Assignment-4

Question-1:

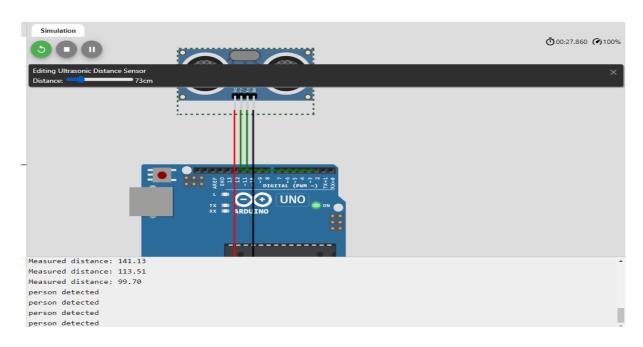*Write code and connections in wokwi for the ultrasonic sensor.*

Whenever the distance is less than 100 cms 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

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);
}
```

IBM Cloud

Device Recent Events

Recent Events

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