# Assignment -4 WOKWI SIMULATION

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| Assignment Date | 23 October 2022 |
| Student Name | Ms. Shanmuki .G |
| Student Roll Number | 727819TUEC221 |
| Maximum Marks | 2 Marks |

## Question-1:

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

## Whenever the distance is less than 100cms send an alert to the ibm cloud and display in the device recent events.

Link: <https://wokwi.com/projects/346141727303664212>

# Code:

#define ECHO\_PIN 2

#define TRIG\_PIN 3

void setup() { **Serial**.begin(115200); pinMode(LED\_BUILTIN, OUTPUT); 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(); bool isNearby = distance < 100;

digitalWrite(LED\_BUILTIN, isNearby);

**Serial**.print("Measured distance: ");

**Serial**.println(readDistanceCM());

delay(100);

}

## DIAGRAM.JSON:

{

"version": 1, "author": "sindhuja", "editor": "wokwi", "parts": [

{

"type": "wokwi-arduino-uno", "id": "uno",

"top": 275.99,

"left": 47.73,

"rotate": 0,

"hide": false,

"attrs": {}

},

{

"type": "wokwi-resistor", "id": "r1",

"top": 165.87,

"left": 142.81,

"rotate": 90,

"hide": false,

"attrs": { "value": "220" }

},

{

"type": "wokwi-led",

"id": "led",

"top": 87.29,

"left": 147.05,

"rotate": 0,

"hide": false,

"attrs": { "color": "blue" }

},

{

"type": "wokwi-hc-sr04",

"id": "ultrasonic",

"top": 108.43,

"left": 196.5,

"rotate": 0,

"hide": false,

"attrs": { "distance": "180" }

}

],

"connections": [

[ "uno:GND.1", "ultrasonic:GND", "black", [ "v-8", "\*", "v8" ] ], [ "uno:2", "ultrasonic:ECHO", "green", [] ],

[ "uno:3", "ultrasonic:TRIG", "purple", [ "\*", "v4" ] ],

[ "uno:5V", "ultrasonic:VCC", "blue", [ "v16", "h-96", "\*", "v12" ] ], [ "uno:GND.1", "led:C", "black", [] ],

[ "r1:1", "led:A", "red", [] ],

[ "uno:13", "r1:2", "red", [] ]

]

}

**OUTPUT:**



