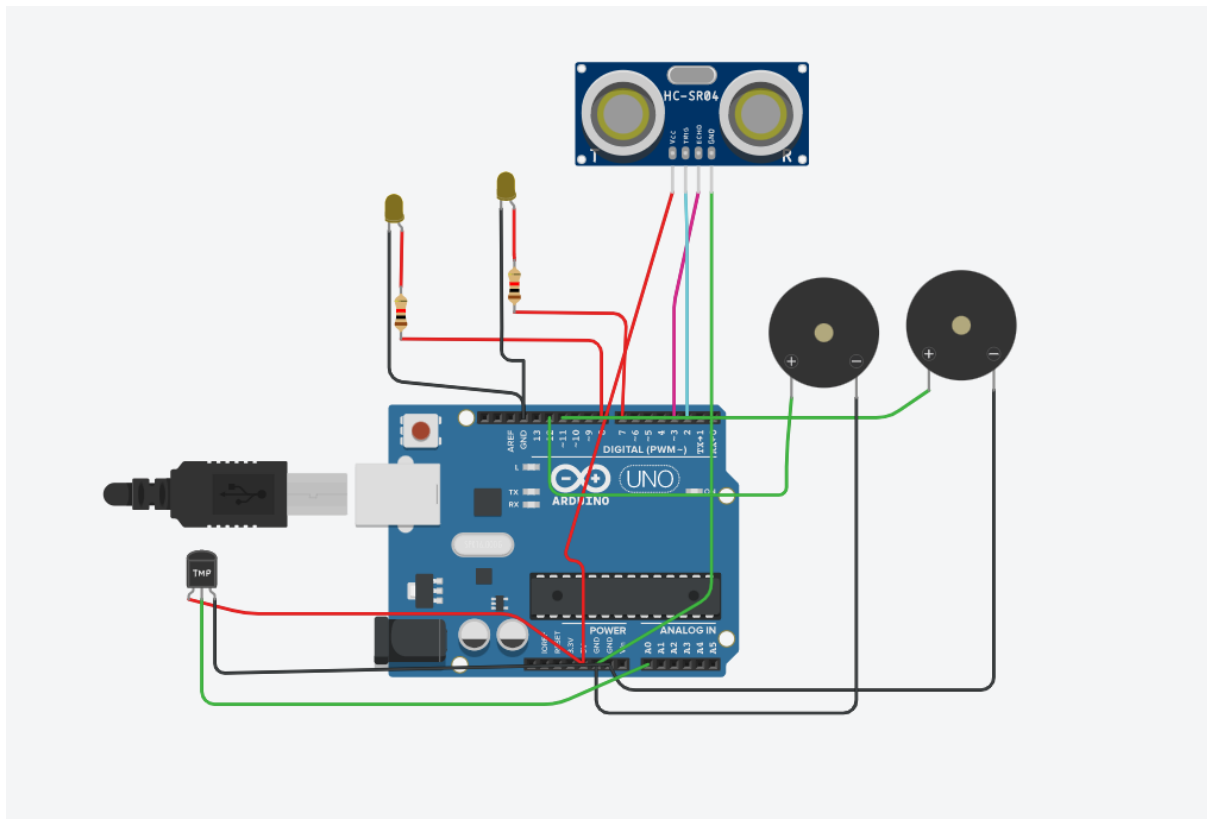# IBM-Nallaiya Thiran Project
Assignment1-Smart Home

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Circuit Diagram:

Source 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>=60)//(in terms of centimeter)
{
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
}

 //Buzzer For ultrasonic Sensor
 if(dis>=60)
 {
 for(int i=0; i<=10; i=i+2)
 {
 tone(12,i);
 delay(1000);
 noTone(12);
 delay(1000);
 }
 }
```

```arduino
  //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>=20)//(in terms of celsius)
{
  digitalWrite(8,HIGH);
  digitalWrite(7,HIGH);
}

//Buzzer for Temperature Sensor
if(t>=20)
{
for(int i=0; i<=10; i=i+2)
{
tone(12,i);
delay(1000);
noTone(12);
delay(1000);
}
}

 //LED OFF
if(t<20)
{
  digitalWrite(8,LOW);
  digitalWrite(7,LOW);
}
```
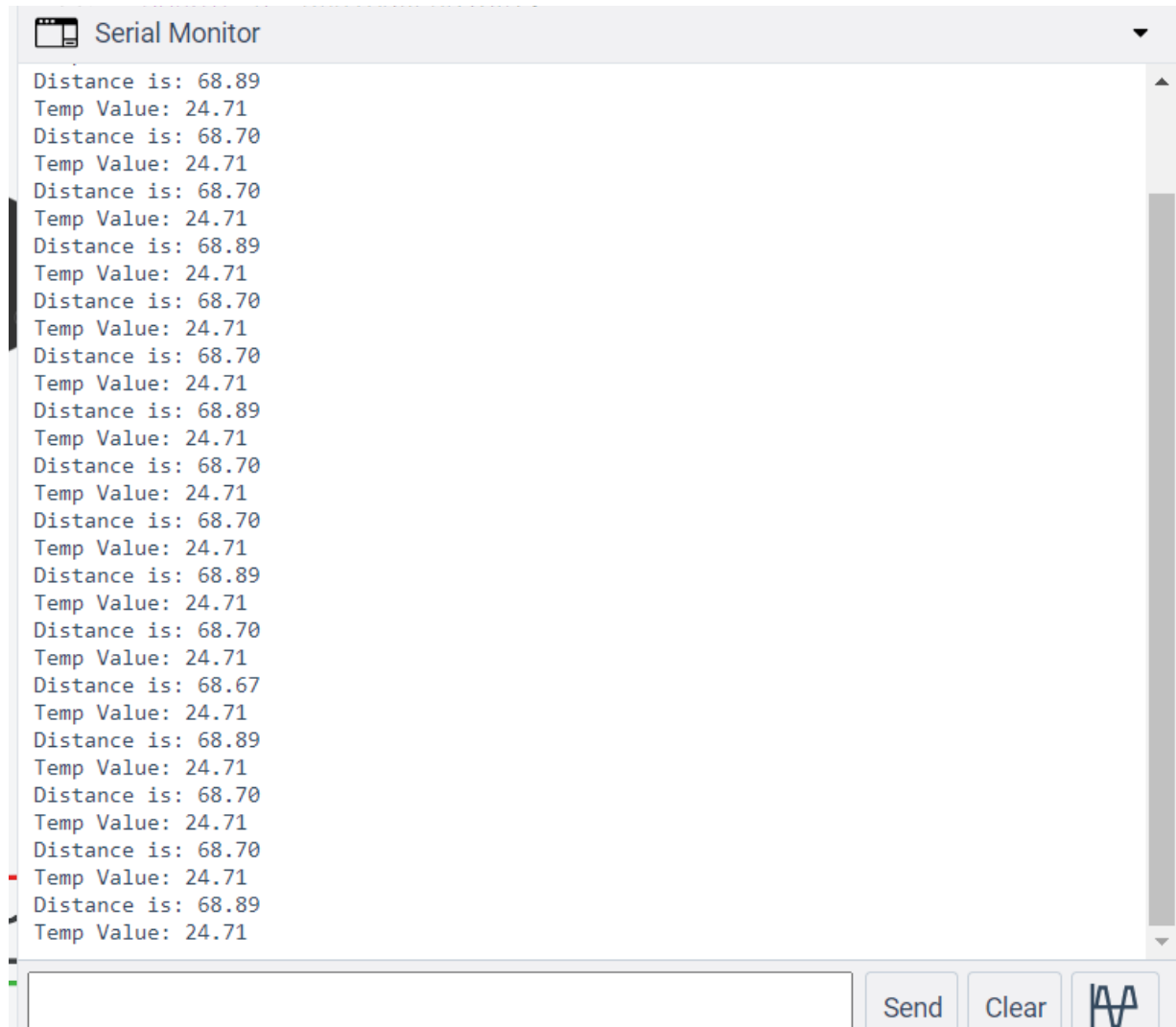
}

Output (Serial Monitor):

```
Serial Monitor                                               ▼

Distance is: 68.89
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.89
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.89
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.89
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.67
Temp Value: 24.71
Distance is: 68.89
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.70
Temp Value: 24.71
Distance is: 68.89
Temp Value: 24.71

                                          Send    Clear    〰
```

Tinkercad Link:

https://www.tinkercad.com/things/dcEdGfoKzhT-daring-uusam/editel?shareco de=agrpeh0DMZQj8S51n-NHOG6aLl_Z_2GMDegryWRn9Co