ASSIGNMENT-4

PROJECT DOMAIN	INTERNET OF THINGS
PROJECT TITLE	IoT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE
TEAM ID	PNT2022TMID44357
NAME	POOJA N L
ROLL NO	731119106023
DATE	27 OCTOBER 2022
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.

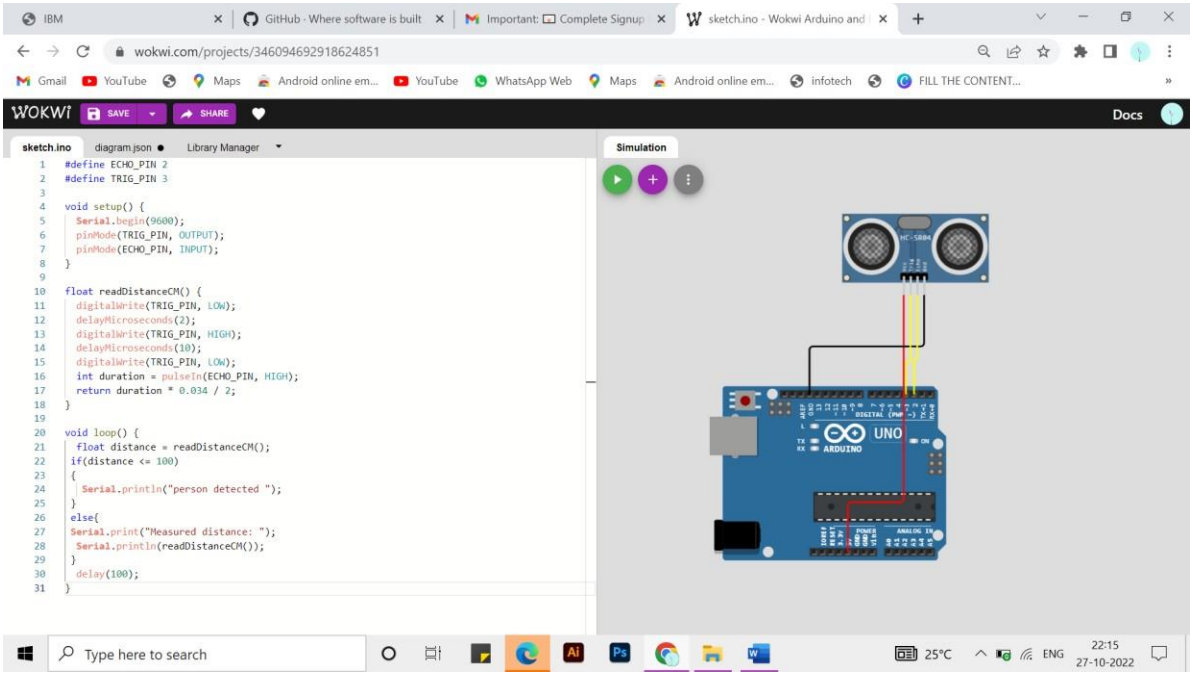
```
#define ECHO_PIN 2
#define TRIG_PIN 3

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(100);
}
```

SOLUTION:


wokwi.com/projects/346094692918624851
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
#define ECHO_PIN 2
#define TRIG_PIN 3
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(100);
}
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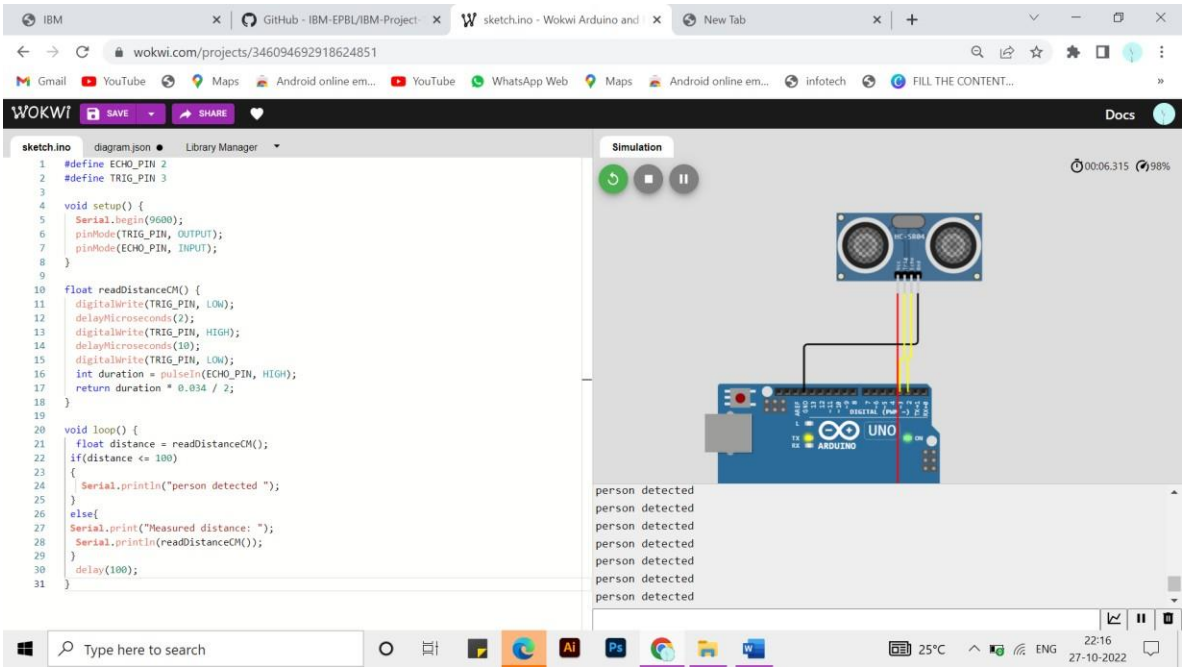
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Docs
sketch.ino
diagram.json
Library Manager
Simulation
00:06.315
98%
#define ECHO_PIN 2
#define TRIG_PIN 3
void setup() {
Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
digitalWrite(TRIG_PIN, LOW);
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(100);
}
person detected
person detected
person detected
person detected
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person detected
person detected
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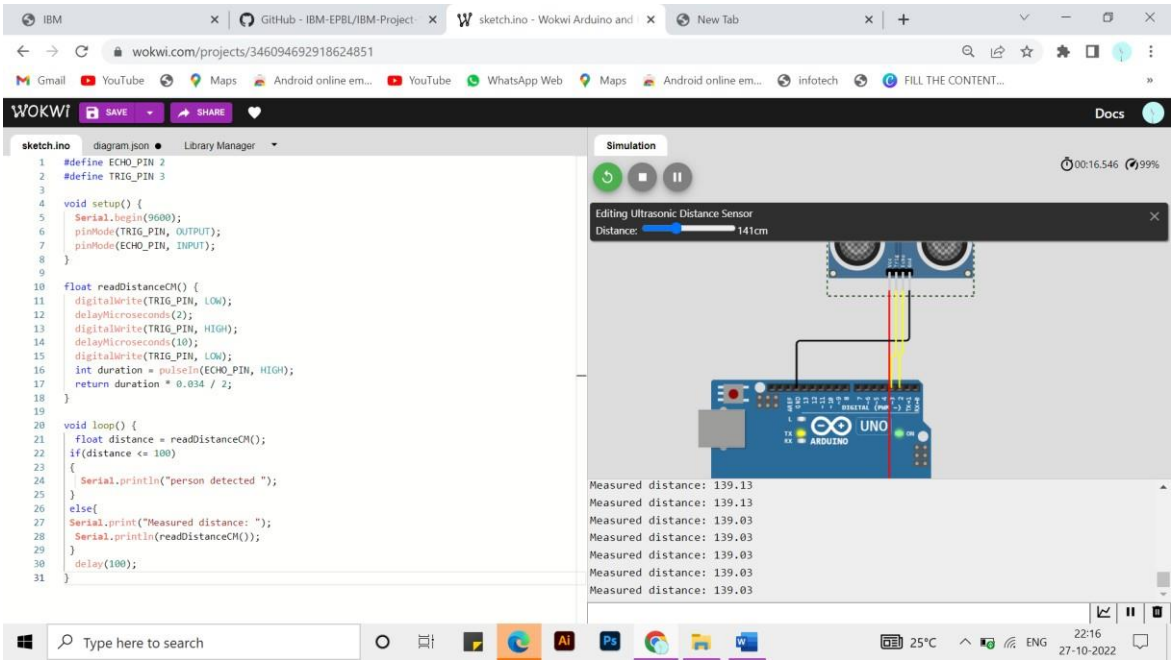
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sketch.ino - Wokwi Arduino and
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sketch.ino
diagram.json
Library Manager
Simulation
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Editing Ultrasonic Distance Sensor
Distance:
141cm
#define ECHO_PIN 2
#define TRIG_PIN 3
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(100);
}
Measured distance: 139.13
Measured distance: 139.13
Measured distance: 139.03
Measured distance: 139.03
Measured distance: 139.03
Measured distance: 139.03
Measured distance: 139.03
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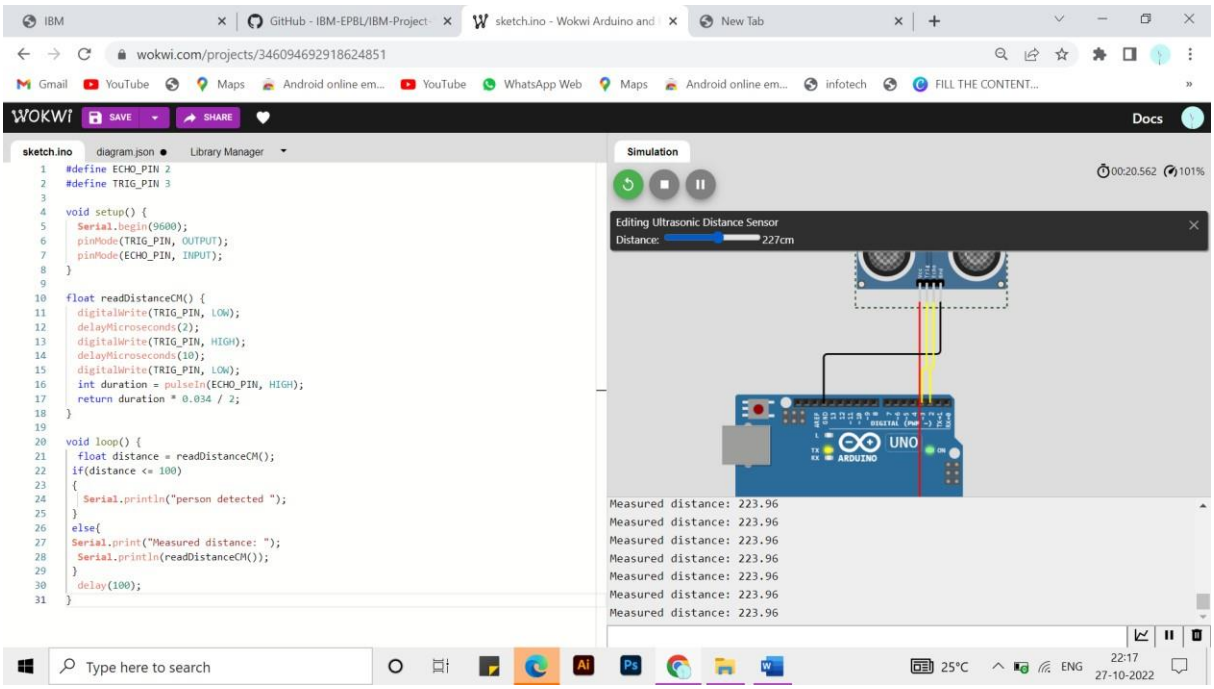
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diagram.json
Library Manager
Simulation
00:20.562
101%
Editing Ultrasonic Distance Sensor
Distance:
227cm
#define ECHO_PIN 2
#define TRIG_PIN 3
void setup() {
Serial.begin(9600);
pinMode(TRIG_PIN, OUTPUT);
pinMode(ECHO_PIN, INPUT);
}
float readDistanceCM() {
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(100);
}
Measured distance: 223.96
Measured distance: 223.96
Measured distance: 223.96
Measured distance: 223.96
Measured distance: 223.96
Measured distance: 223.96
Measured distance: 223.96
Type here to search
25°C
ENG
22:17
27-10-2022