Assignment -4

Assignment Date	18 November 2022
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Maximum Marks	2 Marks

Question:

Write code and connections in wokwi for the ultrasonic sensor.

Whenever the distance is less than 100 cms send an "alert" to the IBM cloud and display in the 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;
    //when distance is greater than or equal to 200 OR less than or equal to 0,the buzzer and
LED are off
  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: