## ASSIGNMENT – 4

**Write a code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 cms "send" alert to IBM Cloud and display in device recent events**

**Coding:**

```
//set pins
#define echoPin 7
#define trigPin 6

//initialise variables
long duration;
int distance;

void setup(){
//set input and output
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  Serial.begin(9600);
//create serial connections
}

void loop() {
//set trigger pin to low
  digitalWrite(trigPin, LOW);
//apply delay
  delayMicroseconds(2);
//set trigger pin high
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
//set trigger pin low
  duration = pulseIn(echoPin, HIGH);//find the pulse in the echo pin
  distance = duration * 0.034 / 2;//formula for finding the distance
  Serial.print("Distance: ");
  Serial.print(distance);//print distance
  Serial.println(" cm");
  if(distance<100){
    Serial.println("Alert");//if distance greater than 100cm alert
  }
}
```

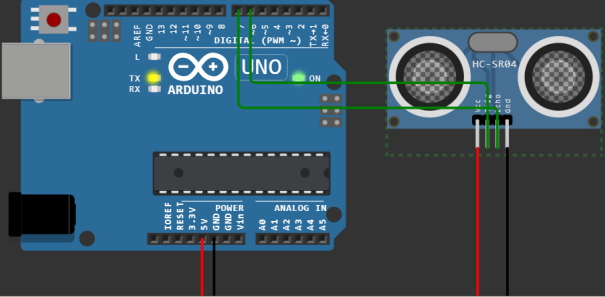# Output

```c
1   //set pins
2   #define echoPin 7
3   #define trigPin 6
4
5   //initialise variables
6   long duration;
7   int distance;
8
9   void setup(){
10  //set input and output
11    pinMode(trigPin, OUTPUT);
12    pinMode(echoPin, INPUT);
13    Serial.begin(9600);
14  //create serial connections
15  }
16
17  void loop() {
18  //set trigger pin to low
19    digitalWrite(trigPin, LOW);
20  //apply delay
21    delayMicroseconds(2);
22  //set trigger pin high
23    digitalWrite(trigPin, HIGH);
24    delayMicroseconds(10);
25    digitalWrite(trigPin, LOW);
26  //set trigger pin low
27    duration = pulseIn(echoPin, HIGH);//find the pulse in
28    distance = duration * 0.034 / 2;//formula for finding
29    Serial.print("Distance: ");
30    Serial.print(distance);//print distance
31    Serial.println(" cm");
32    if(distance<100){
33      Serial.println("Alert");//if distance greater than 1
34    }
35  }
36
```

Simulation

⏱ 00:05.933  ◔ 49%

Editing Ultrasonic Distance Sensor ✕

Distance: ▭▬▬▬▬92cm

HC-SR04

```
Alert
Distance: 90 cm
Alert
Distance: 90 cm
Alert
Distance: 90 cm
Alert
```