

#### Assignment-4

AssignmentDate	25October2022
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ProjectName	Project-SmartFarmer-IoTEnabledSmart FarmingApplication
MaximumMarks	2 Marks

#### Question-1:

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

#### Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3

#define organization =
"mmbh4c"
#define deviceType =
"Ultrasonic"
#define deviceId =
"pga460_sensor"
#define authMethod =
"use-token-auth"
#define
authToken="123456789"

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:
```

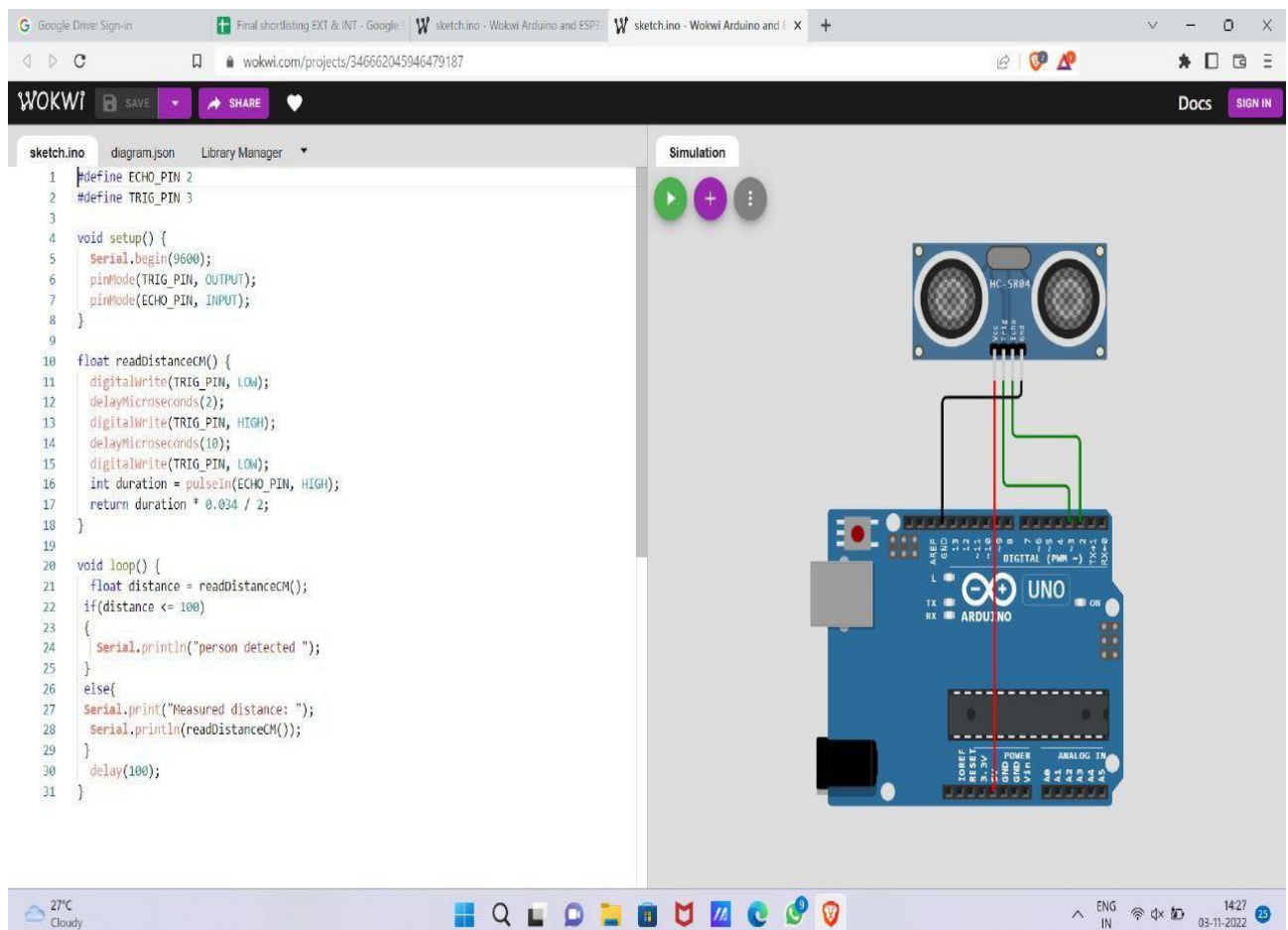
```
    "); Serial.println(readDistanceCM())
```

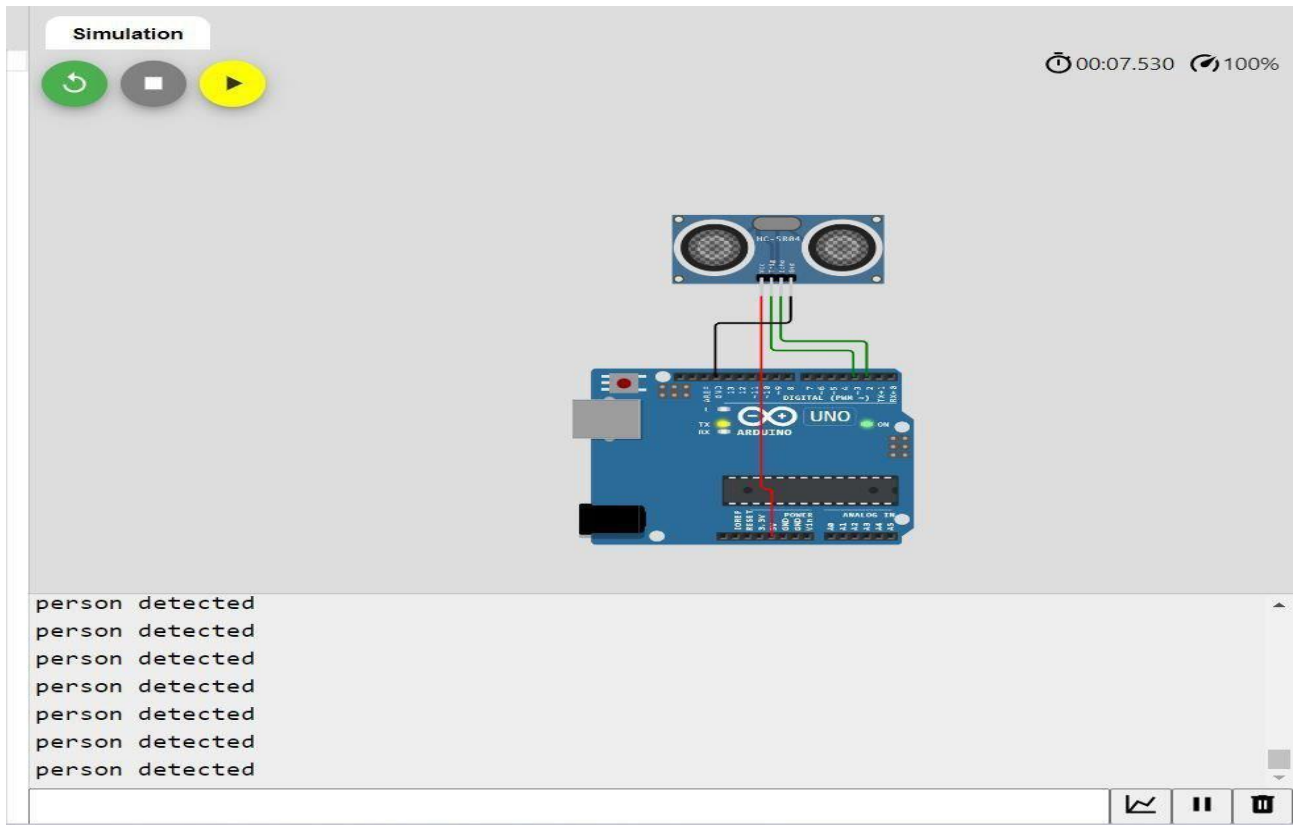
```
;
```

```
}
```

```
    delay(1000);
```

```
}
```





WokwiLink : <https://wokwi.com/projects/346662045946479187>

## IBMCloud

### DeviceRecentEvents

The screenshot shows the IBM Cloud IoT Platform console. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons. The main content area displays the 'Recent Events' tab for a device named 'Ultrasonic\_1'. The device is shown as 'Connected' with a status of 'Ultrasonic' and a last update time of 'Oct 25, 2022 4:28 PM'. Below the tabs, a message states: 'The recent events listed show the live stream of data that is coming and going from this device.' A table lists the recent events:

Event	Value	Format	Last Received
event_1	{\"Persondetected\" }	json	a few seconds ago
event_1	{\"Persondetected\" }	json	a few seconds ago
event_1	{\"Persondetected\" }	json	a few seconds ago
event_1	{\"Persondetected\" }	json	a few seconds ago
event_1	{\"Persondetected\" }	json	a few seconds ago

At the bottom, there's a status bar showing 'Items per page 50', '1-3 of 3 items', and '1 Simulation running'.