

**IBM-Nalaiya Thiran**

**Project**

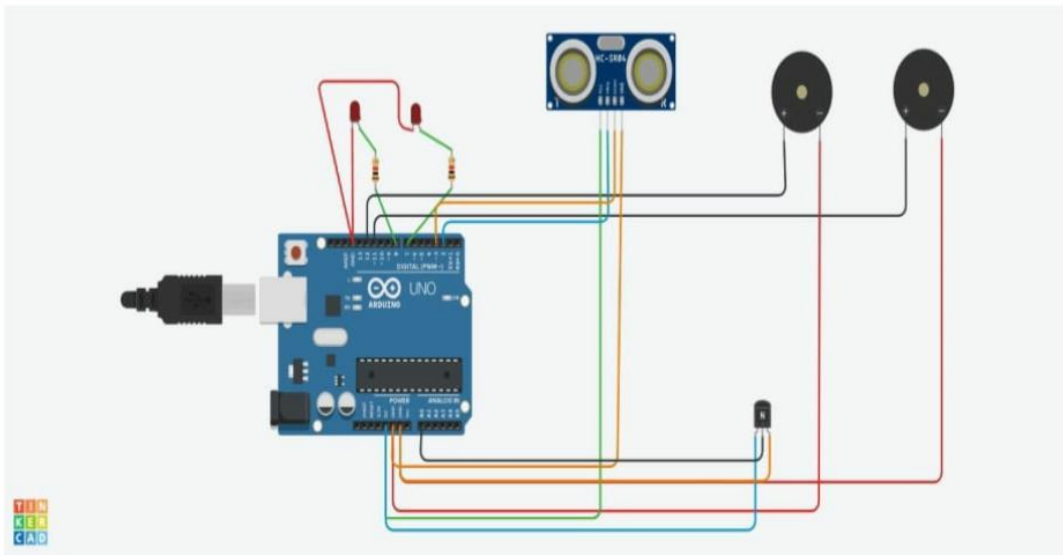
**Assignment -1**

**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);  
}  
}
```

**Tinkercard Link :** <https://www.tinkercad.com/things/2wqhhLZIBKG-fantastic-bigery/editel>

Output :



## Serial Monitor

Distance is: 178.69  
Distance is: 83.23  
Temp Value: -49.51  
Distance is: 83.42  
Temp Value: -49.51  
Distance is: 83.23  
Temp Value: -49.51  
Distance is: 83.42  
Temp Value: -49.51  
Distance is: 83.23  
Temp Value: -49.51  
Distance is: 83.23  
Temp Value: -49.51  
Distance is: 83.42  
Temp Value: -49.51  
Distance is: 155.31

Send

Clear

