

### Assignment-4

TEAM ID	PNT2022TMID46884
MAXIMUM MARK	2 MARKS

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

Code

```
// put your setup code here, to run once:

const int TRIG_PIN = 7 ; const int ECHO_PIN = 8;

//Anything over 400 cm (23200 us pulse) is "out of range" const
unsigned int MAX_DIST = 23200;

void setup() {

// The Trigger pin will tell the sensor to range find
pinMode(ECHO_PIN, OUTPUT );

digitalWrite(TRIG_PIN, LOW);

//Set Echo pin as input to measure the duration of //pulses coming back
from the distance sensor

pinMode(ECHO_PIN, INPUT ) ;

// We'll use the serial monitor to view the sensor output
Serial.begin(9600);

}

void loop() {

unsigned long t1; unsigned long t2;
```

```

unsigned long pulse_width; float cm;
float inches;

// Hold the trigger pin high for at least 10 us digitalWrite(TRIG_PIN,
HIGH); delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);

// Wait for pulse on echo pin
while (digitalRead( ECHO_PIN )==0 );

// Measure how long the echo pin was held high (pulse width) // Note:
the micros() counter will overflow after-70 min
t1= micros ();
while (digitalRead(ECHO_PIN) == 1); t2= micros ();
pulse_width = t2-t1;

// Calculate distance in centimeters and inches. The constants
//are found in the datasheet, and calculated from the assumed speed
// of sound in air at sea level (- 340m/s) cm = pulse_width/58;
inches = pulse_width/148.0;

//Print out results
if (pulse_width>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!!");
```

```
}
```

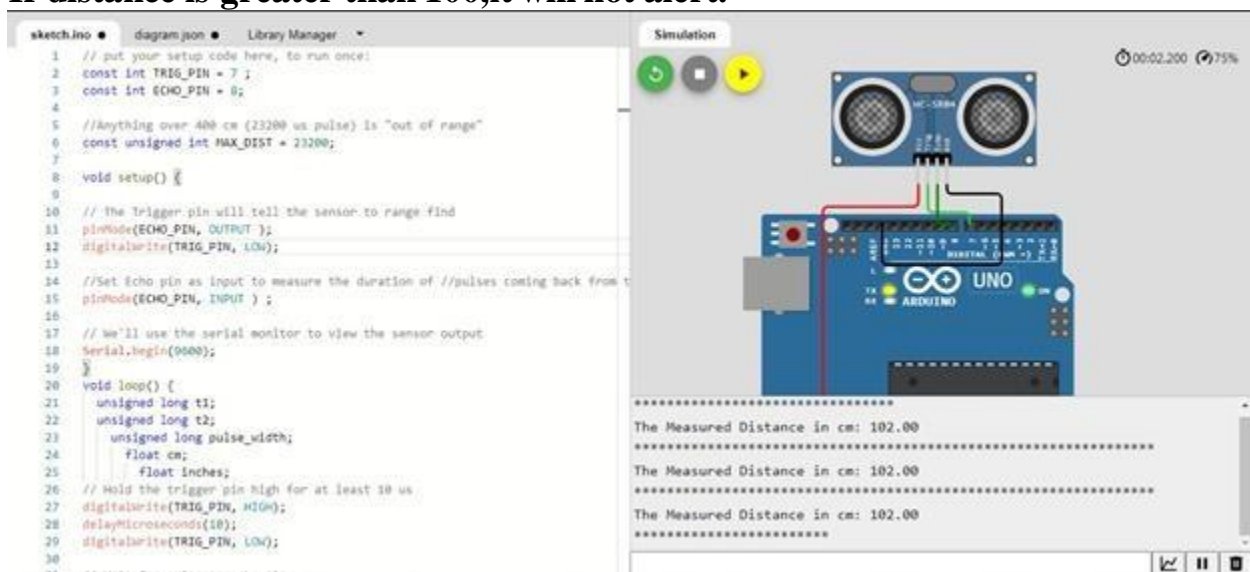
```
Serial.print("*****");
```

```
}
```

```
//wait at least 1000ms before next measurement delay(1000);
```

```
}
```

**If distance is greater than 100,it will not alert.**



**If distance is less than 100,it will alert**

