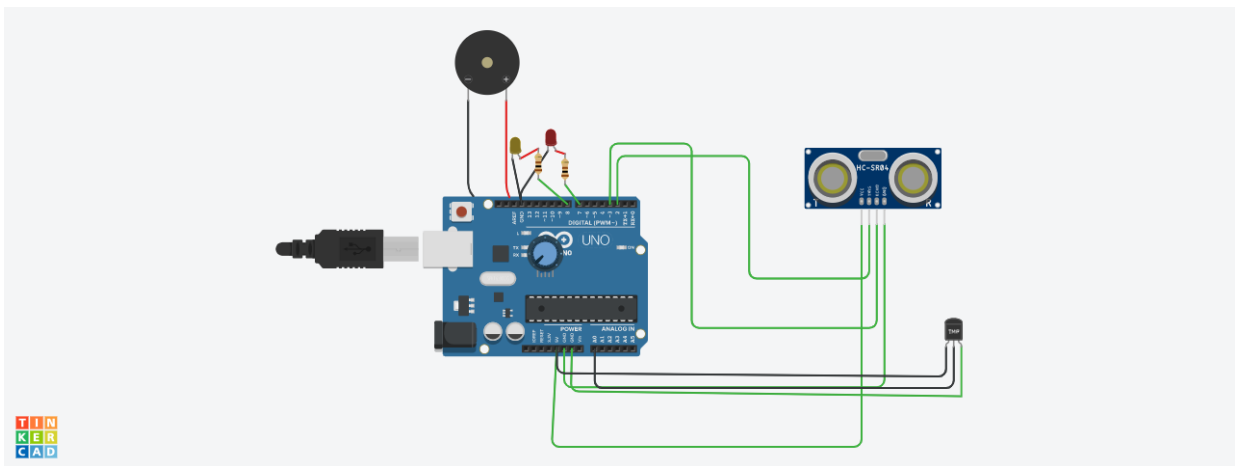
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SMART Home Circuit Connection:



Components Used:

<u>Quantity</u>	<u>Component</u>
1	Arduino Uno R3
1	Ultrasonic Distance Sensor
2	Yellow LED
2	100 Ω Resistor
1	Piezo
1	Red LED
1	100 nF Capacitor
1	250 k Ω Potentiometer
1	Temperature Sensor [TMP36]

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);
```

```
//LED ON  
  
if(t>=100)  
{  
    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<100)  
{  
    digitalWrite(8,LOW);  
    digitalWrite(7,LOW);  
}  
}
```

TINKERCAD LINK:

<https://www.tinkercad.com/things/fRqDDMudAqp-assignment-1/editel?sharecode=9EKlMaKBkcvSSyoZORscH5ohvNBuAFUD37NUus87H-c>