

Assignment-4

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Write code and Connection in wokwi for ultrasonic sensor. whenever distance is less than 100 cms send alert to ibm cloud and display in device recent events.

CODE:

```
#define trigPin 12

#define echoPin 13

int Buzzer = 8; // Connect buzzer pin to 8

int ledPin= 6; //Connect LEd pin to 6

int duration, distance; //to measure the distance and time taken

void setup() {

    Serial.begin (9600);

    //Define the output and input objects(devices)

    pinMode(trigPin, OUTPUT);

    pinMode(echoPin, INPUT);

    pinMode(Buzzer, OUTPUT);

    pinMode(ledPin, OUTPUT);

}

void loop() {

    digitalWrite(trigPin, HIGH);

    delayMicroseconds(10);

    digitalWrite(trigPin, LOW);
```

```

duration = pulseIn(echoPin, HIGH);

distance = (duration/2) / 29.1;

if (distance >= 200 || distance <= 0)

{

    Serial.println("no object detected");

    digitalWrite(Buzzer,LOW);

    digitalWrite(ledPin,LOW);

}

else {

    Serial.println("object detected \n");

    Serial.print("distance= ");

    Serial.print(distance);    //prints the distance if it is between the range 0 to 200

    tone(Buzzer,400);         // play tone of 400Hz for 500 ms

    digitalWrite(ledPin,HIGH);

}

}

```

Output:

