ASSIGNMENT – IV

DOMAIN – IOT

PROJECT TITLE : SMART FARMER – IOT ENABLED SMART FARMING APPLICATION

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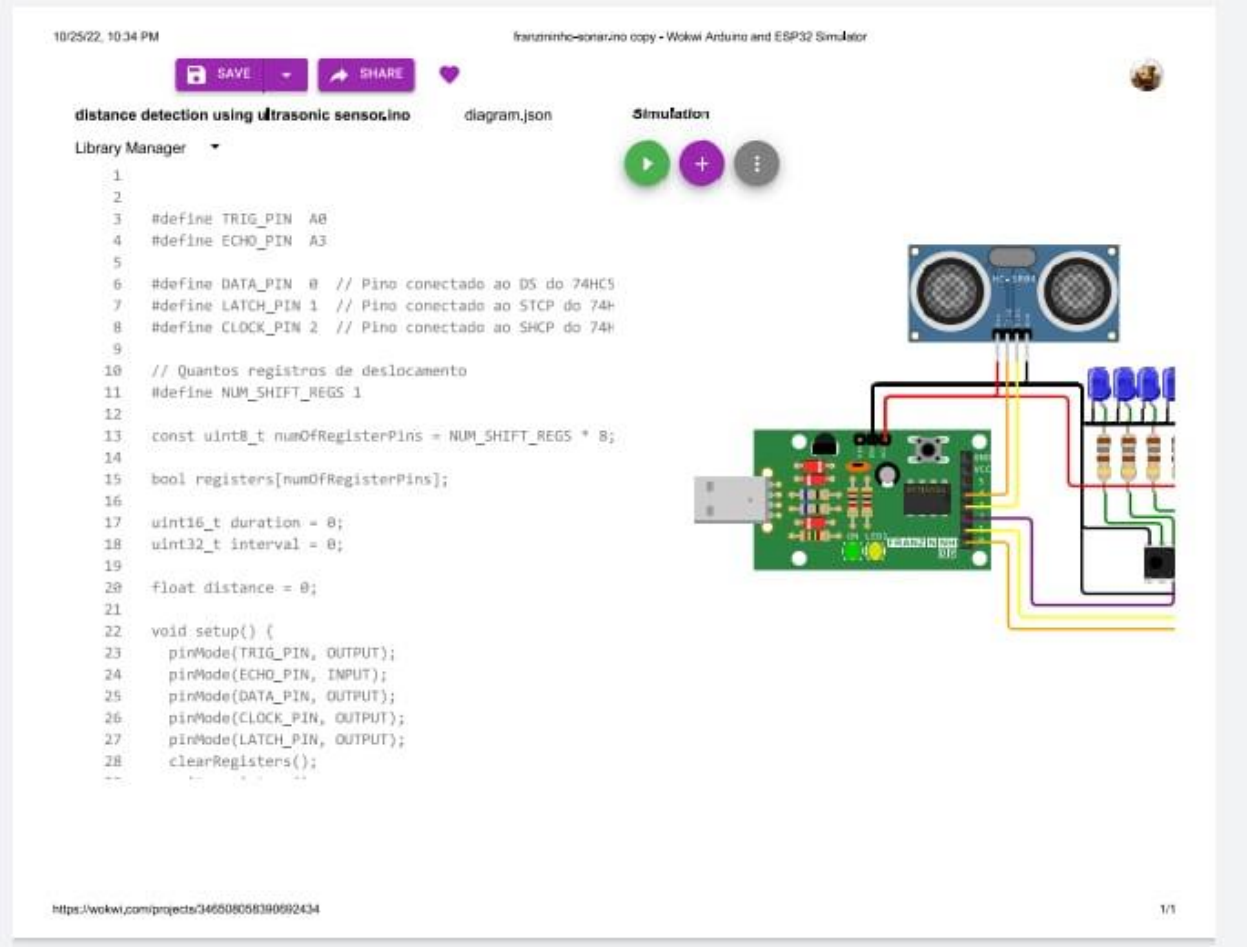
ASSIGNMENT TITLE :

Write code and connections in wokwi for ultrasonic sensor.whenever distance is less than 100 cms send “alert” to IBM CLOUD and display in device recent events.

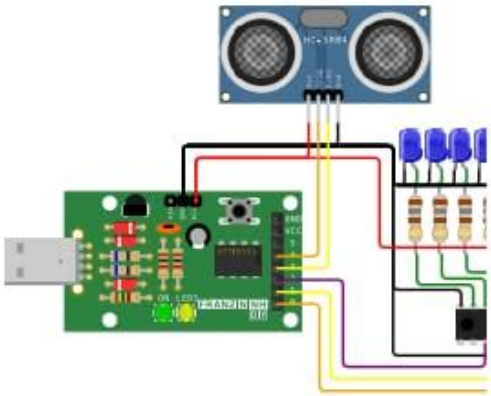


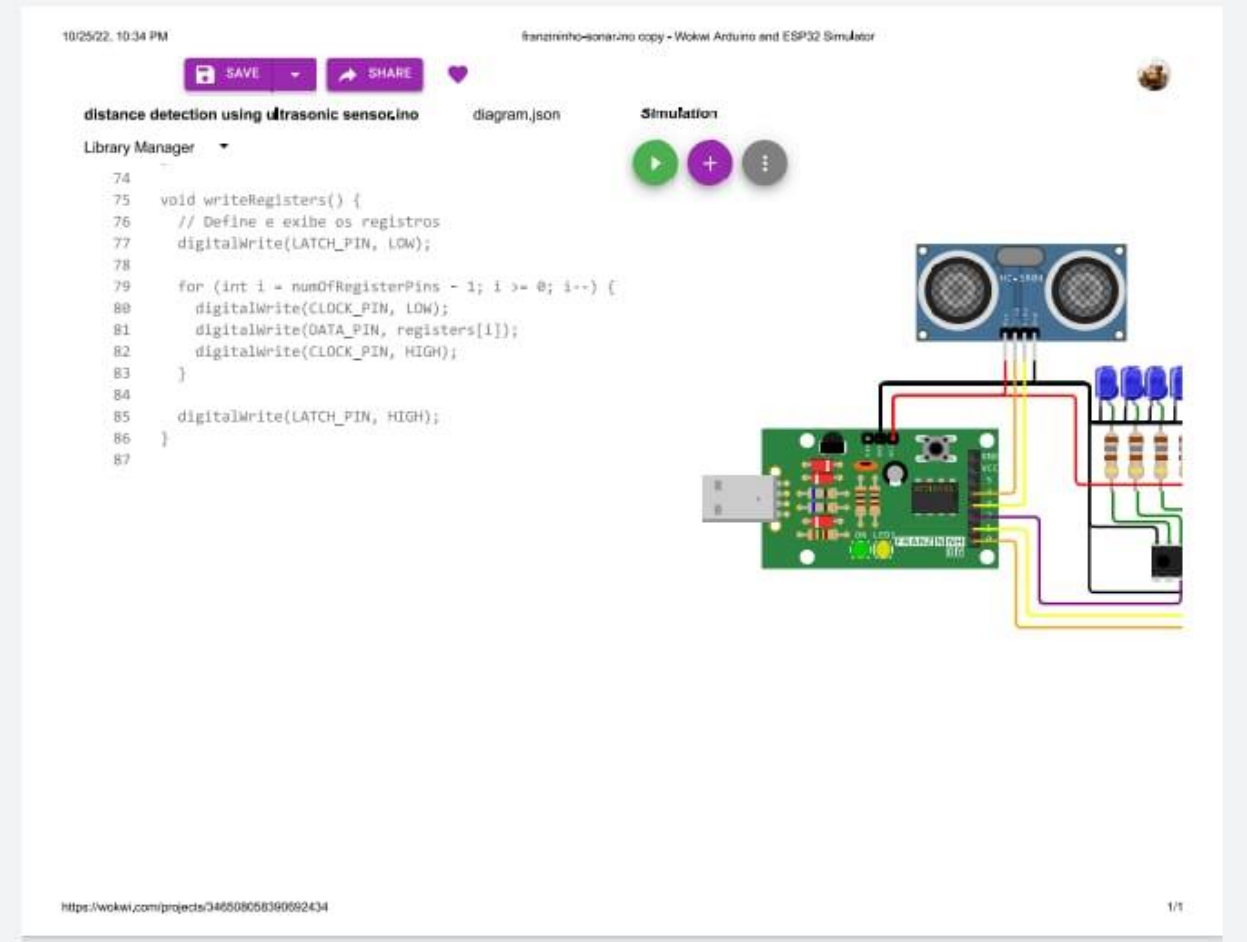
SAVE SHARE

distance detection using ultrasonic sensor.ino diagram.json Simulation

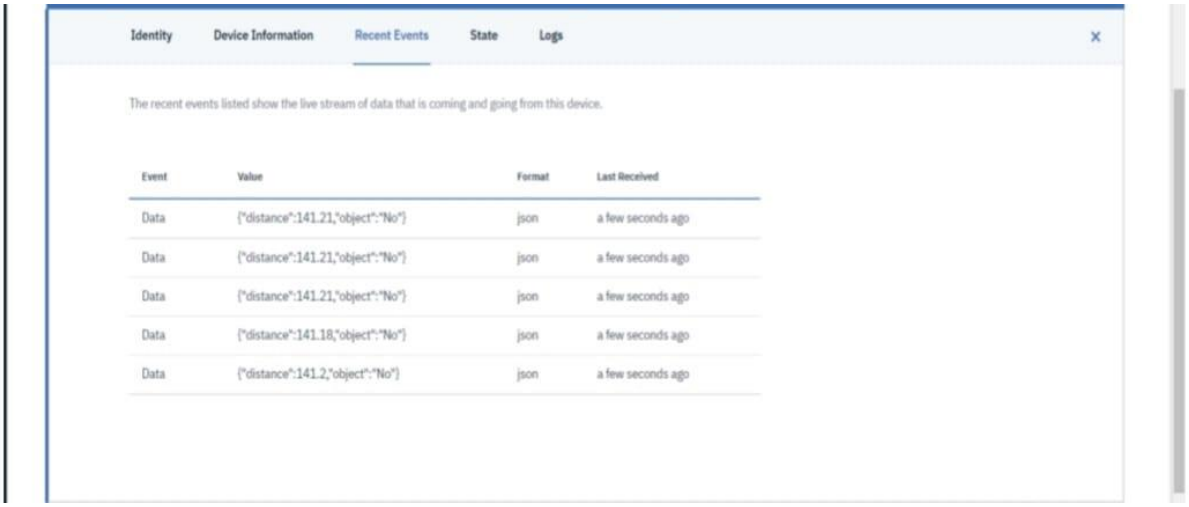
Library Manager

```
29      writeRegisters();
30    }
31
32    void loop() {
33      // Verifica a cada 100 milissegundos
34      if ((millis() - interval) >= 100) {
35        interval = millis();
36
37        digitalWrite(TRIG_PIN, LOW);
38        delayMicroseconds(5);
39        digitalWrite(TRIG_PIN, HIGH);
40        delayMicroseconds(10);
41        digitalWrite(TRIG_PIN, LOW);
42
43        // Tempo de leitura do trigger ao echo
44        duration = pulseIn(ECHO_PIN, HIGH);
45
46        // Calcula a distância
47        distance = (duration / 2) / 29;
48
49        // Retorna o valor da distância e converte para c
50        uint8_t value = map(distance, 2, 400, 0, numOfRe
51
52        for (uint8_t i = 0; i < numOfRegisterPins; i++) {
53          if (i >= value) {
54            setRegisterPin(i, HIGH);
55          } else {
56            setRegisterPin(i, LOW);
```

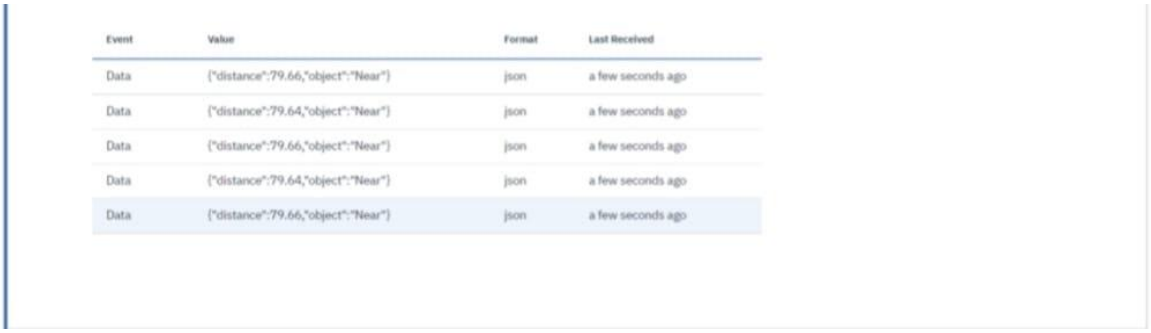




Data send to the IBM cloud device when the object is far :



Data sent to the IBM cloud device when the object is near



Event	Value	Format	Last Received
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.64,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.64,"object":"Near"}	json	a few seconds ago
Data	{"distance":79.66,"object":"Near"}	json	a few seconds ago