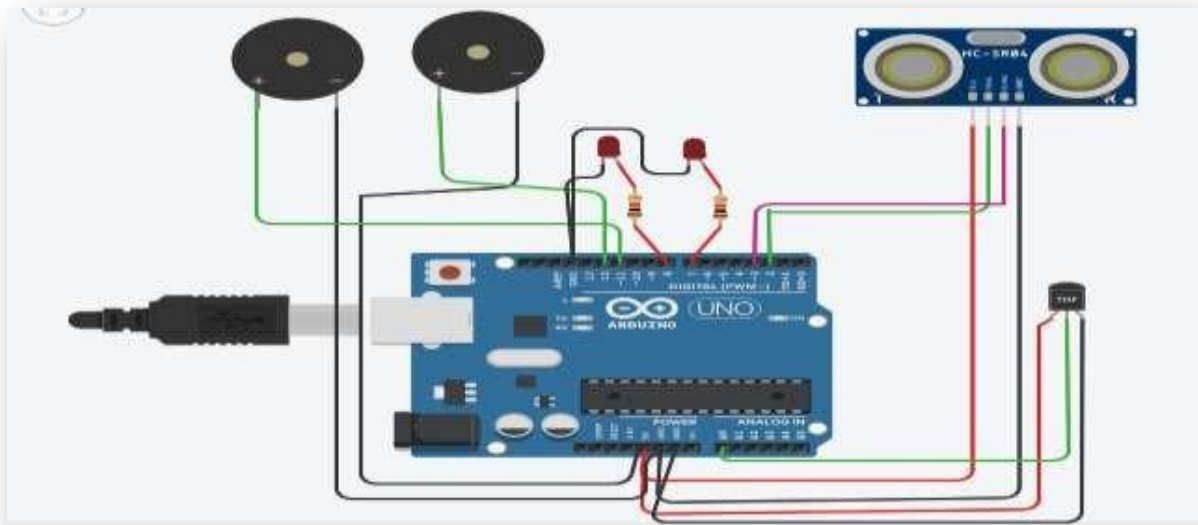


## IBM-Nallaiya Thiran Project Assignment 1-Smart Home

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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>=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/eeim3ZXwWP6-smart-home/editel>**

**OUTPUT:**

