

Assignment -4

Assignment Date	03 NOVEMBER 2022
Student Name	K.Sandhiya
Team ID	PNT2022TMID33019
Project Name	Project-Real time river water quality monitoring and control system
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 = "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{
```

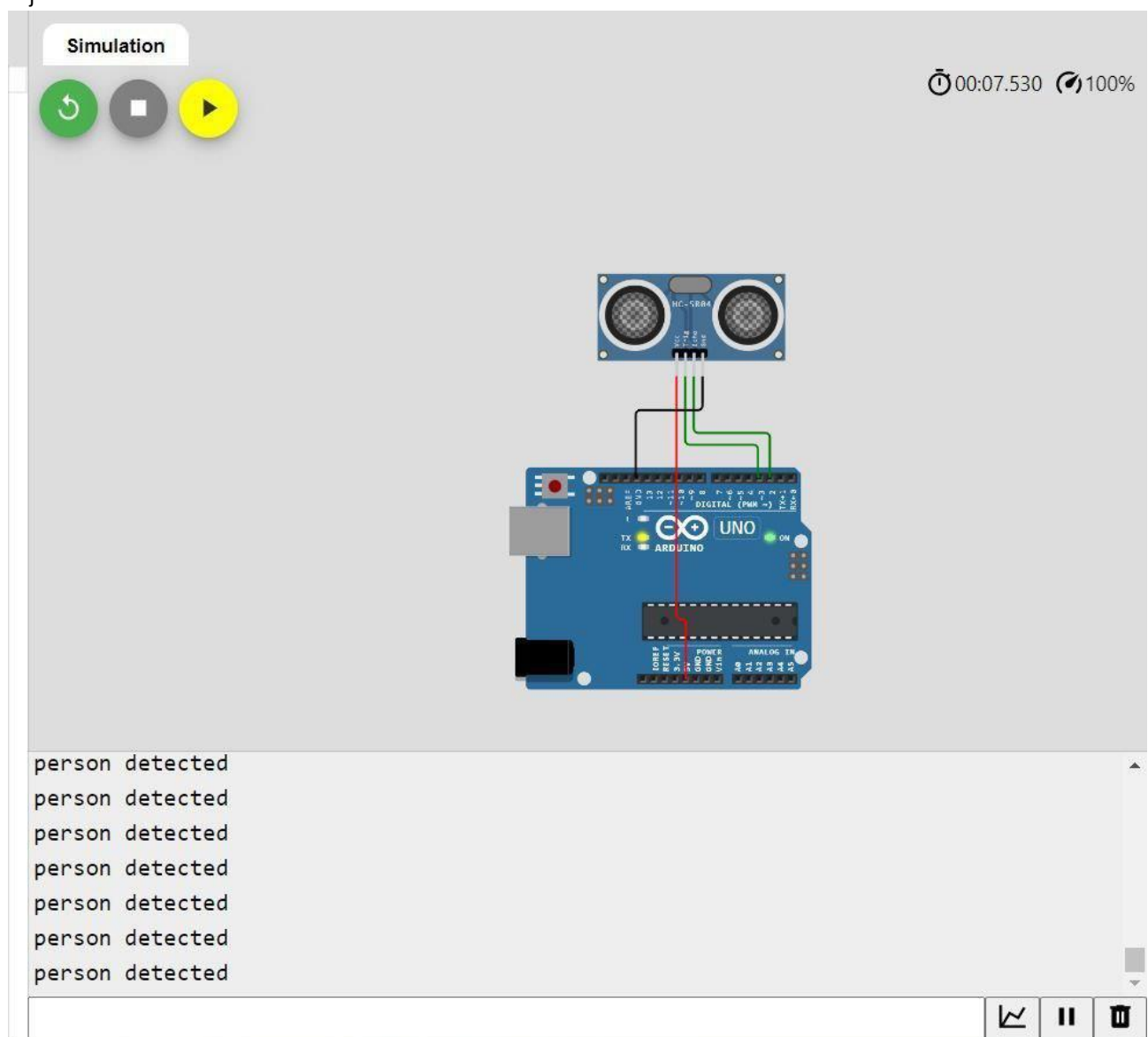
```
        Serial.print("Measured distance: ");
```

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

```
    }
```

```
    delay(1000);
```

```
}
```



Wokwi Link: <https://wokwi.com/projects/346662870450176594>

IBM Cloud

Device Recent Events

The screenshot displays the Wokwi web interface. At the top, there's a navigation bar with 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons. The main content area shows a device named 'Ultrasonic_1' with a status of 'Connected'. Below this, there's a tabbed interface with 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing a table of events. The table has four columns: 'Event', 'Value', 'Format', and 'Last Received'. It lists five events, all with the value '{"Persondetected": true}' and the format 'json'. The 'Last Received' column shows 'a few seconds ago' for each event. At the bottom, there's a status bar indicating '1 Simulation running'.

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