IBM - NALLAIYA THIRAN PROJECT

ASSIGNMENT 1 – SMART HOME

- **Athira I**
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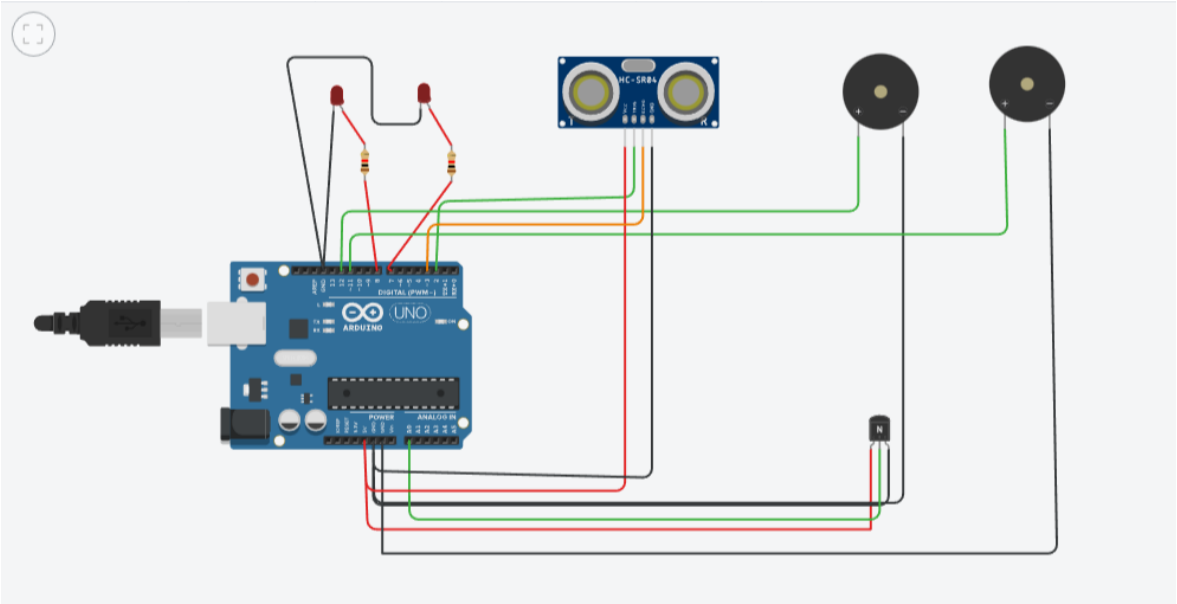
Circuit Diagram:



Source Code:

```
// C++ code
//
int t=2;
int e=3;
void setup()
{
Serial.begin(9600);
pinMode(t,OUTPUT);
pinMode(e,INPUT);
pinMode(12,OUTPUT);
```

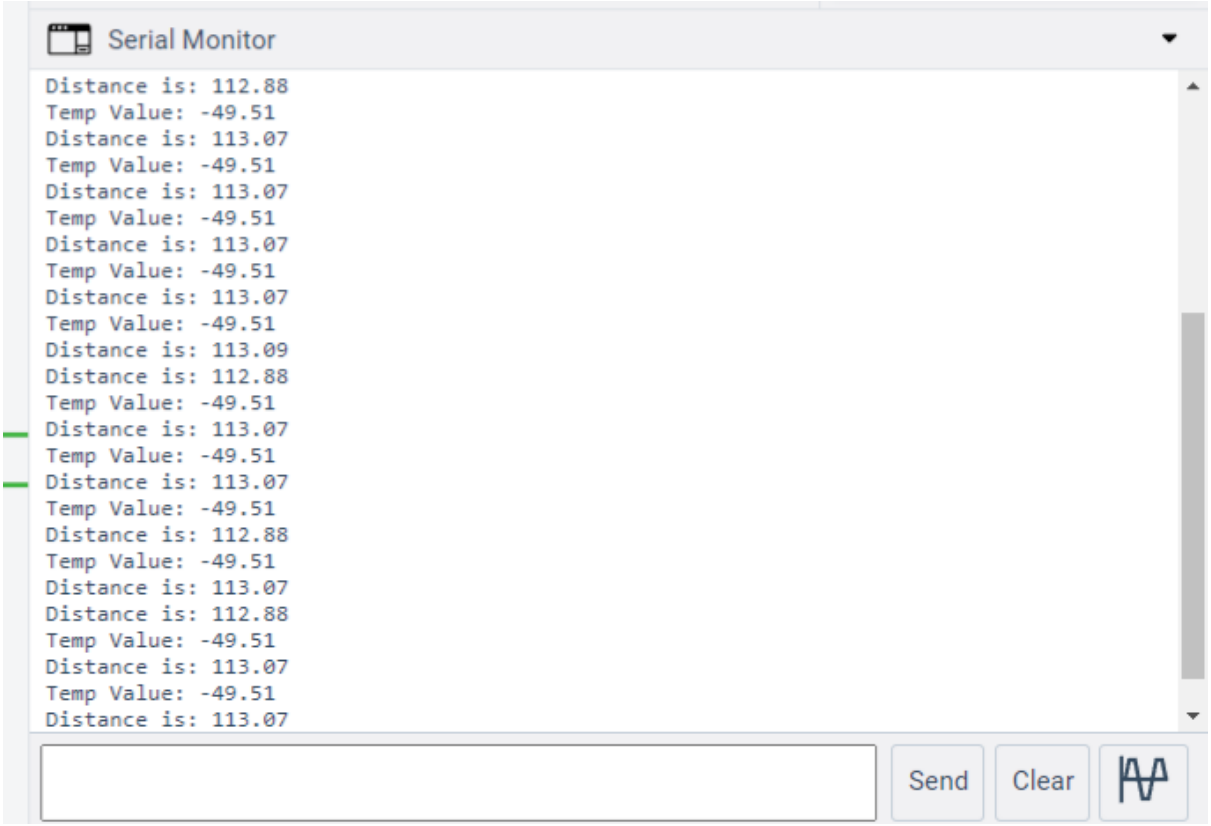
```
}
void loop()
{

//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);
}
}

//Temperature Sensor
```

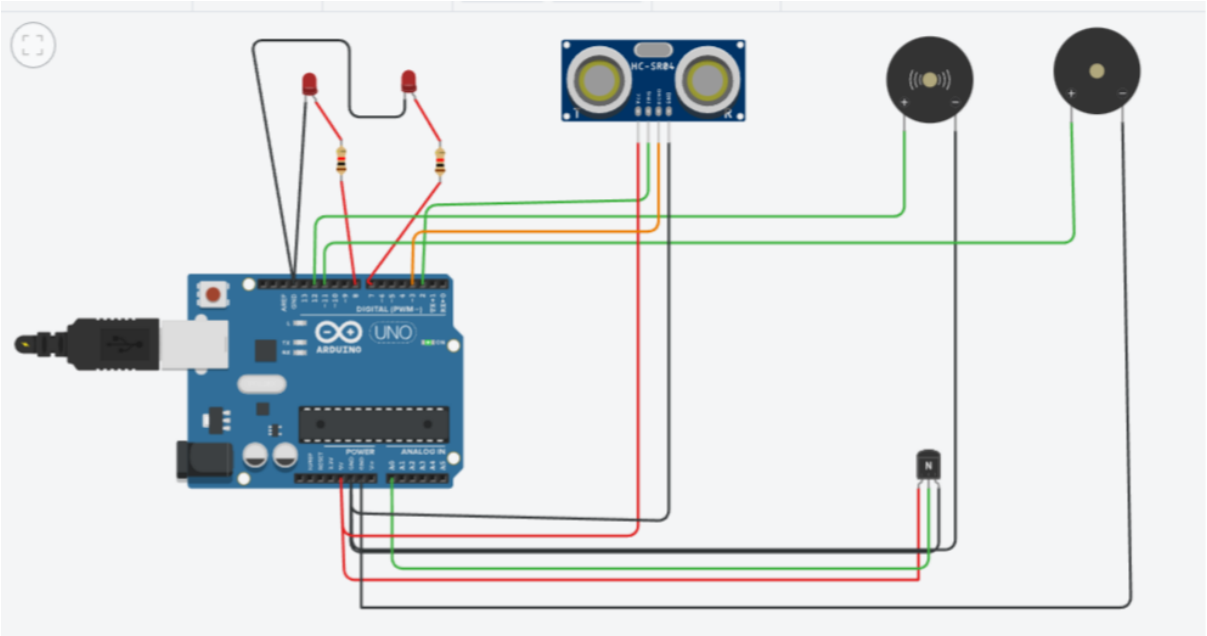
```
double a= analogRead(A0);
double t=(((a/1024)*5)-0.5)*100;
Serial.print("Temp Value: ");
Serial.println(t);
delay(1000);

//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);
}
}
```

Tinkercad Link:

https://www.tinkercad.com/things/7FmcAqiwR8B-sizzling-fulffy/editel?tenant=circuits

Output:

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