

Assignment-IV

Assignment Date	25 October 2022
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QUESTION:

Write Code and connections in wokwi for ultrasonic sensor. Whatever distance is less than 100cms send “Alert” to ibm cloud and display in device recent events.

CODING:

```
long int echoPin=7;

long int trigPin=5;

void setup()

{

  Serial.begin(9600);

  pinMode(7,OUTPUT);

  pinMode(5,INPUT);

}

void loop() {

  int duration, distance; digitalWrite(3,LOW);

  delayMicroseconds(2);

  digitalWrite(3,HIGH);

  delayMicroseconds(10);

  digitalWrite(3,LOW);

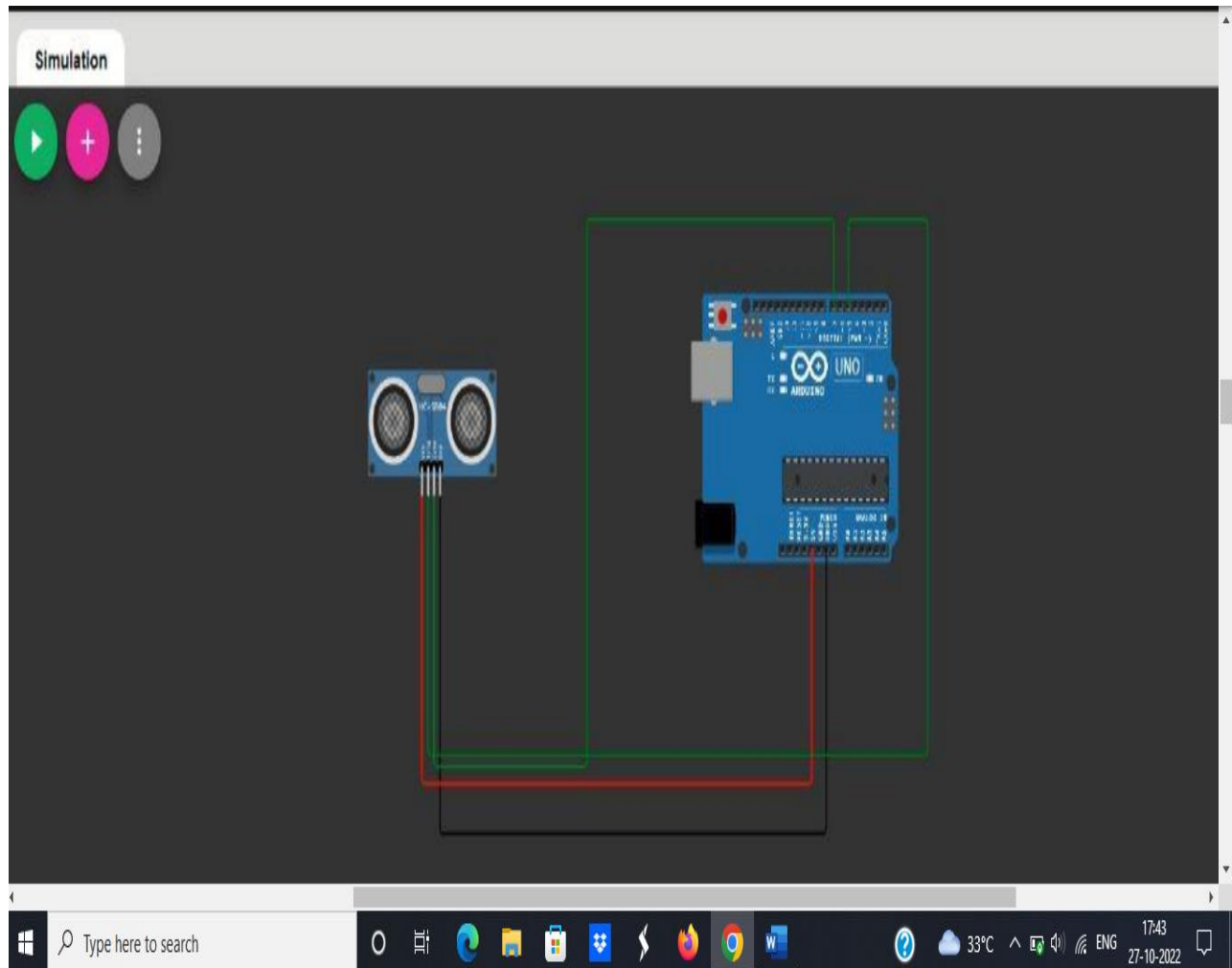
  duration=pulseIn(7,HIGH);

  distance=(duration*0.034/2);

  delay(1000);
```

```
if (distance<=100)
{
Serial.println("ALERT!!");
}
}
```

SIMULATION:



Distance less than 100cms send "Alert"

The screenshot displays the Wokwi online Arduino IDE interface. On the left, the 'sketch.ino' file is open, showing the following code:

```
1 long int echoPin=7;
2 long int trigPin=5;
3 void setup() {
4   Serial.begin(9600);
5   pinMode(7,OUTPUT);
6   pinMode(5,INPUT);
7 }
8 void loop()
9 {
10  int duration, distance;
11  digitalWrite(3,LOW);
12  delayMicroseconds(2);
13  digitalWrite(3,HIGH);
14  delayMicroseconds(10);
15  digitalWrite(3,LOW);
16  duration=pulseIn(7,HIGH);
17  distance=(duration*0.034/2);
18  delay(1000);
19  if (distance<=100)
20  {
21    Serial.println("ALERT!!");
22  }
23 }
24
```

The 'Simulation' tab on the right shows a virtual circuit with an HC-SR04 ultrasonic sensor connected to an Arduino Uno. The sensor's VCC pin is connected to the Arduino's 5V pin, GND to GND, and the trig pin to digital pin 5. The echo pin is connected to digital pin 7. The simulation is running, and the output window at the bottom shows 'ALERT!!'.

The browser address bar shows 'wokwi.com/projects/346645645004636756'. The Windows taskbar at the bottom indicates the system time is 17:48 on 27-10-2022, with a temperature of 33°C.