

#### Assignment -4

Assignment Date	03 NOVEMBER 2022
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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);

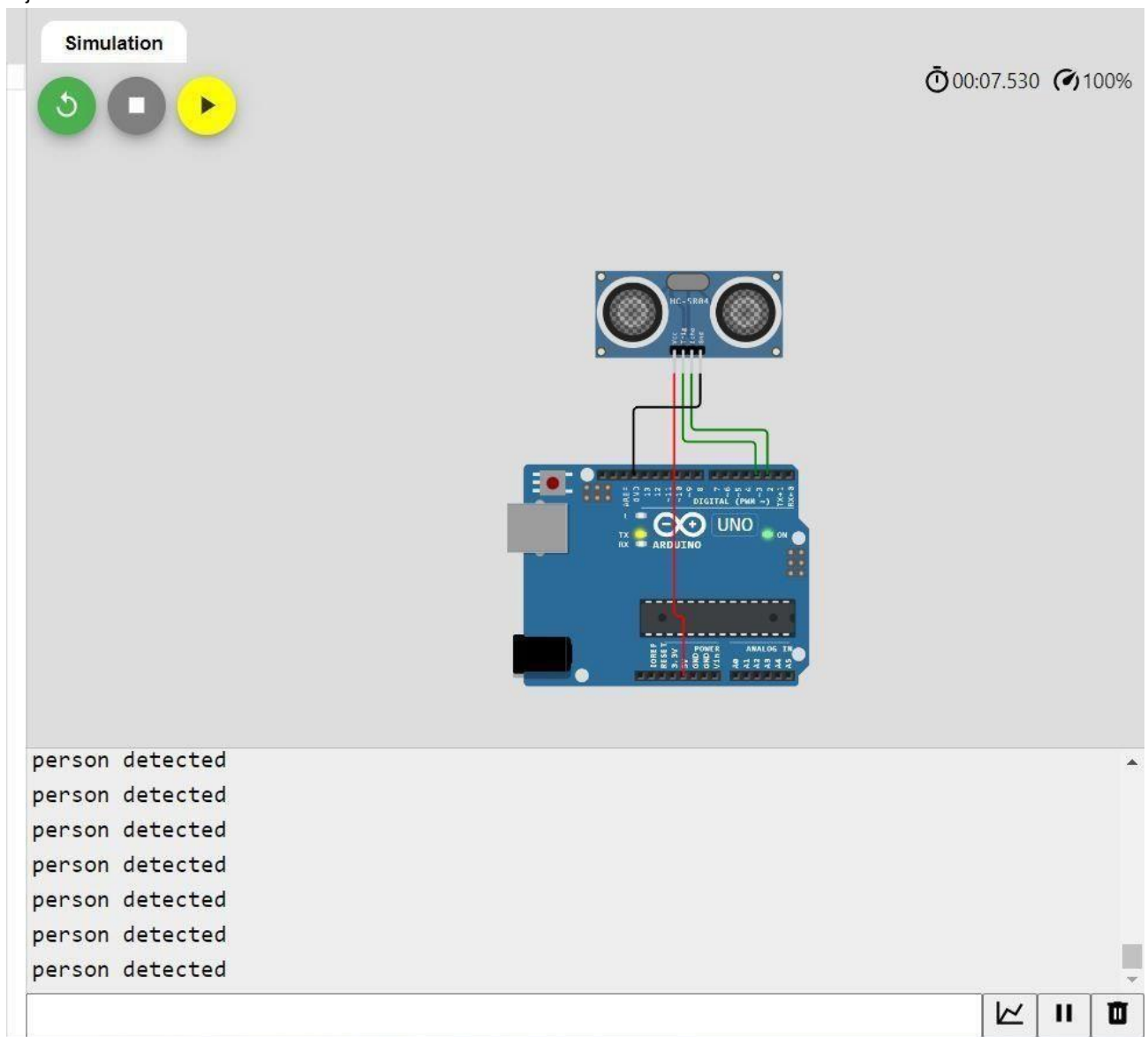
return duration * 0.034 / 2;

}
```

```

void loop() { float distance =
  readDistanceCM(); if(distance <=
  100)
{
  Serial.println("person detected ");
}
else{
  Serial.print("Measured distance: ");
  Serial.println(readDistanceCM());
}
  delay(1000);
}

```



## IBM Cloud

### Device Recent Events

ID: memblbic

Browse Action Device Types Interfaces Add Device +

Ultrasonic\_1

Connected

Ultrasonic

Device

Oct 25, 2022 4:28 PM

→ ...

Identity

Device Information

Recent Events

State

Logs

×

The recent events listed show the live stream of data that is coming and going from this device.

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

> □ pga460\_sensor Disconnected Ultrasonic Device Oct 25, 2022 1:19 PM

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1 Simulation running