TEAM ID-PNT2022TMID02748

ASSIGNMENT - 4

Write Code and connections in wokwi for ultrasonic sensor. whateverdistance is less than 100 cms send “Alert” to ibm cloud and display in device recent events.

CODE:

```
const int TRIG_PIN   = 6; // Arduino pin connected to Ultrasonic Sensor's TRIG pin
const int ECHO_PIN   = 7; // Arduino pin connected to Ultrasonic Sensor's ECHO pin
const int BUZZER_PIN = 3; // Arduino pin connected to Piezo Buzzer's pin
const int DISTANCE_THRESHOLD = 50; // centimeters

// variables will change:
float duration_us, distance_cm;

void setup() {
  Serial.begin (9600);         // initialize serial port
  pinMode(TRIG_PIN, OUTPUT);   // set arduino pin to output mode
  pinMode(ECHO_PIN, INPUT);    // set arduino pin to input mode
  pinMode(BUZZER_PIN, OUTPUT); // set arduino pin to output mode
}

void loop() {
  // generate 10-microsecond pulse to TRIG pin
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);

  // measure duration of pulse from ECHO pin
  duration_us = pulseIn(ECHO_PIN, HIGH);
  // calculate the distance
  distance_cm = 0.017 * duration_us;

  if(distance_cm < DISTANCE_THRESHOLD)
  {
    tone(BUZZER_PIN,1000);
    digitalWrite(BUZZER_PIN, HIGH);
  }

     // turn on Piezo Buzzer
  else
    digitalWrite(BUZZER_PIN, LOW);  // turn off Piezo Buzzer
     noTone(BUZZER_PIN);
  // print the value to Serial Monitor
  Serial.print("distance: ");
  Serial.print(distance_cm);
```

```
  Serial.println(" cm");

  delay(500);
}
```