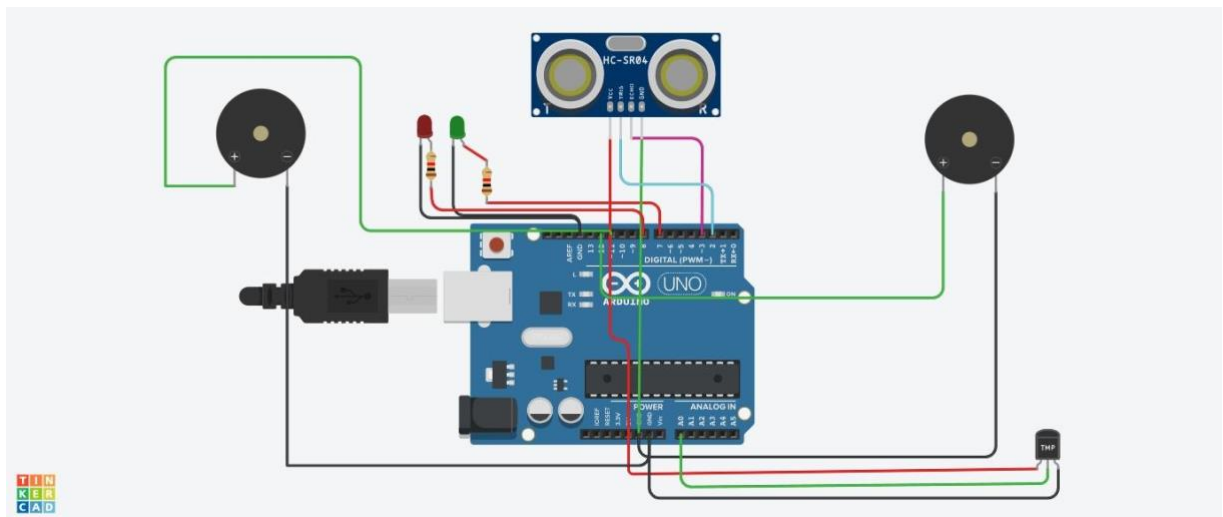


IBM - Nallaiya Thiran Project

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);  
    }  
}
```

Tinkercad Link:

<https://www.tinkercad.com/things/fBj9ShEFBG8>

Output:

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.86

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

Temp Value: 24.71

Distance is: 112.88

