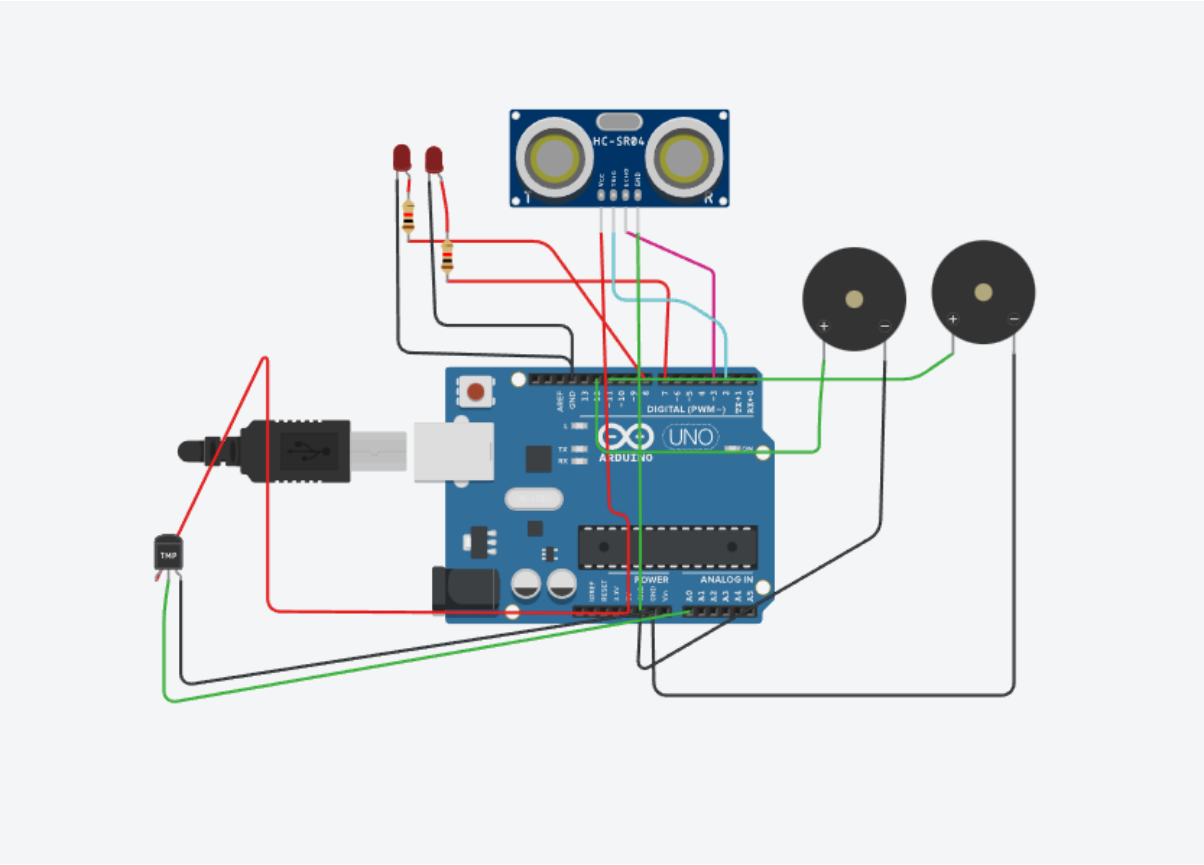
IBM-Nallaiya Thiran Project
Assignment1-Smart Home

ANTONY GUNAL P
2019503006

Circuit Diagram:



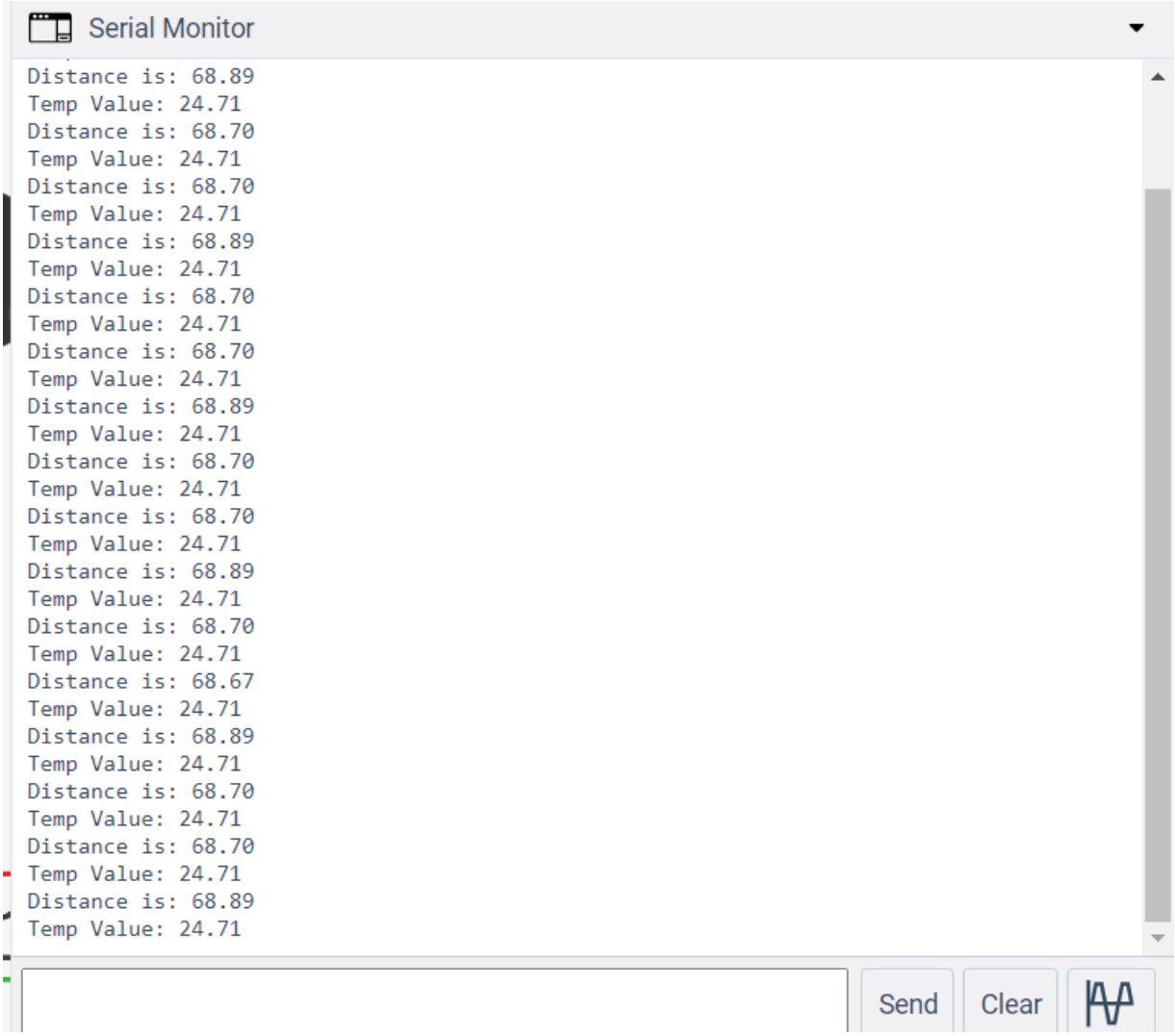
Source Code :

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

Output (Serial Monitor):



Tinkercad Link:

https://www.tinkercad.com/things/kYcyM1UKDW9-glorious-trug-kup/editel?sharecode=PNznT5MqDVya1hlNSESy3G2Fg4vKznWRJV_7RGBzpzo