

Assignment -4

WOKWI

Assignment Date	29 October 2022
Student Name	ABIRAMMI S
Student Roll Number	917719IT002
Maximum Marks	2 Marks

QUESTION:

Write a code and connection in wokwi for ultrasonic sensor, whenever distance is less than 100 cm send alert.

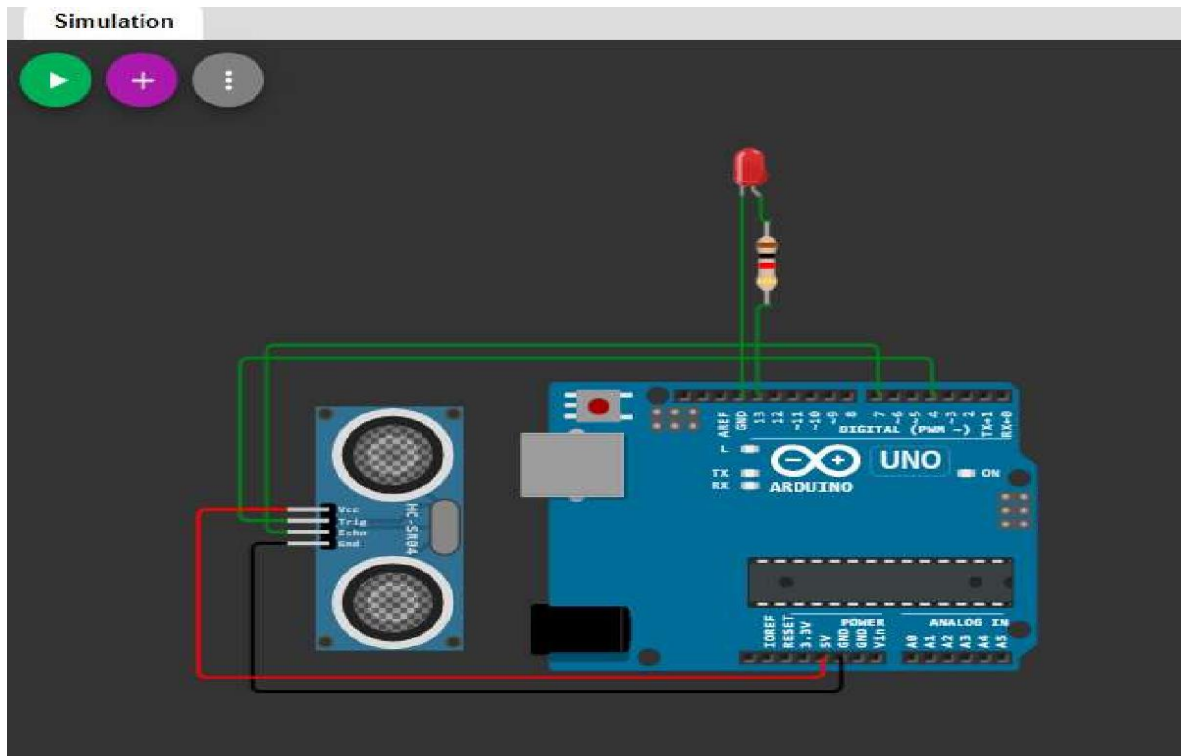
CODE:

```
#define ECHO_PIN 7
#define TRIG_PIN 4
void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delay(2);
  digitalWrite(TRIG_PIN, HIGH);
  delay(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
}

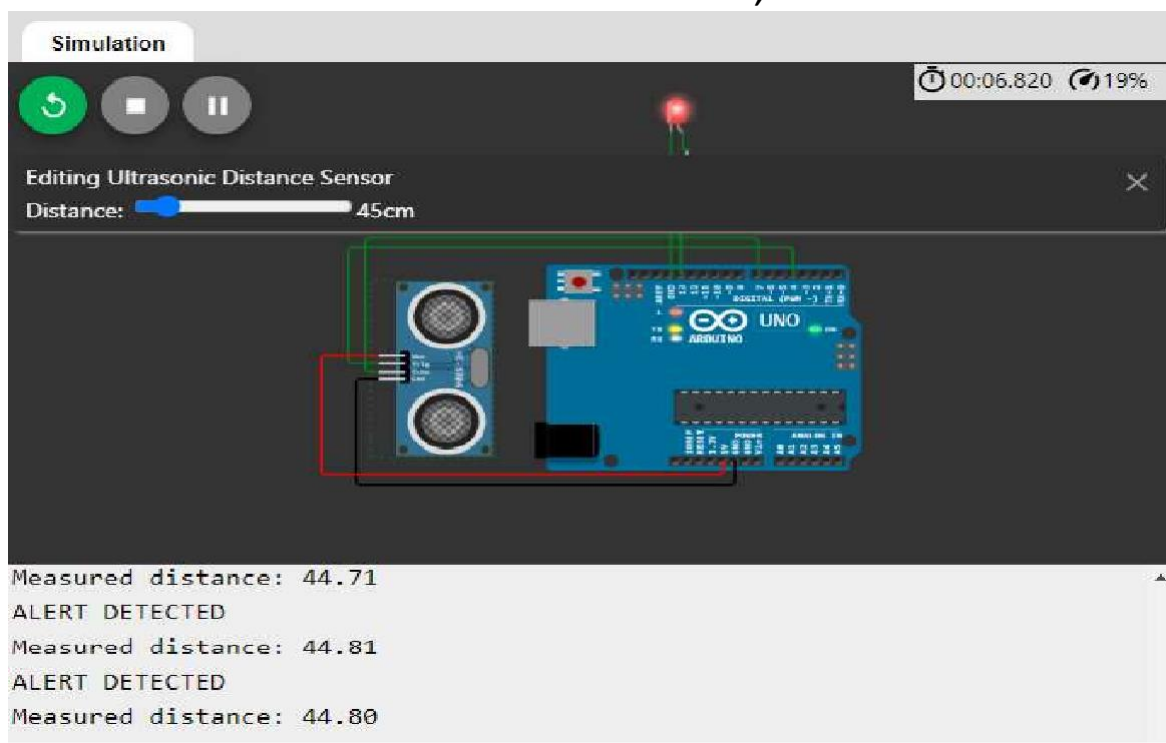
void loop() {
  float distance = readDistanceCM();
  if (distance < 100){
    bool isNearby = distance < 100;
    digitalWrite(LED_BUILTIN, isNearby);
    Serial.println("ALERT DETECTED ");
    Serial.print("Measured distance: ");
    Serial.println(readDistanceCM());
    delay(100);
  }
  else {
    bool isNearby = distance > 100;
    digitalWrite(LED_BUILTIN, LOW);
    Serial.println("ALERT NOT DETECTED");
    Serial.print("Measured distance: ");
    Serial.println(readDistanceCM());
    delay(100);
  }
}
```

SIMULATION:



OUTPUT:

When it reaches less than 100 cm , alert is detected

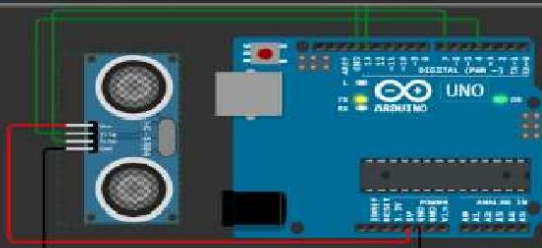


When the distance is greater than 100 cm , alert is not detected

Simulation

00:24.722 189

Editing Ultrasonic Distance Sensor
Distance: 333 cm



Measured distance: 331.06
ALERT NOT DETECTED
Measured distance: 331.04
ALERT NOT DETECTED
Measured distance: 330.94
ALERT NOT DETECTED