

Assignment -4
WOKWI

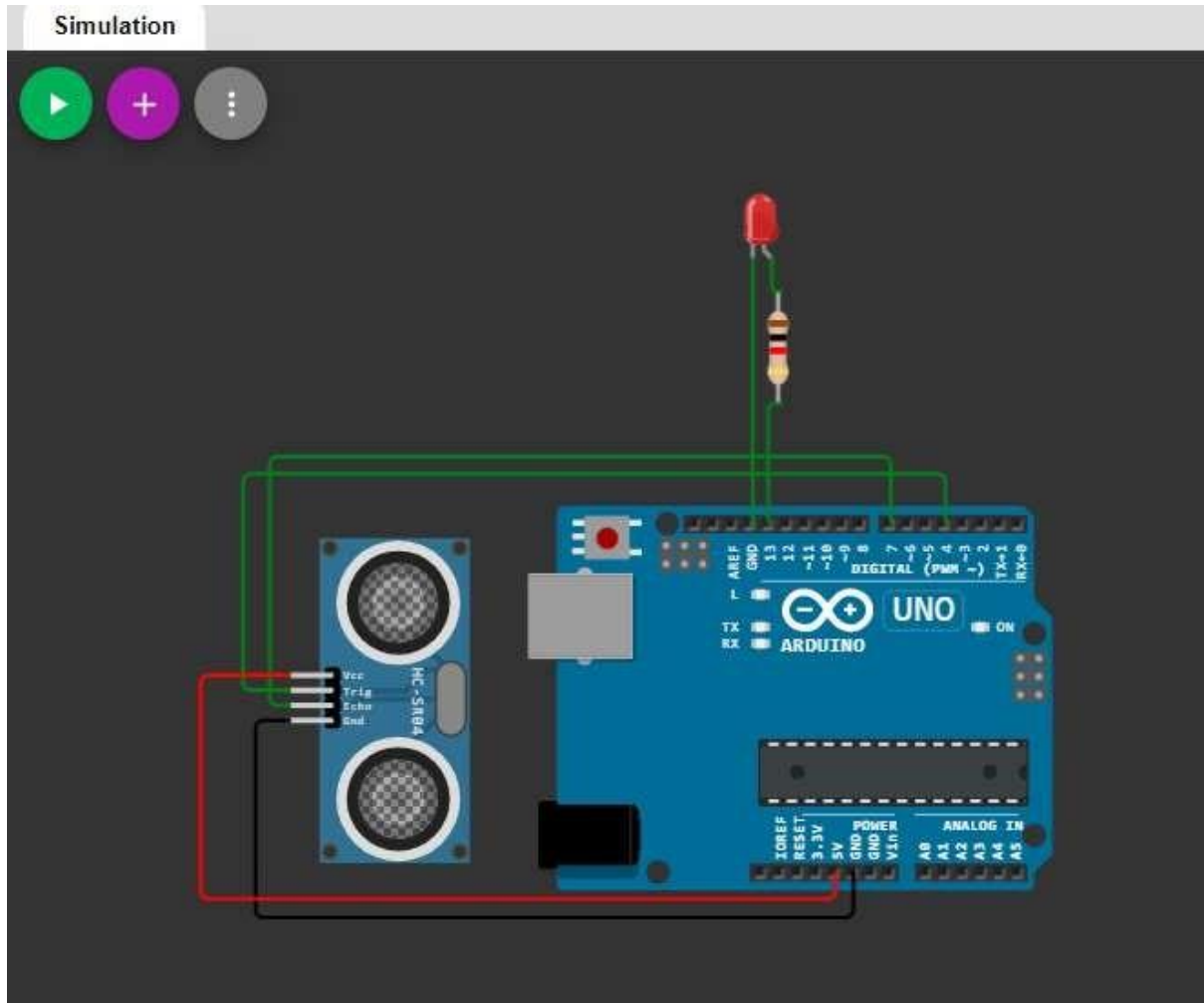
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|---------------------|------------------------|
| Assignment Date | 28 October 2022 |
| Student Name | R. SIVA VASANTH |
| Student Roll Number | 721419106030 |
| Maximum Marks | 2 Marks |

Question:

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

Solution:

SIMULATION



CODE

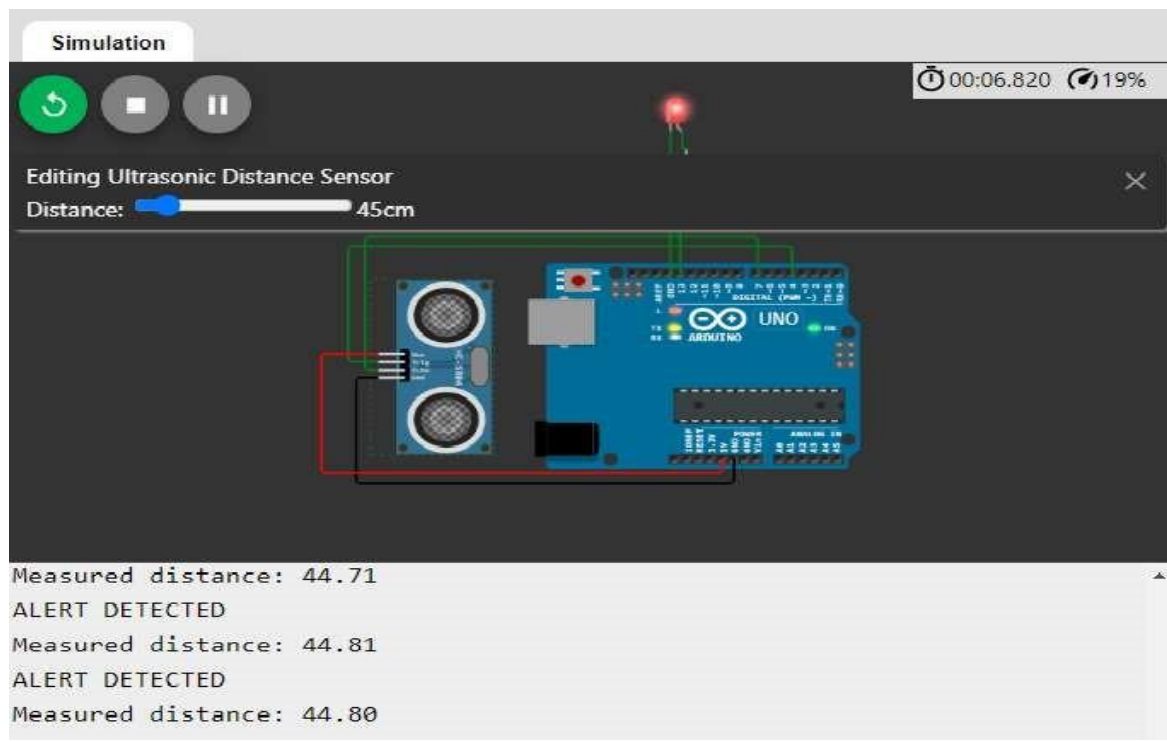
```
#define ECHO_PIN 2 #define
TRIG_PIN 9 void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

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

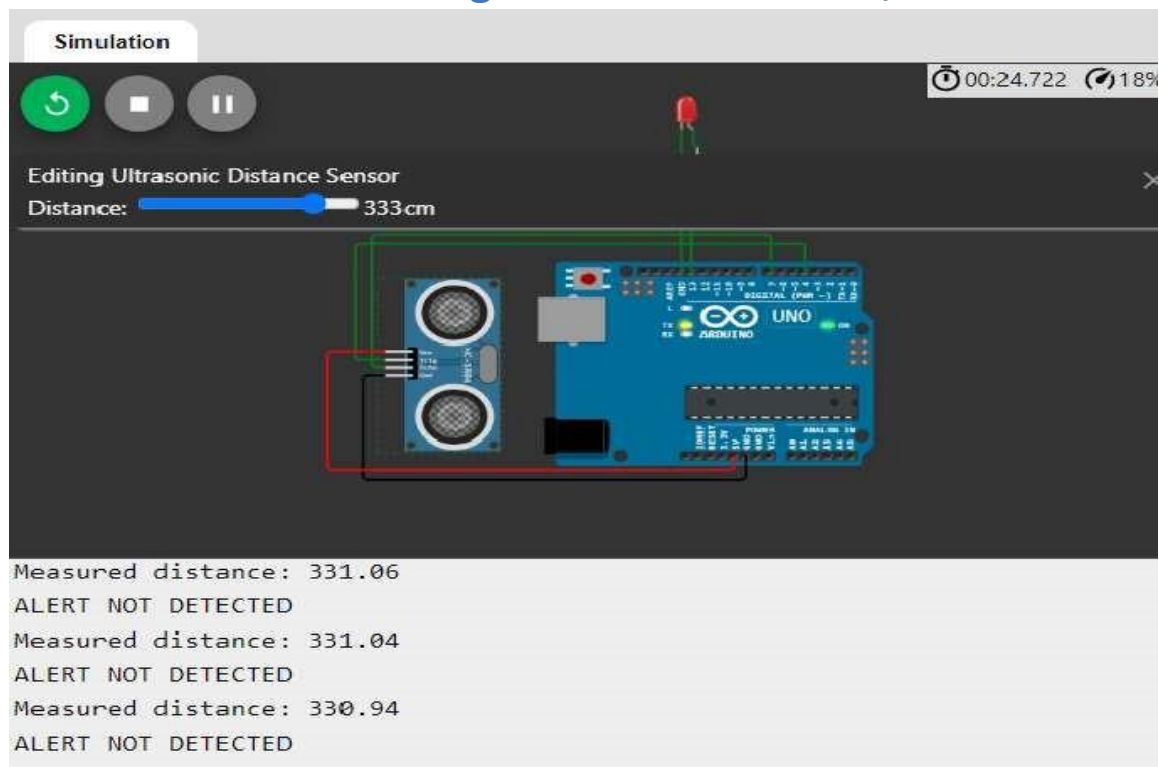
```
    return duration * 0.034 / 2;
}
void loop() { float distance =
readDistanceCM(); if (distance <
100){ bool isNearby = distance < 100;
digitalWrite(LED_BUILTIN, isNearby);
Serial.println("ALERT DETECTED ");
    Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
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  }
31 }
```



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/346757092672012882>