

## smart home -rajappa

assignment- <https://wokwi.com/projects/363142398925863937>

```
//define variables
#define trigerPin 12
#define echoPin 13
#define ledPin 2
#define speakerPin 10
#define pitch 262

double duration,distance;

void setup() {
  //setup for sensor
  Serial.begin(9600);
  pinMode(trigerPin,OUTPUT);
  pinMode(echoPin,INPUT);

  //setup for LED
  pinMode(ledPin,OUTPUT);

  //setup for speaker
  pinMode(speakerPin,OUTPUT);
}

void loop() {
  //looping sensor(create sound wave)
  digitalWrite(trigerPin,LOW);
  delayMicroseconds(2);
  digitalWrite(trigerPin,HIGH);
  delayMicroseconds(10);
  digitalWrite(trigerPin,LOW);
  delayMicroseconds(2);

  //getduration
  duration = pulseIn(echoPin,HIGH);

  //caculate distance
```

```
distance = (duration/2) * 0.0343;

//consider maximum width of the door = 200 cm

if(distance<200){
    digitalWrite(ledPin,HIGH);
    tone(speakerPin, pitch);
    delay(300);

    digitalWrite(ledPin, LOW);
    noTone(speakerPin);
    delay(300);
}
else{
    digitalWrite(ledPin,LOW);
    noTone(speakerPin);
}
}
```

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https://wokwi.com/projects/363137969400744961

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```
1
2 //define variables
3 #define triggerPin 12
4 #define echoPin 13
5 #define ledPin 2
6 #define speakerPin 10
7 #define pitch 262
8
9 double duration,distance;
10
11 void setup() {
12   //setup for sensor
13   Serial.begin(9600);
14   pinMode(triggerPin,OUTPUT);
15   pinMode(echoPin,INPUT);
16
17   //setup for LED
18   pinMode(ledPin,OUTPUT);
19
20   //setup for speaker
21   pinMode(speakerPin,OUTPUT);
22 }
23
24
25 void loop() {
26   //looping sensor(create sound wave)
27   digitalWrite(triggerPin,LOW);
28   delayMicroseconds(2);
29   digitalWrite(triggerPin,HIGH);
30   delayMicroseconds(10);
31   digitalWrite(triggerPin,LOW);
32   delayMicroseconds(10);
33 }
```

Simulation

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Library Manager

Simulation

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25 void loop() {
26   //looping sensor(create sound wave)
27   digitalWrite(triggerPin,LOW);
28   delayMicroseconds(2);
29   digitalWrite(triggerPin,HIGH);
30   delayMicroseconds(10);
31   digitalWrite(triggerPin,LOW);
32   delayMicroseconds(2);
33
34   //getduration
35   duration = pulseIn(echoPin,HIGH);
36
37   //caculate distance
38   distance = (duration/2) * 0.0343;
39
40   //consider maxium width of the door = 200 cm
41
42   if(distance<200){
43     digitalWrite(ledPin,HIGH);
44     tone(speakerPin, pitch);
45     delay(300);
46
47     digitalWrite(ledPin, LOW);
48     noTone(speakerPin);
49     delay(300);
50   }
51   else{
52     digitalWrite(ledPin,LOW);
53     noTone(speakerPin);
54   }
55 }
56
```

