

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 ="e03g10"
#define deviceType=" Arduino"
#define deviceId ="2502"
#define authMethod ="use-token-auth"
#define authToken ="12345678"

void setup() {
  Serial.begin(9600);
  pinMode(TRIG_PIN, OUTPUT);
  pinMode(ECHO_PIN, INPUT);
}

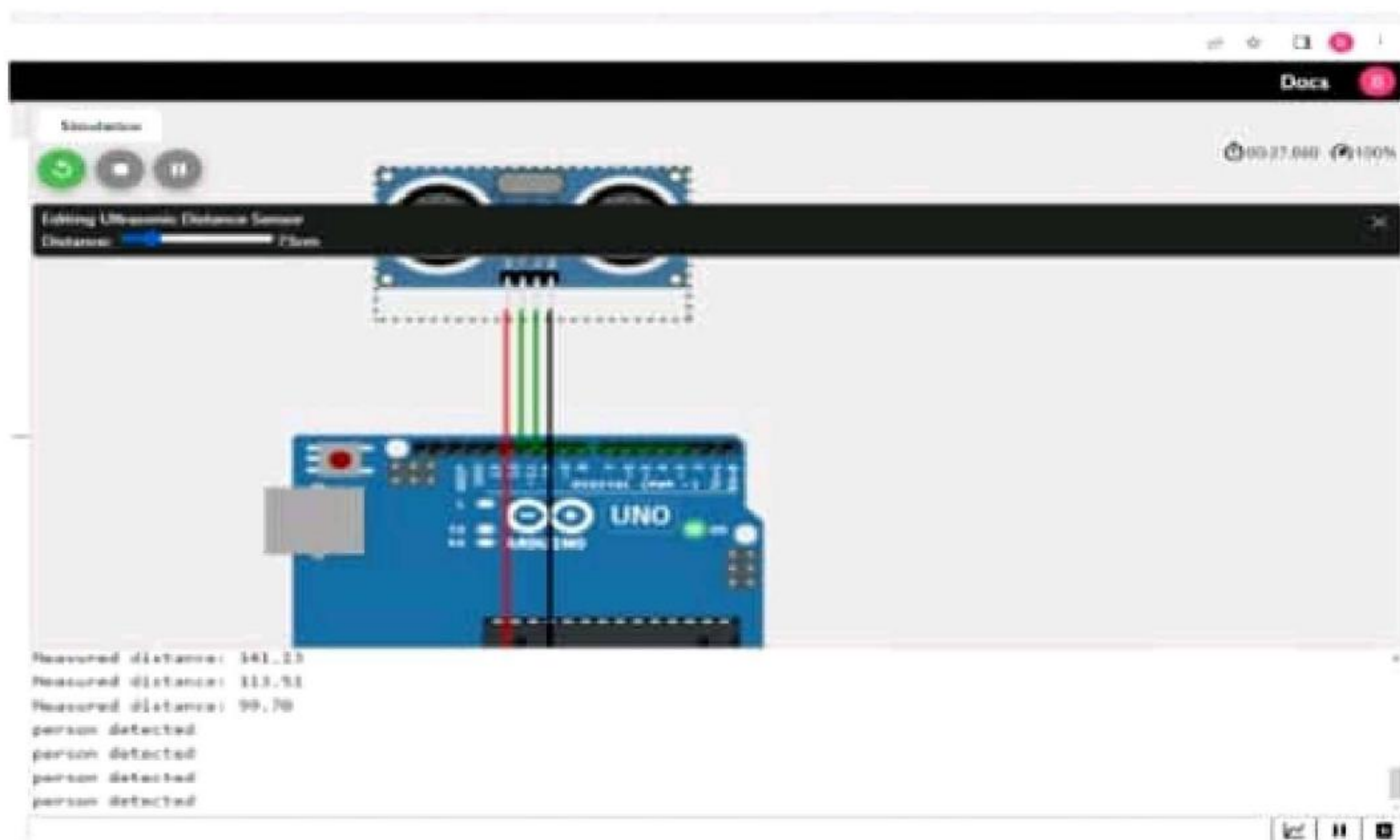
float readDistanceCM() {
  digitalWrite(TRIG_PIN, LOW);
  delayMicroseconds(2);
  digitalWrite(TRIG_PIN, HIGH);
  delayMicroseconds(10);
  digitalWrite(TRIG_PIN, LOW);
  int duration = pulseIn(ECHO_PIN, HIGH);
  return duration * 0.034 / 2;
```

```

}

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>