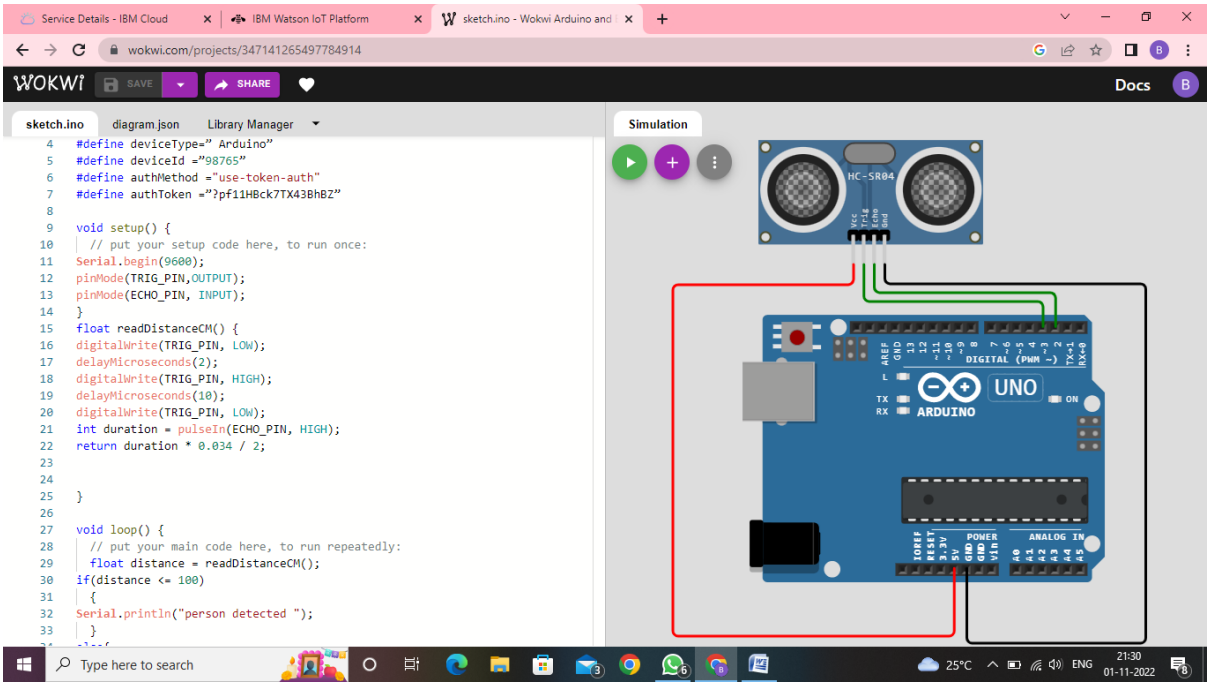
BIRUNTHIKA S Assignment -4

Question-1: Write code and connections in wokwi for ultrasonic sensor. Whenever distance is less than 100 cms send “alert” to ibm cloud and display in device recent events.

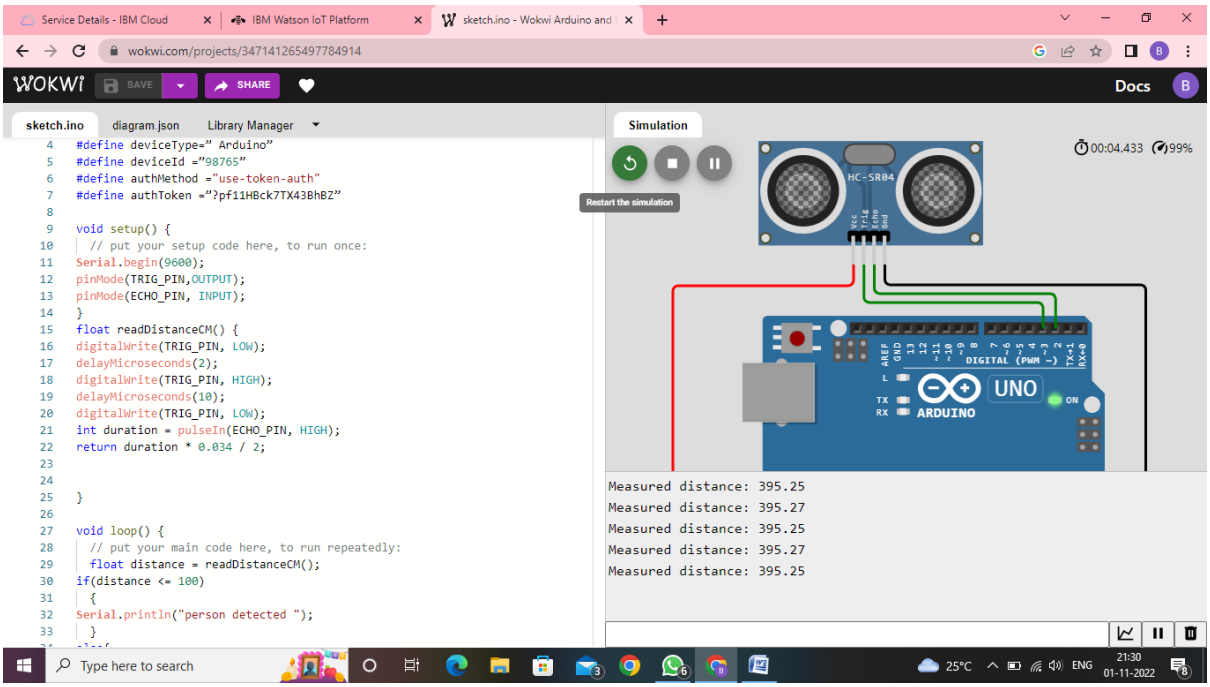
Solution:

```
#define ECHO_PIN 2
#define TRIG_PIN 3
#define organization =”l6anqj”
#definedeviceType=” Arduino”
#definedeviceId =”98765”
#defineauthMethod ="use-token-auth"
#define authToken =”?pf11HBck7TX43BhBZ”

void setup() {
  // put your setup code here, to run once:
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() {
  // put your main code here, to run repeatedly:
  float distance = readDistanceCM();
if(distance <= 100)
  {
Serial.println("person detected ");
  }
else{
Serial.print("Measured distance: ");
Serial.println(readDistanceCM());
  }
delay(1000);




}
```


Service Details - IBM Cloud
IBM Watson IoT Platform
sketch.ino - Wokwi Arduino and
wokwi.com/projects/347141265497784914
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
#define deviceType=" Arduino"
#define deviceId ="98765"
#define authMethod ="use-token-auth"
#define authToken ="?pf11HBck7TX43BhBZ"
void setup() {
// put your setup code here, to run once:
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() {
// put your main code here, to run repeatedly:
float distance = readDistanceCM();
if(distance <= 100)
{
Serial.println("person detected ");
}
Simulation
HC-SR04
UNO
ARDUINO
Type here to search
25°C
ENG
21:30
01-11-2022

Output:


Service Details - IBM Cloud
IBM Watson IoT Platform
sketch.ino - Wokwi Arduino and
wokwi.com/projects/347141265497784914
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
#define deviceType=" Arduino"
#define deviceId ="98765"
#define authMethod ="use-token-auth"
#define authToken ="?pf11HBck7TX43BhBZ"
void setup() {
// put your setup code here, to run once:
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() {
// put your main code here, to run repeatedly:
float distance = readDistanceCM();
if(distance <= 100)
{
Serial.println("person detected ");
}
Simulation
Restart the simulation
00:04.433
99%
HC-SR04
UNO
ARDUINO
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Measured distance: 395.27
Measured distance: 395.25
Type here to search
25°C
ENG
21:30
01-11-2022

Wokwi Link: https://wokwi.com/projects/347141265497784914

IBM CLOUD

Device Recent Events