ASSIGNMENT – 4

Assignment Date	23 October 2022
Student Name	H.MOHAMED IRFAN
Student Roll Number	820319106301
Maximum Marks	2 Marks

OBJECTIVE:

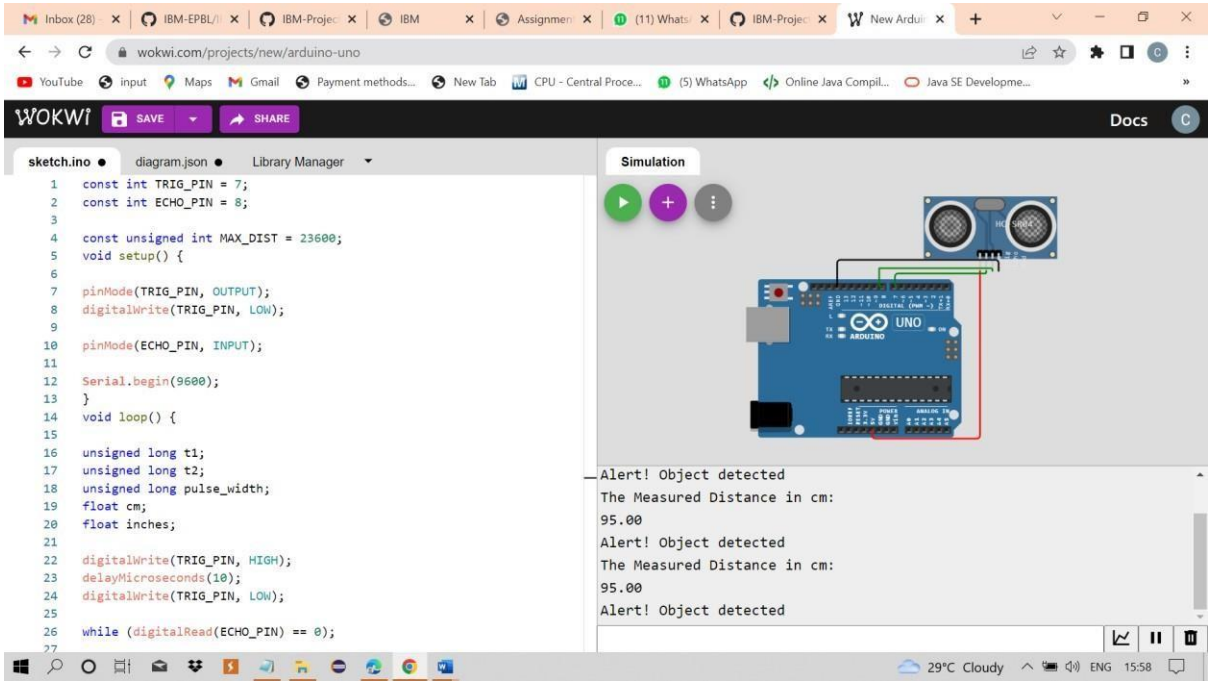
To develop a code and make connections in wokwi for ultrasonic sensor, whenever distance is less than 100 cm send “Alert” to IBM cloudand display in device recent events.

CODE:

```
const int TRIG_PIN = 7;
const int ECHO_PIN = 8;

const unsigned int MAX_DIST = 23600;
void setup() {

pinMode(TRIG_PIN, OUTPUT);
digitalWrite(TRIG_PIN, LOW);

pinMode(ECHO_PIN, INPUT);

Serial.begin(9600);
}
void loop() {

unsigned long t1;
unsigned long t2;
unsigned long pulse_width;
float cm;
float inches;

digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);

while (digitalRead(ECHO_PIN) == 0);

t1 = micros();
```

```
t1 = micros();
while (digitalRead(ECHO_PIN) == 1);
t2 = micros();
pulse_width = t2 - t1;

cm = pulse_width / 58;
inches = pulse_width / 148.0;

if (pulse_width > MAX_DIST) {

Serial.println("Out of range");
}
else
{

Serial.print("The Measured Distance in cm: "); Serial.println(cm);

 if (cm < 100)
{
{
Serial.println("Alert! Object detected");
}
}

}

 delay(1000);
}
```

SIMULATION


wokwi.com/projects/new/arduino-uno
WOKWI
SAVE
SHARE
Docs
sketch.ino
diagram.json
Library Manager
Simulation
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void loop() {
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unsigned long t2;
unsigned long pulse_width;
float cm;
float inches;
digitalWrite(TRIG_PIN, HIGH);
delayMicroseconds(10);
digitalWrite(TRIG_PIN, LOW);
while (digitalRead(ECHO_PIN) == 0);
Alert! Object detected
The Measured Distance in cm:
95.00
Alert! Object detected
The Measured Distance in cm:
95.00
Alert! Object detected
29°C Cloudy
ENG
15:58