

B7-1A3E

Assignment Date	15 October 2022
Team ID	IBM-Project-17289-1659633579
Project Name	Assignment 4
Maximum Marks	2 Marks

Question-1:

Write 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.

Solution:-

```
const int TRIGpPIN = 7;
const int ECHOpPIN = 8;
const unsigned int MAXpDIST = 23200;
void setup() (
pinMode(TRIGpPIN, OUTPUT);
digitalWrite (TRIGpPIN, LOW);
pinMode(ECHO PIN, INPUT);
Serial.begin(9600);
void loop() (
unsigned long t1;
unsigned long t2;
unsigned long pulsewidth;
float cm;
float inches;
digitalWrite(TRIGpPIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIGpPIN, LOW);
while ( digitalRead(ECHO_PIN) == 0 );
t1 = micros();
while ( digitalRead(ECHO_PIN) == 1);
t2 = micros();
pulsewidth = t2 - t1;
cm = pulsewidth / 58.0;
inches = pulsewidth / 148.0;
if ( pulsewidth > MAX DIST ) (
Serial.println("Out of range");
} else (
Serial.println("*****");
Serial.print("The Measured Distance in cm : ");
Serial.println(cm);
if(cm>100){
Serial.println("Alert !!!");
delay(1000);
```

Output:-

If the distance is less than 100cms it alerts.



If the distance is more than 100cms it doesn't alert.



Simulation and Code Execution:-



