

ASSIGNMENT-4

PROJECT DOMAIN	INTERNET OF THINGS
PROJECT TITLE	IoT BASED SMART CROP PROTECTION SYSTEM FOR AGRICULTURE
TEAM ID	PNT2022TMID44357
NAME	SAKTHI S
ROLL NO	731119106027
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.

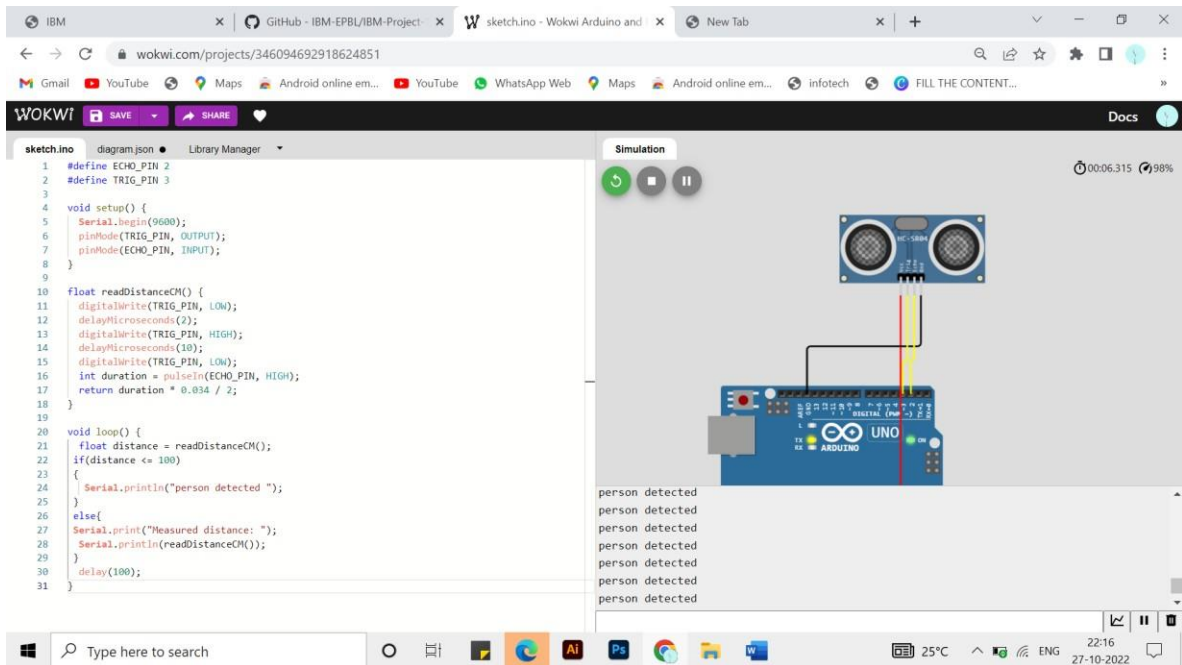
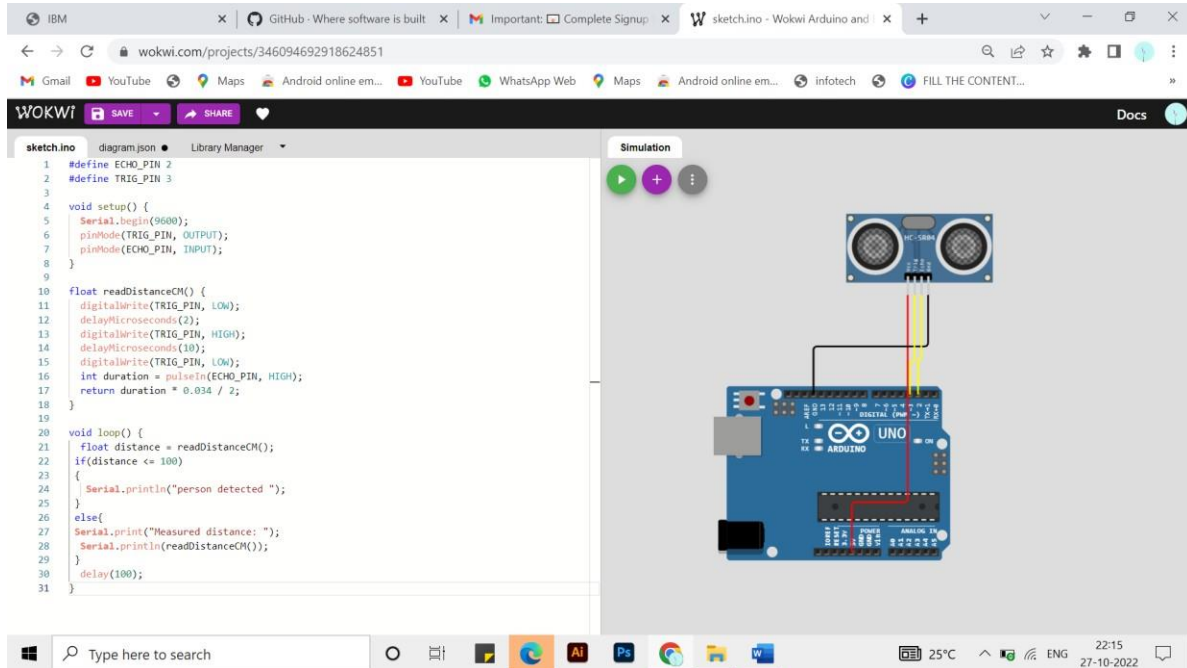
```
#define ECHO_PIN 2
#define TRIG_PIN 3

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:



IBM GitHub - IBM-EPBL/IBM-Project sketchino - Wokwi Arduino and New Tab

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sketchino diagram.json Library Manager

```

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7   pinMode(ECHO_PIN, INPUT);
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10 float readDistanceCM() {
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14   delayMicroseconds(10);
15   digitalWrite(TRIG_PIN, LOW);
16   int duration = pulseIn(ECHO_PIN, HIGH);
17   return duration * 0.034 / 2;
18 }
19
20 void loop() {
21   float distance = readDistanceCM();
22   if(distance <= 100)
23   {
24     Serial.println("person detected ");
25   }
26   else{
27     Serial.print("Measured distance: ");
28     Serial.println(readDistanceCM());
29   }
30   delay(100);
31 }

```

Simulation 00:16.546 99%

Editing Ultrasonic Distance Sensor Distance: 141cm

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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29   }
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31 }

```

Simulation 00:20.562 101%

Editing Ultrasonic Distance Sensor Distance: 227cm

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

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