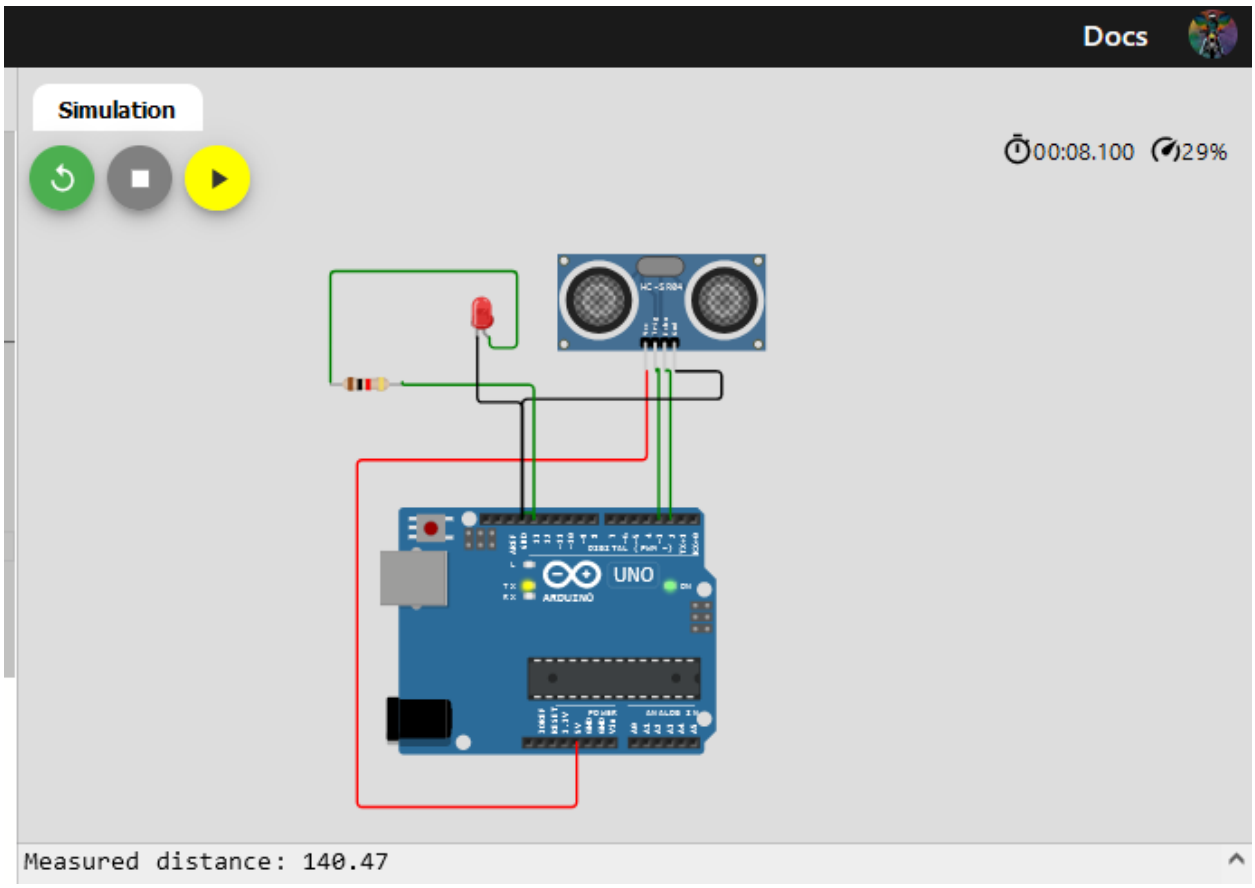
QUESTION

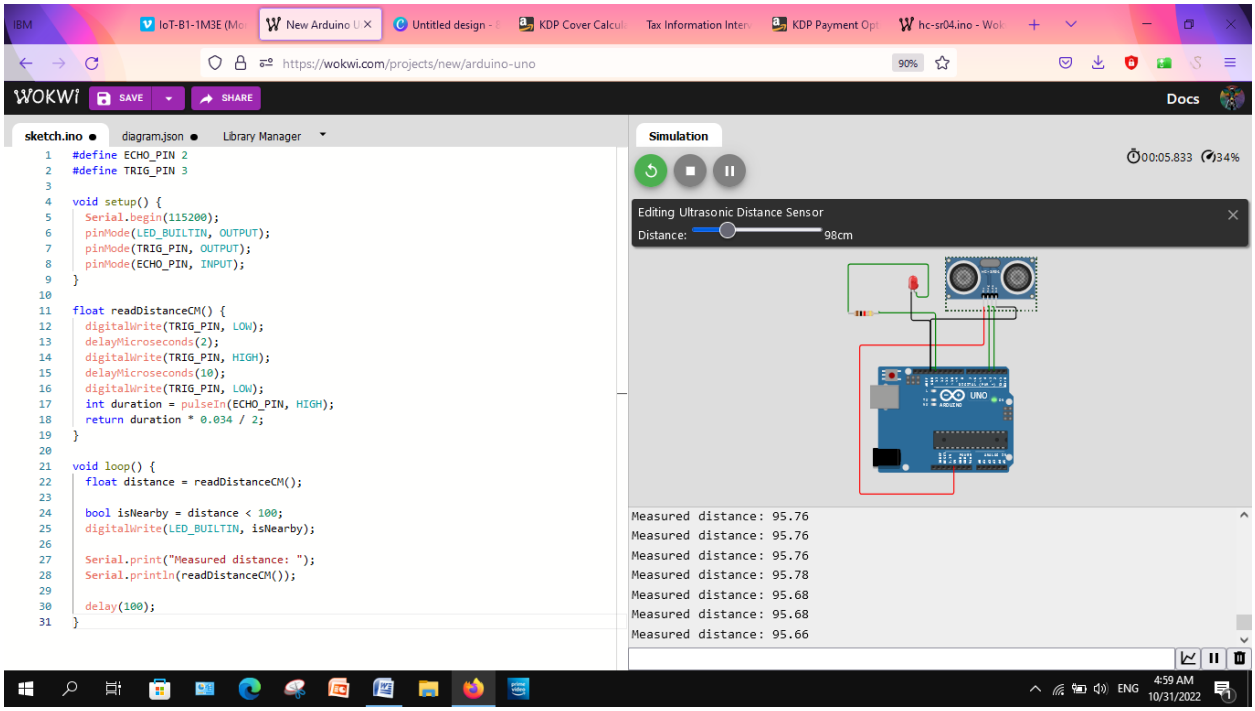
Write code and connections in Wokwi for the ultrasonic sensor.
Whenever the distance is less than 100cms send an "alert" to the IBM cloud and display in the device recent events.
Upload document with Wokwi share link and images of IBM cloud.

PROGRAM:

```
#define ECHO_PIN 2
#define TRIG_PIN 3

void setup() {
  Serial.begin(115200);
  pinMode(LED_BUILTIN, OUTPUT);
  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();

  bool isNearby = distance < 100;
  digitalWrite(LED_BUILTIN, isNearby);

  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());

  delay(100);
```

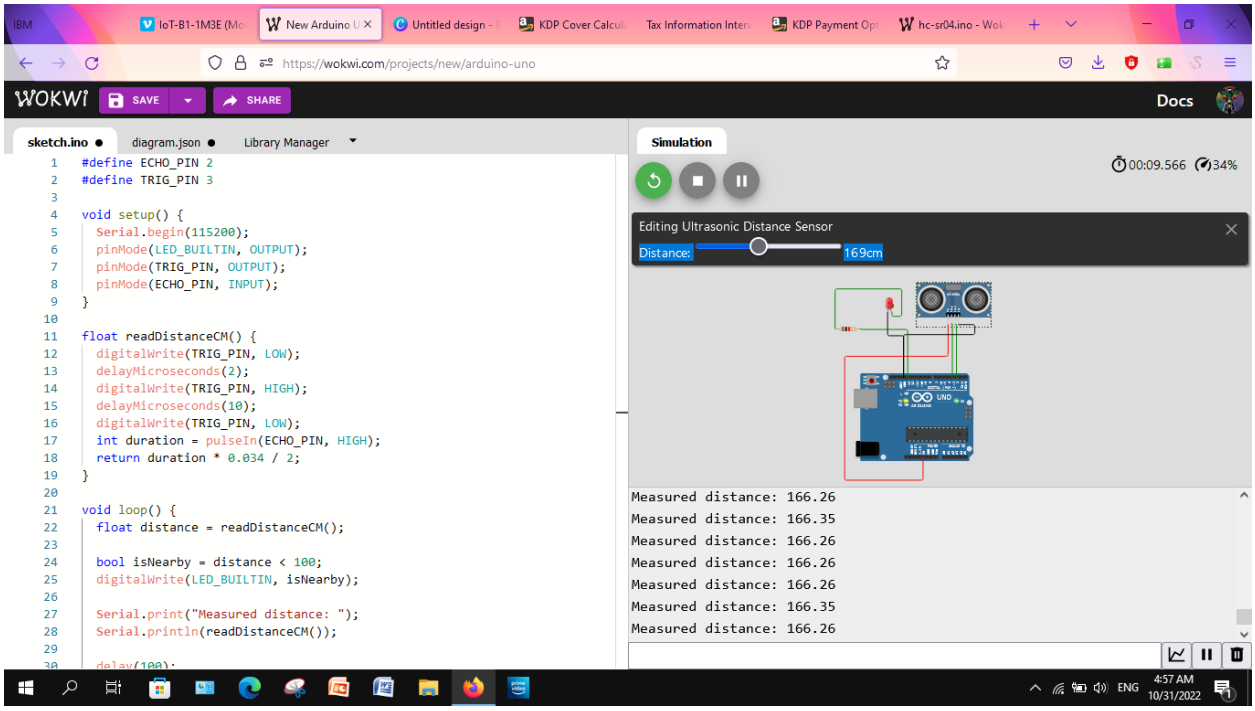
CONNECTION:


Docs
Simulation
00:08.100
29%
UNO
ARDUINO
Measured distance: 140.47

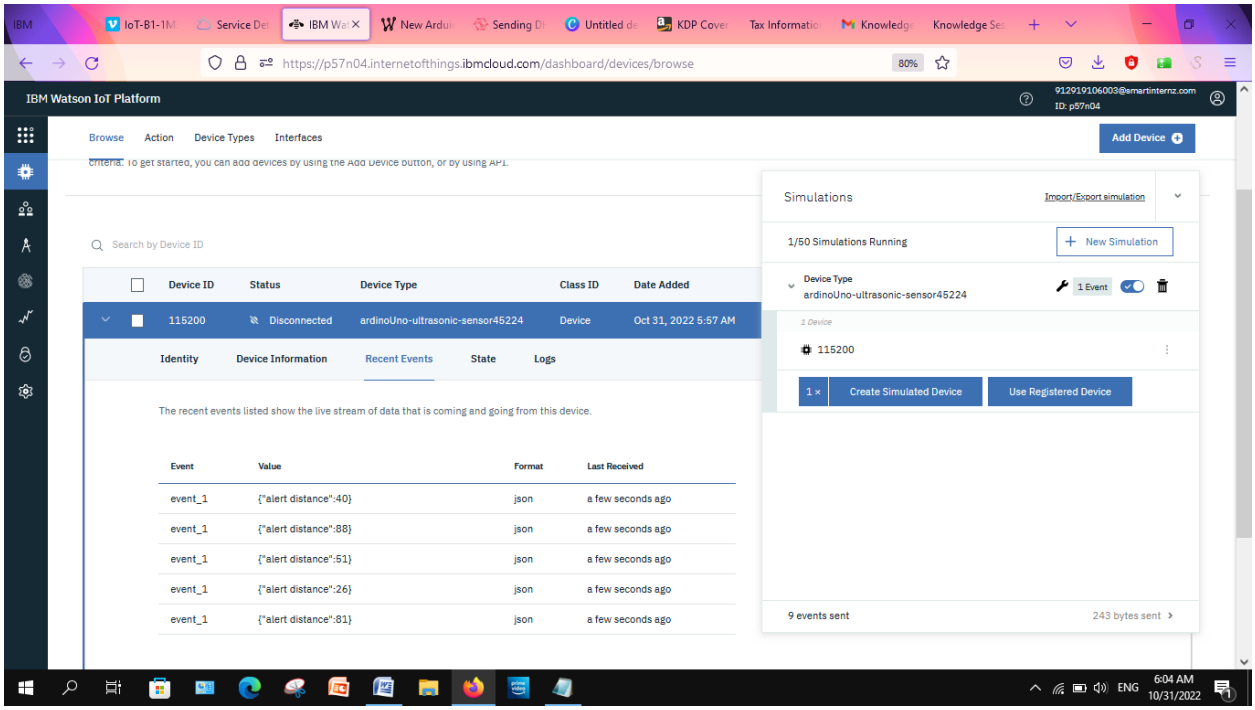

https://wokwi.com/projects/new/arduino-uno
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
#define ECHO_PIN 2
#define TRIG_PIN 3
void setup() {
Serial.begin(115200);
pinMode(LED_BUILTIN, OUTPUT);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, 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();
bool isNearby = distance < 100;
digitalWrite(LED_BUILTIN, isNearby);
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
delay(100);
}
Simulation
00:05.833
34%
Editing Ultrasonic Distance Sensor
Distance:
98cm
Measured distance: 95.76
Measured distance: 95.76
Measured distance: 95.76
Measured distance: 95.78
Measured distance: 95.68
Measured distance: 95.68
Measured distance: 95.66
ENG
4:59 AM
10/31/2022

OUTPUT:

Output in wokwi.



Output in IBM Cloud.



WOKWI LINK: https://wokwi.com/projects/new/arduino-uno