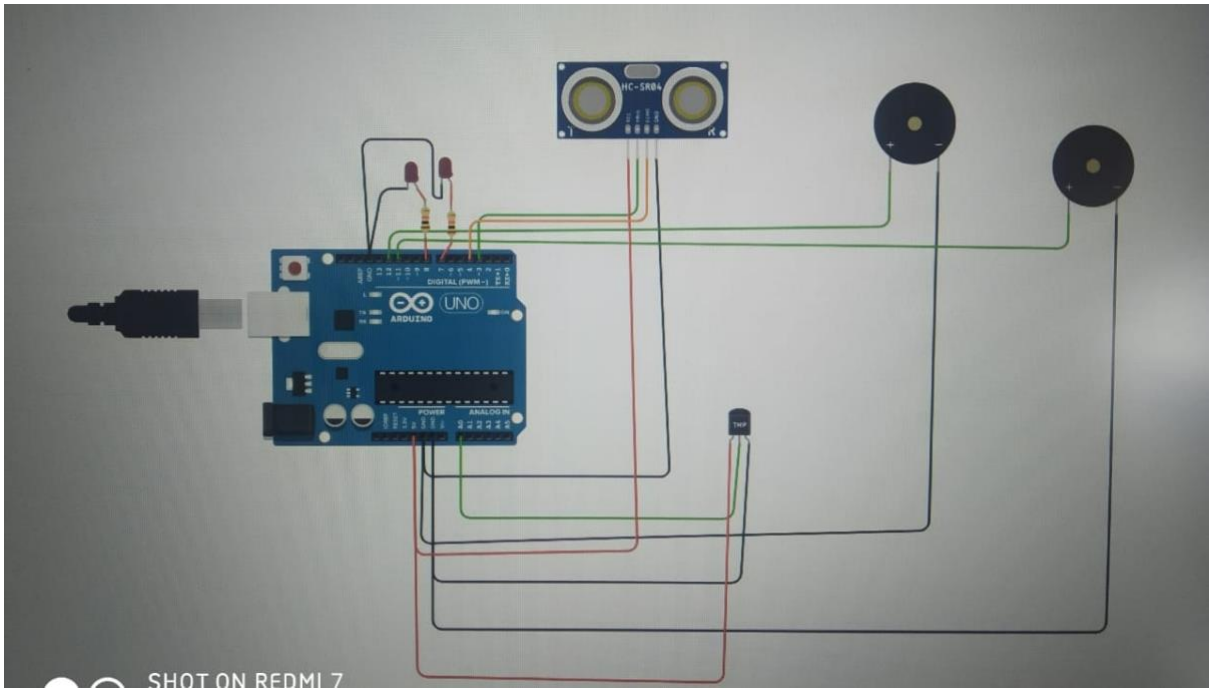
IBM-Nallaiya Thiran Project

Assignment 1-Smart Home

-R.Praveena

-960219106101

CIRCUIT DIAGRAM:



SOURCE CODE:

```
int t=2;
int e=3;
void setup()
{
  Serial.begin(9600);
```

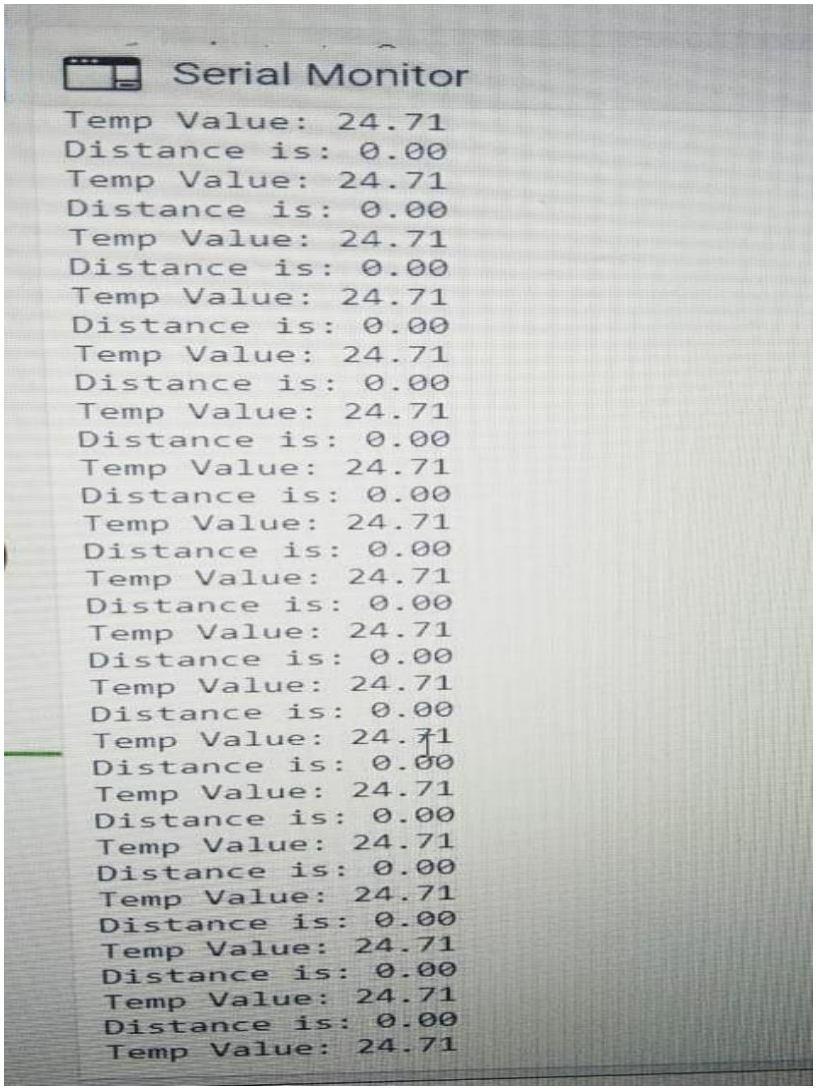
```
 pinMode(t,OUTPUT);
  pinMode(e,INPUT);
  pinMode(12,OUTPUT);
}

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>=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)
```

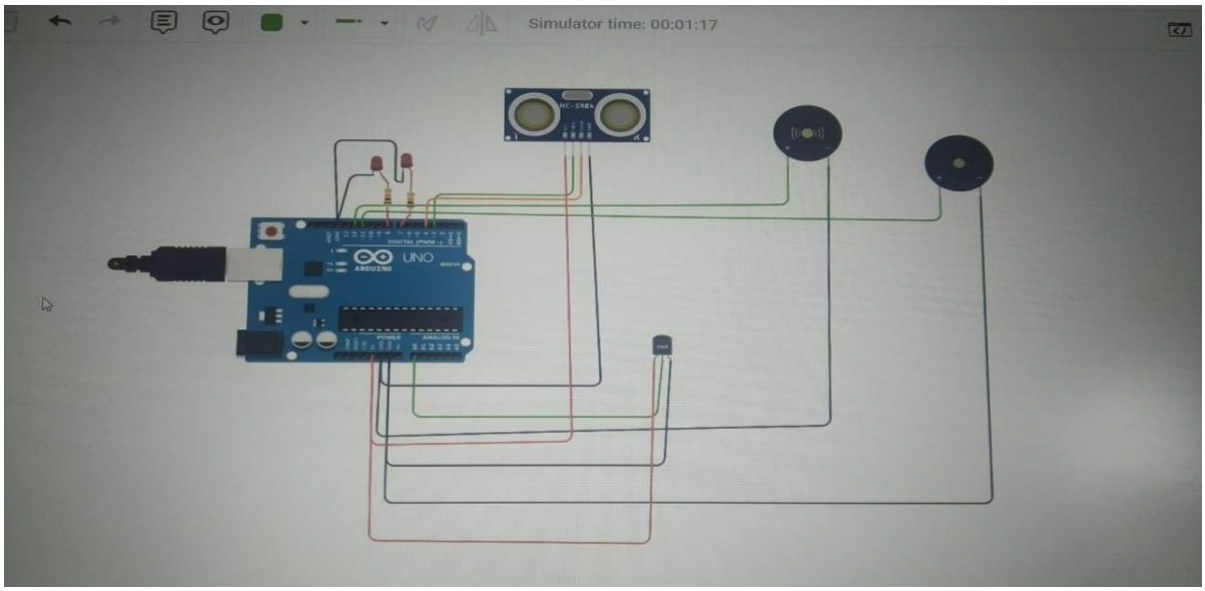
```
  {
    digitalWrite(8,HIGH);
    digitalWrite(7,HIGH);
  }

  //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/az10JSIAW3K-smart-sensor/editel

OUTPUT:


Serial Monitor
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71
Distance is: 0.00
Temp Value: 24.71


Simulator time: 00:01:17
UNO