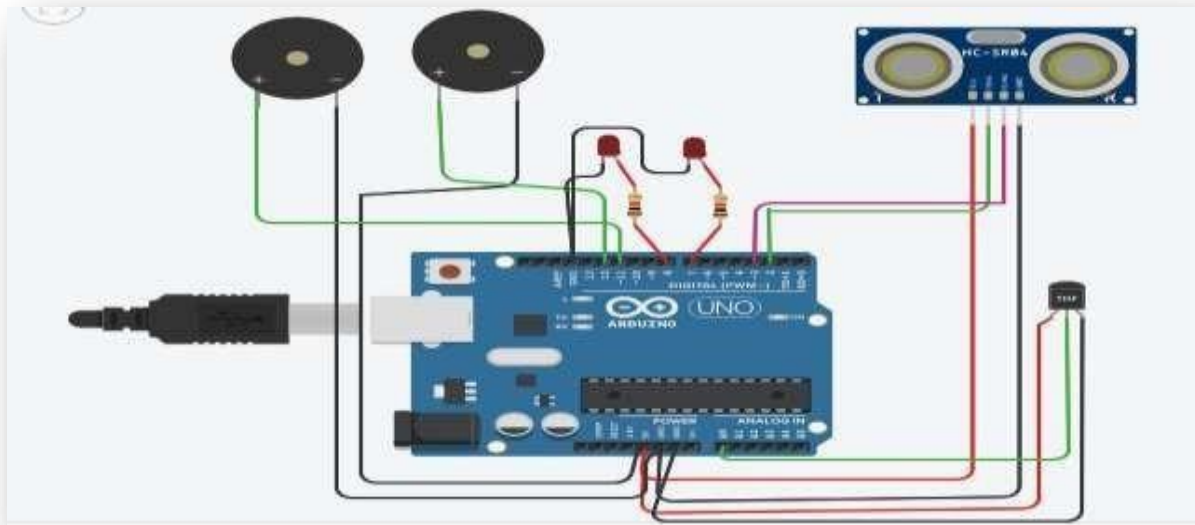# IBM-Nallaiya Thiran Project
Assignment 1-Smart Home

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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);
```

```arduino
}
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:

OUTPUT:

```
Serial Monitor                                                    ▼

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
Temp Value: 24.71
Distance is: 112.86
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
Distance is: 112.88
Temp Value: 24.71
```

Activate Windows
Go to Settings to activate Windows.

Send   Clear