

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

## **Code**

```
//Pins

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
Pin Mode(TRIG_PIN, OUTPUT); digital
Write(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;

```

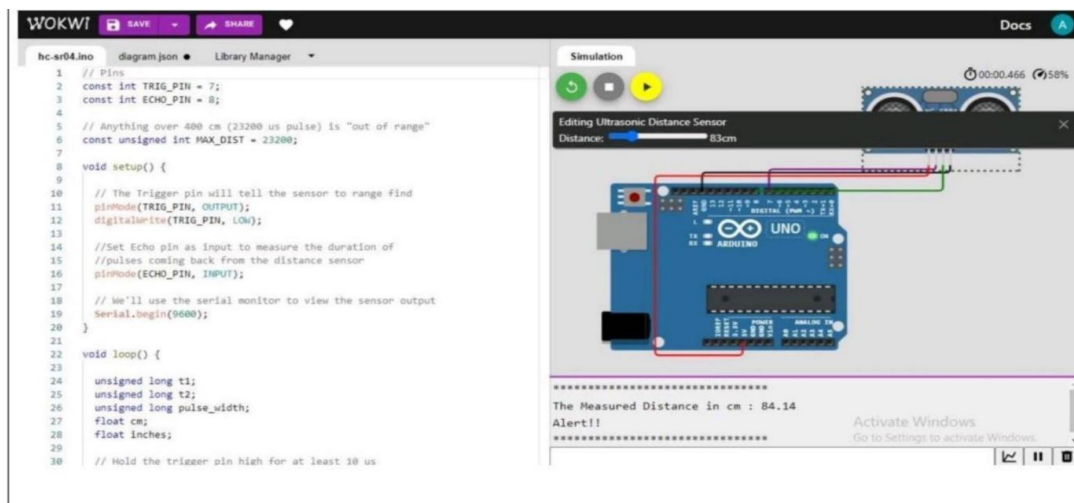
```
// Print out results if
(pulse_width > MAX_DIST){
Serial.println("Out of range");
} else {
Serial.println("*****");
Serial.print("The Measured Distance in cm: ");
Serial.println(cm);

if( cm < 100 ){
    //while(true){
        Serial.println("Alert!");
    //}
}
Serial.print("*****");
}

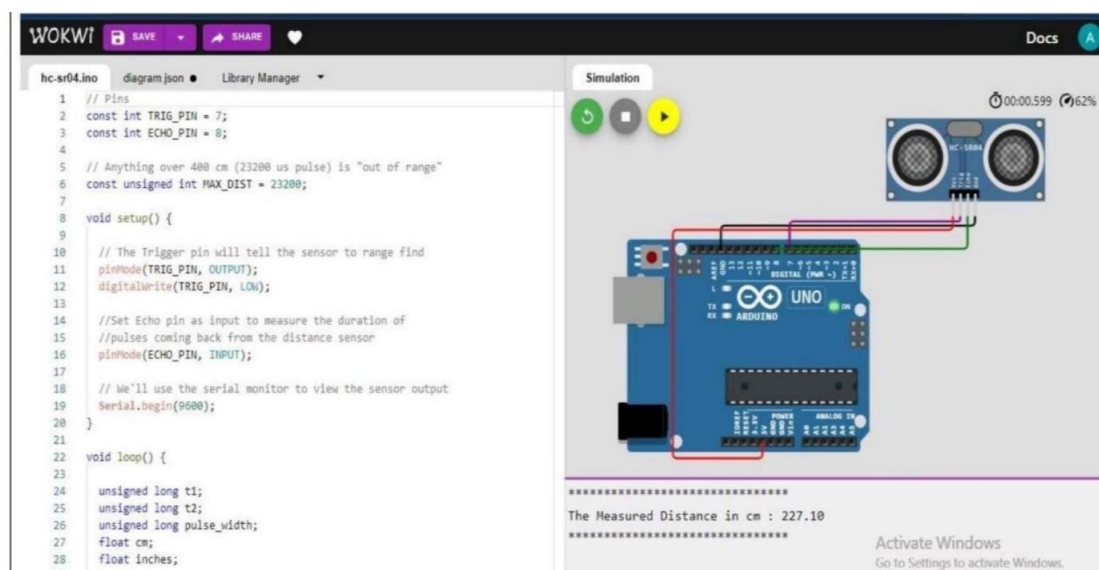
//wait at least 1000ms before next measurement
Delay(1000);
}
```

## Output:

1.If the distance is less than 100 centimeters , it alerts.



2.If the distance is more than 100 centimeters,it won't alert



3.Simulation and Code execution

