Assignment -4

Assignment Date	6TH NOVEMBER 2022
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Project Name	Project-Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for ultrasonic. Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events.

 Solution:

```
#define ECHO_PIN 2

#define TRIG_PIN 3

#define organization = "fkxdqs"

#define deviceType = "Arduino"

#define deviceId = "1200"

#define authMethod = "use-token-auth" #define

 authToken = "00000000" void

setup(){ Serial.begin(9600);

pinMode(TRIG_PIN,                 OUTPUT);

pinMode(ECHO_PIN, INPUT);

}


float      readDistanceCM()      {

digitalWrite(TRIG_PIN,       LOW);

delayMicroseconds(2);

digitalWrite(TRIG_PIN,       HIGH);

delayMicroseconds(10);

digitalWrite(TRIG_PIN, LOW);      int
```
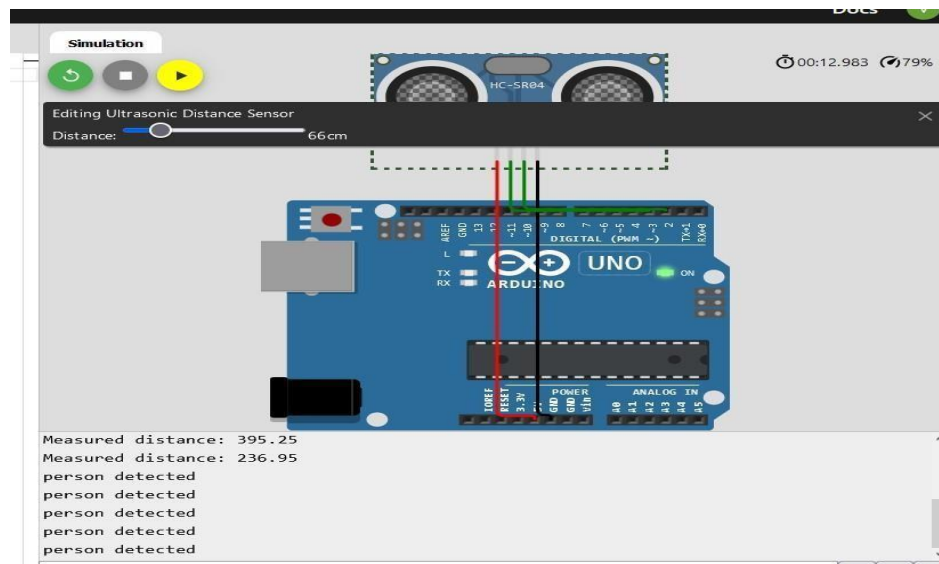
```
duration = pulseIn(ECHO_PIN, HIGH);

return duration * 0.034 / 2;


}


void loop() { float distance = readDistanceCM();

if(distance <=

100)

 {

   Serial.println("person detected ");

 }

 else{

 Serial.print("Measured distance: ");

  Serial.println(readDistanceCM());

 }

  delay(1000);

}
```


Wokwi Link: https://wokwi.com/projects/346567349532361298

IBM Cloud

Device Recent Events
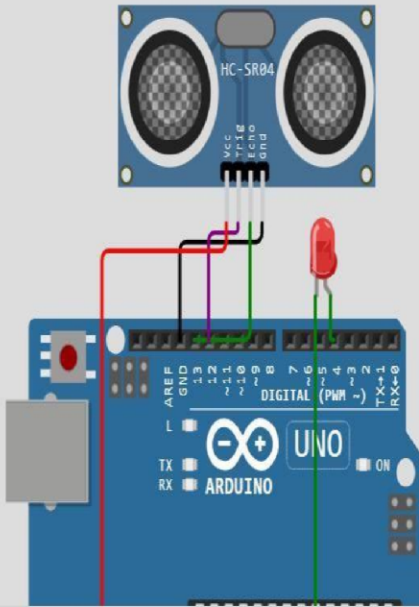
WOWKI EXECUTION PART WITH ANOTHER CODE:


```
hc-sr04-Ultrasonic-Simulation.ino ●    diagram.json    Ultrasonic.h    Ultrasonic.cpp    Library Manager ▼
1    #include "Ultrasonic.h"
2    Ultrasonic ultrasonic(12, 13);
3    int distance;
4
5    void setup() {
6      Serial.begin(9600);
7      pinMode(6, OUTPUT);
8    }
9
10   void loop() {
11     distance = ultrasonic.read(CM);
12     Serial.print("Distance in CM: ");
13     Serial.println(distance);
14      if(distance<=100)
15      {
16   Serial.println("alert!!!!");
17   digitalWrite(4, HIGH);
18      }
19
20
21    delay(1000);
22   }
```

```
Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!
Distance in CM: 50
alert!!!!
```