

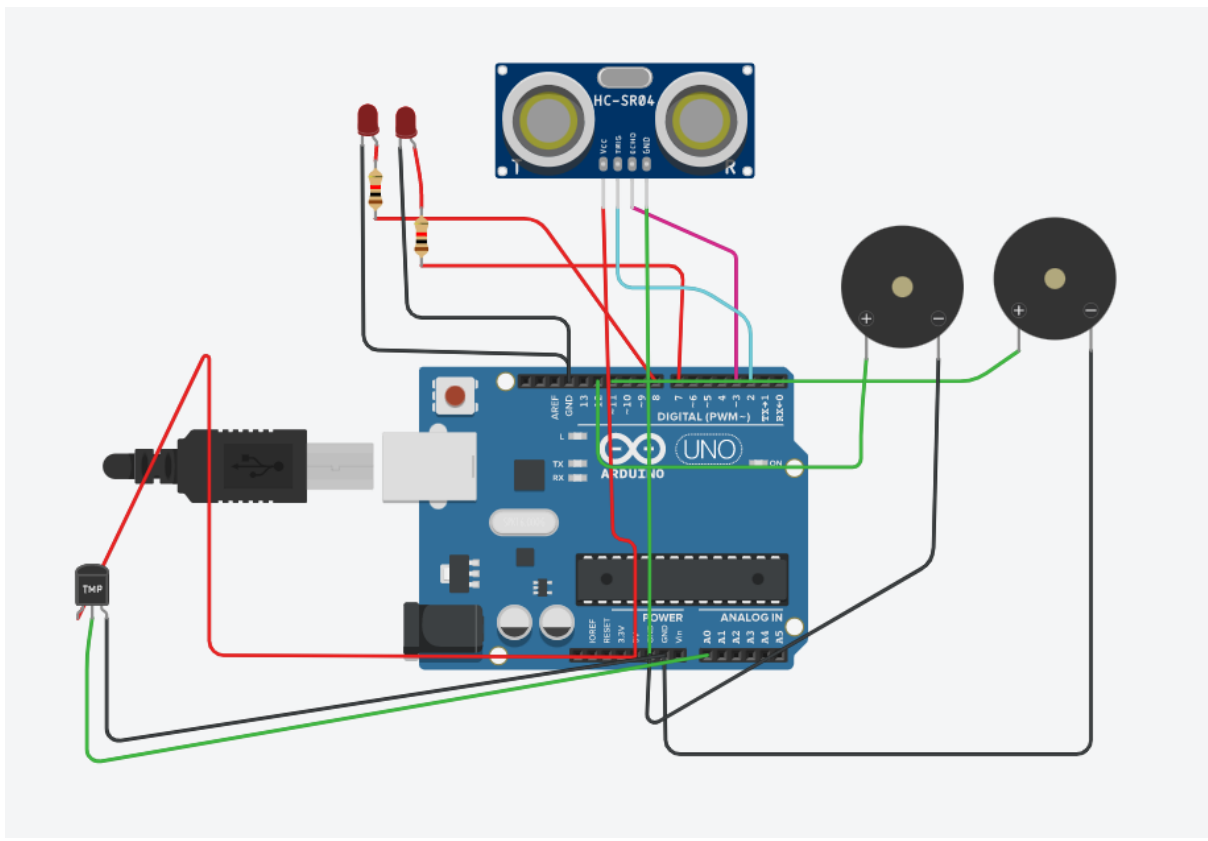
# IBM - NALLAIYA THIRAN PROJECT

## ASSIGNMENT-1 : SMART HOME

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### CIRCUIT DIAGRAM :



### SOURCE CODE :

```
// C++ 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<=5; i=i+1)
    {
      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);

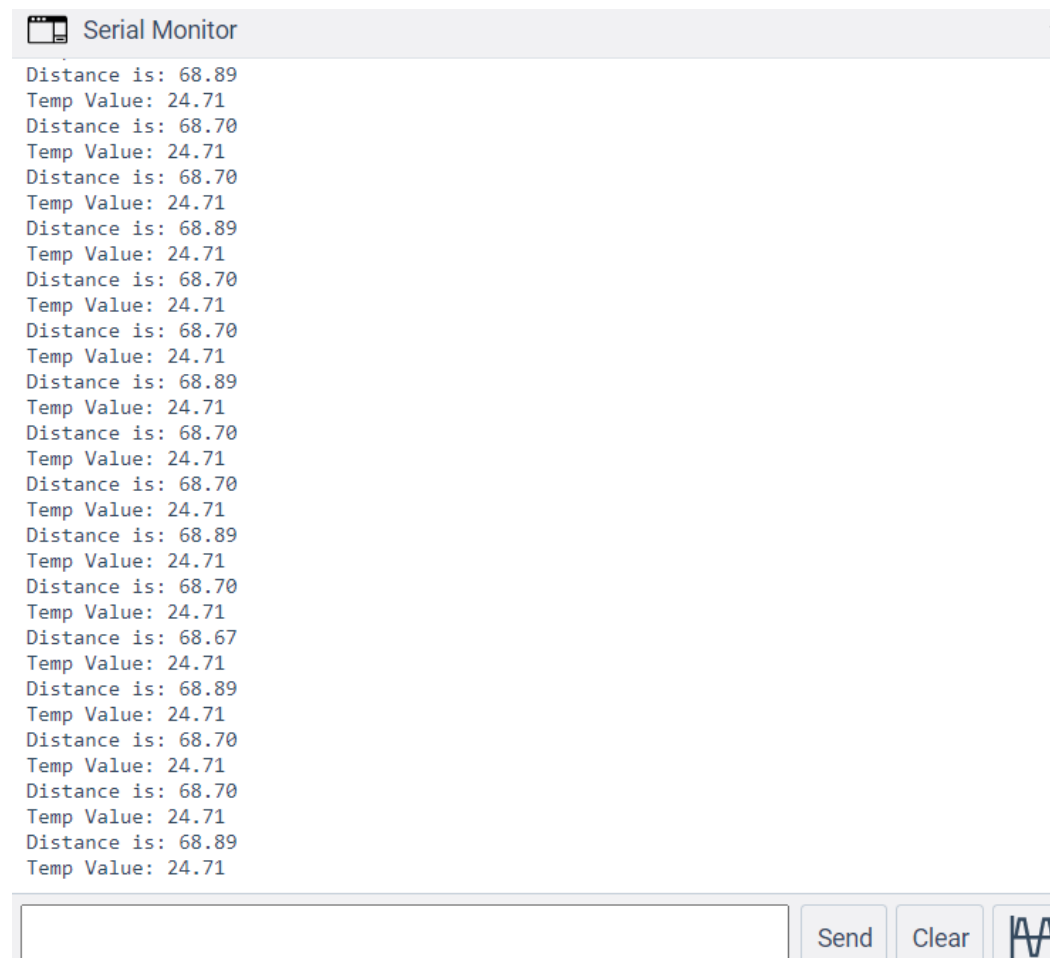
//LED ON
if(t>=20)//(in terms of celsius)
{
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
}

//Buzzer for Temperature Sensor
if(t>=20)
{
    for(int i=0; i<=5; i=i+1)
    {
        tone(12,i);
        delay(1000);
        noTone(12);
        delay(1000);
    }
}

//LED OFF
```

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

### **OUTPUT (SERIAL MONITOR) :**



### **TINKERCAD LINK:**

[https://www.tinkercad.com/things/2zhpSa6w0em-terrific-jaban-jaagub/editel?sharecode=ooLJV6X\\_pehlyNOeMcca\\_noP1N8VxNZ2gezrcMH8bvU](https://www.tinkercad.com/things/2zhpSa6w0em-terrific-jaban-jaagub/editel?sharecode=ooLJV6X_pehlyNOeMcca_noP1N8VxNZ2gezrcMH8bvU)