

### Assignment -4

Assignment Date	23 October 2022
Student Name	Mr.R.Sharadh
Student Roll Number	AC19UCS103
Maximum Marks	2 Marks

#### Question-1:

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

Solution :

```
#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;
//when distance is less than or equal to 100,the buzzer and LED are off
if (distance <= 100)
{
    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
less than 100
    tone(Buzzer,400);        // play tone of 400Hz for 500 ms
    digitalWrite(ledPin,HIGH);
}
}
```