

IBM – NALLAIYA THIRAN

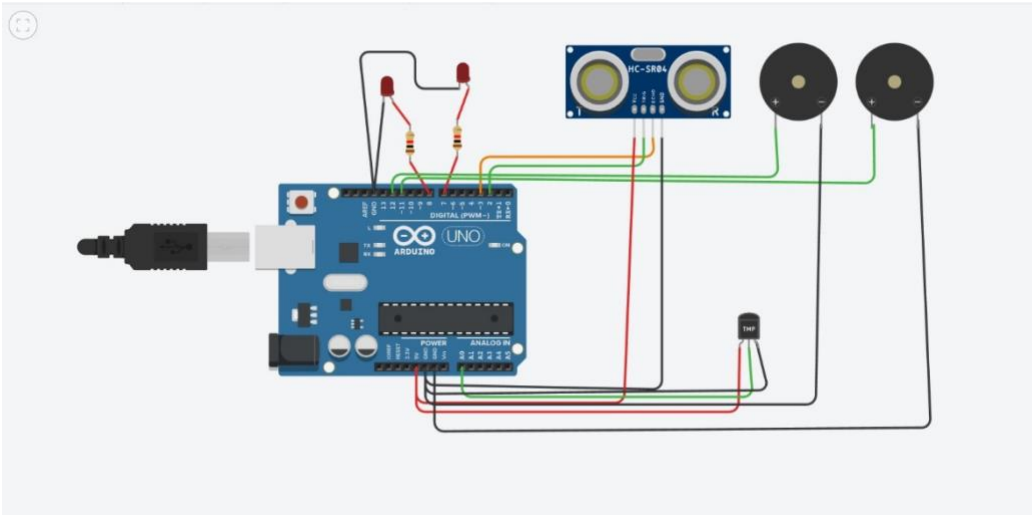
PROJECT ASSIGNMENT 1

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>=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);
}
}
```

THINKERCAD LINK: <https://www.tinkercad.com/things/jvyDDT4fRT1-funky-robo-jaban/editel?tenant=circuits>

#### OUTPUT:

Temp Value: 24.71  
Distance is: 81.77  
Temp Value: 24.71  
Distance is: 81.58  
Temp Value: 24.71  
Distance is: 81.75  
Temp Value: 24.71  
Distance is: 81.57  
Temp Value: 24.71  
Distance is: 81.58  
Temp Value: 24.71  
Distance is: 81.75  
Temp Value: 24.71  
Distance is: 81.57  
Temp Value: 24.71  
Distance is: 81.75  
Temp Value: 24.71  
Distance is: 81.77  
Temp Value: 24.71  
Distance is: 81.58  
Temp Value: 24.71  
Distance is: 81.75  
Temp Value: 24.71  
Distance is: 81.75  
Temp Value: 24.71

