

Assignment -4
WOKWI

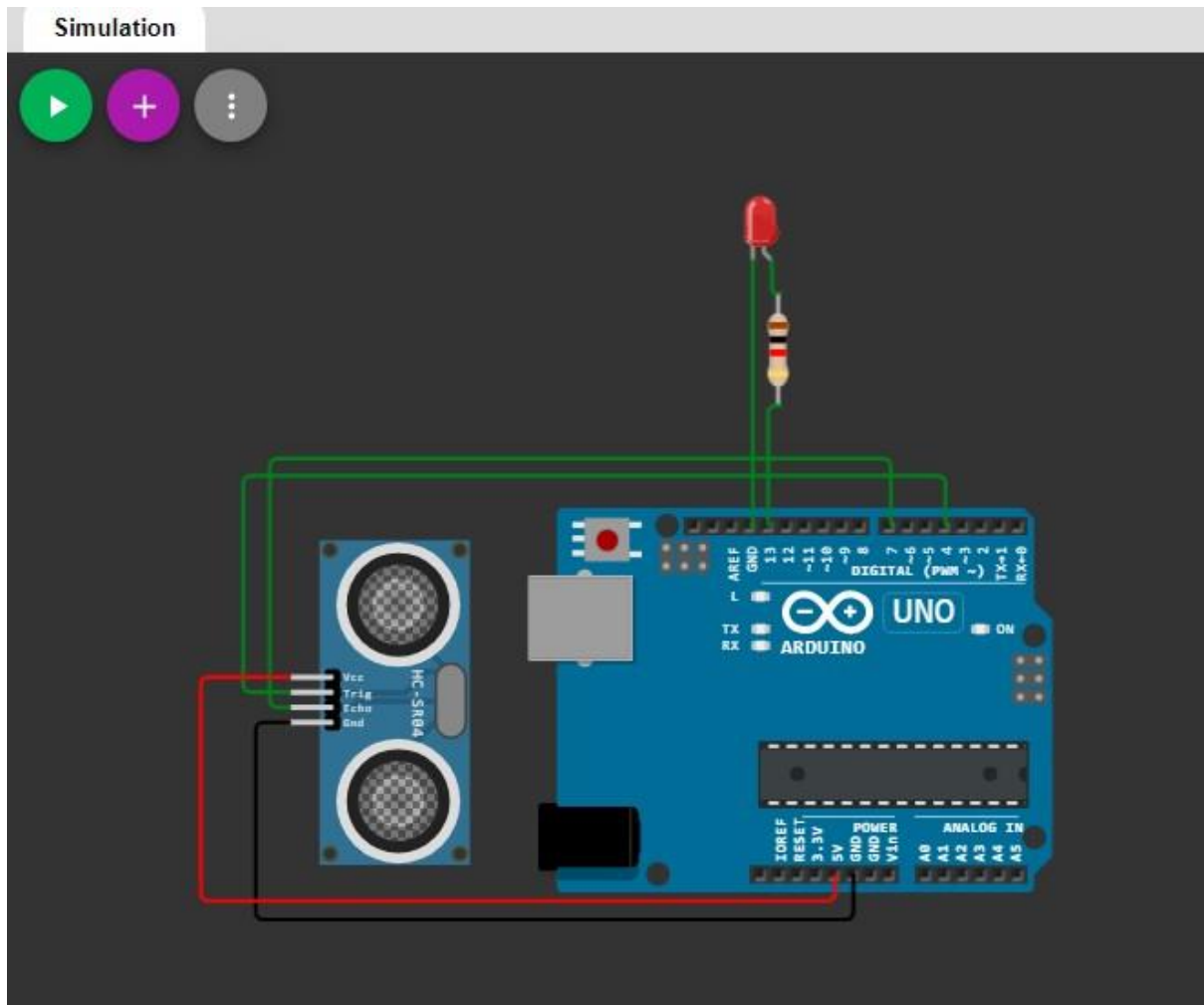
Assignment Date	28 October 2022
Student Name	M. NARENDRA YADAV
Student Roll Number	721419106021
Maximum Marks	2 Marks

Question:

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

Solution:

SIMULATION



CODE

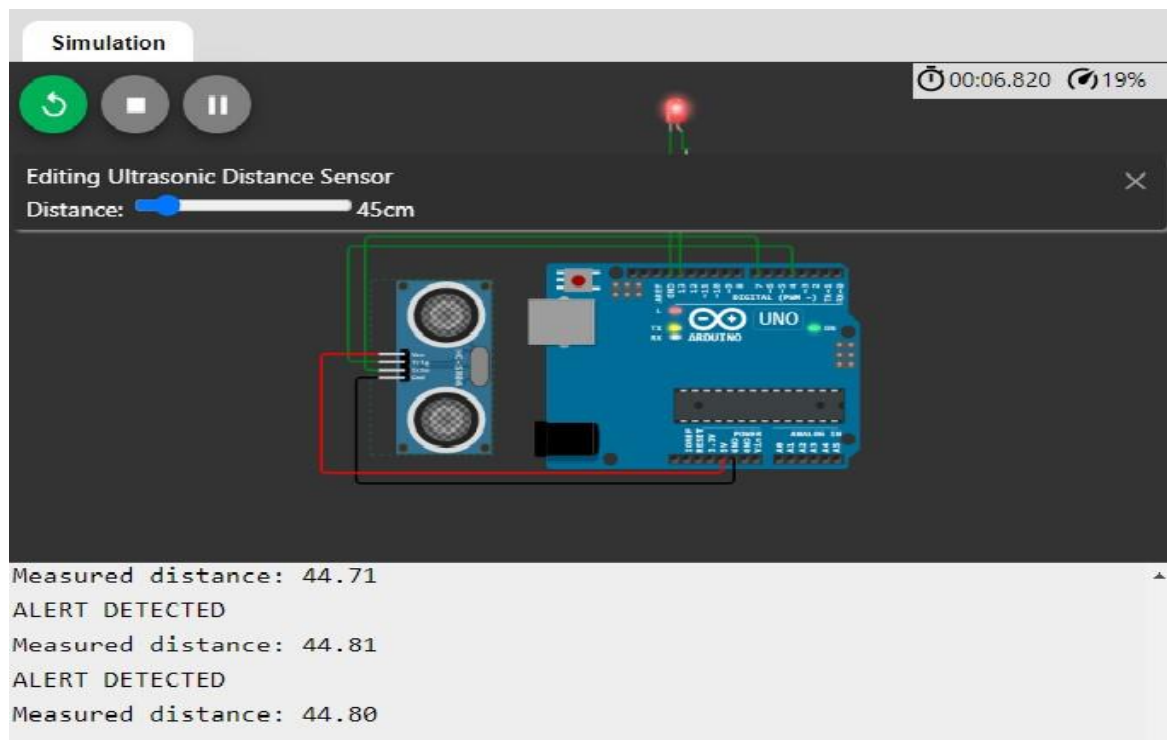
```
#define ECHO_PIN 2 #define
TRIG_PIN 9 void setup() {
Serial.begin(115200);
pinMode(LED_BUILTIN, OUTPUT);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}

float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW); delay(2);
digitalWrite(TRIG_PIN, HIGH); delay(10);
digitalWrite(TRIG_PIN, LOW); int
duration = pulseIn(ECHO_PIN, HIGH);
```

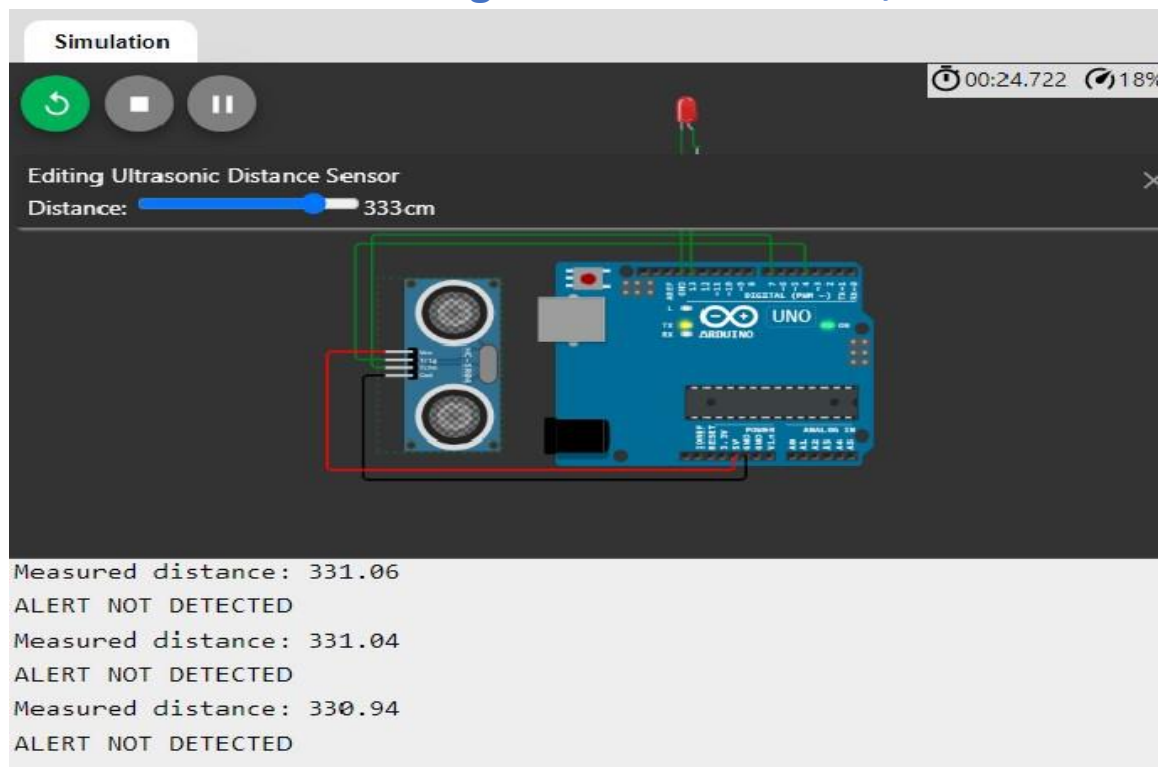
```
    return duration * 0.034 / 2;
}
void loop() { float distance =
readDistanceCM(); if (distance <
100){ bool isNearby = distance < 100;
digitalWrite(LED_BUILTIN, isNearby);
Serial.println("ALERT DETECTED ");
    Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
else {
    bool isNearby = distance > 100;
digitalWrite(LED_BUILTIN, LOW);
Serial.println("ALERT NOT DETECTED");
    Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
}
```

OUTPUT

When it reaches less than 100 cm , alert is detected

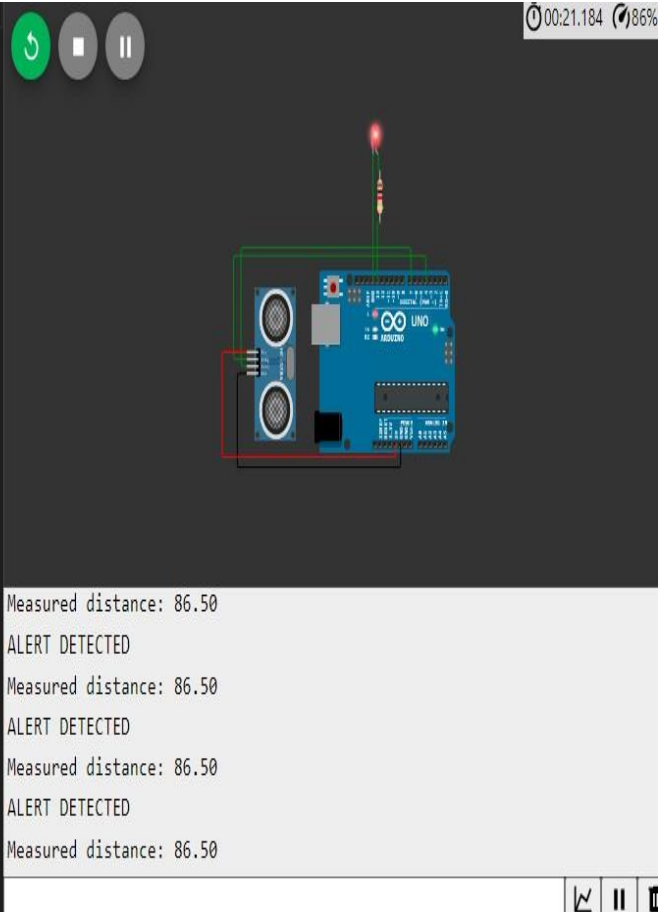


When the distance is greater than 100 cm , alert is not detected



PROGRAM AND OUTPUT

```
1 #define ECHO_PIN 7
2 #define TRIG_PIN 4
3 void setup() {
4   Serial.begin(115200);
5   pinMode(LED_BUILTIN, OUTPUT);
6   pinMode(TRIG_PIN, OUTPUT);
7   pinMode(ECHO_PIN, INPUT);
8 }
9 float readDistanceCM() {
10  digitalWrite(TRIG_PIN, LOW);
11  delay(2);
12  digitalWrite(TRIG_PIN, HIGH);
13  delay(10);
14  digitalWrite(TRIG_PIN, LOW);
15  int duration = pulseIn(ECHO_PIN, HIGH);
16  return duration * 0.034 / 2;
17 }
18 void loop() {
19   float distance = readDistanceCM();
20   if (distance < 100){
21     bool isNearby = distance < 100;
22     digitalWrite(LED_BUILTIN, isNearby);
23     Serial.println("ALERT DETECTED ");
24     Serial.print("Measured distance: ");
25     Serial.println(readDistanceCM());
26     delay(100);
27   }
28   else {
29     Serial.println("Measured distance: 86.50");
30     delay(100);
31   }
32 }
```



Measured distance: 86.50
ALERT DETECTED
Measured distance: 86.50
ALERT DETECTED
Measured distance: 86.50
ALERT DETECTED
Measured distance: 86.50

REFERENCE LINK

<https://wokwi.com/projects/346774177569571411>