

# INTERNET OF THINGS

## ASSIGNMENT – 4

4. Write code and connections in wokwi for the ultrasonic sensor

```
const int TRIG_PIN = 7;
const int ECHO_PIN = 8;
const unsigned int MAX_DIST = 23200;
void setup() {
  pinMode(TRIG_PIN, OUTPUT);
  digitalWrite(TRIG_PIN, LOW);
  pinMode(ECHO_PIN, INPUT);
}

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 );
  while ( digitalRead(ECHO_PIN) == 1 );
  t2 = micros();
  pulse_width = t2 - t1;
  cm = pulse_width / 58.0;
  inches = pulse_width / 148.0;
  if ( pulse_width > MAX_DIST ) {
    Serial.println("Out of range");
  } else {
    Serial.print(cm);
    Serial.print(" cm \t");
    Serial.print(inches);
    Serial.println(" in");
  }

  // Wait at least 60ms before next measurement
}
```

```
delay(60);  
}
```

## OUTPUT:

