

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

const unsigned int
MAX_DIST = 23200;

void setup() {
  Mode(TRIG_PIN, OUTPUT);
  digital Write(TRIG_PIN, LOW);

  pinMode(ECHO_PIN, INPUT ) ;

  Serial.begin(9600);
}

void loop() {
  unsigned long t1;

  unsigned long t2;

  unsigned long pulse_width;
  float cm;
  float inches;

  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);

  while (digitalRead( ECHO_PIN )==0 );

  t1= micros ();
  while (digitalRead(ECHO_PIN) == 1);
  t2= micros ();
  pulse_width = t2-t1;

  cm=pulse_Width / 58 ;
  inches = pulse_width/148.0;
```

```

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("*****");

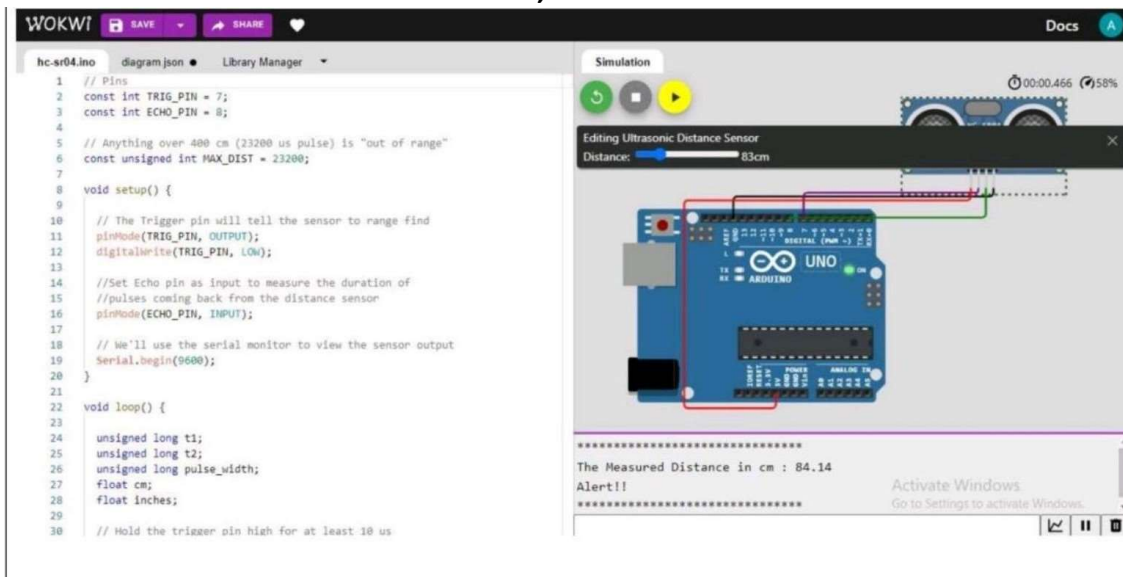
}

Delay(1000);
}

```

Output:

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



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

WOKWI

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Docs

hc-sr04.ino diagram.json Library Manager

```
1 // Pins
2 const int TRIG_PIN = 7;
3 const int ECHO_PIN = 8;
4
5 // Anything over 400 cm (23200 us pulse) is "out of range"
6 const unsigned int MAX_DIST = 23200;
7
8 void setup() {
9
10 // The Trigger pin will tell the sensor to range find
11 pinMode(TRIG_PIN, OUTPUT);
12 digitalWrite(TRIG_PIN, LOW);
13
14 //Set Echo pin as input to measure the duration of
15 //pulses coming back from the distance sensor
16 pinMode(ECHO_PIN, INPUT);
17
18 // We'll use the serial monitor to view the sensor output
19 Serial.begin(9600);
20 }
21
22 void loop() {
23
24 unsigned long t1;
25 unsigned long t2;
26 unsigned long pulse_width;
27 float cm;
28 float inches;
29
30 }
```

Simulation

00:00.599 62%

UNO

ARDUINO

HC-SR04

The Measured Distance in cm : 227.10

Activate Windows
Go to Settings to activate Windows.

3.Simulation and code execution

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Simulation Code

00:00.266 0%

Editing Ultrasonic Distance Sensor

Distance: 199cm

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HC-SR04

The Measured Distance in cm : 201.79

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Simulation Code

00:00.300 48%

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HC-SR04

The Measured Distance in cm : 57.79

Alert it !!