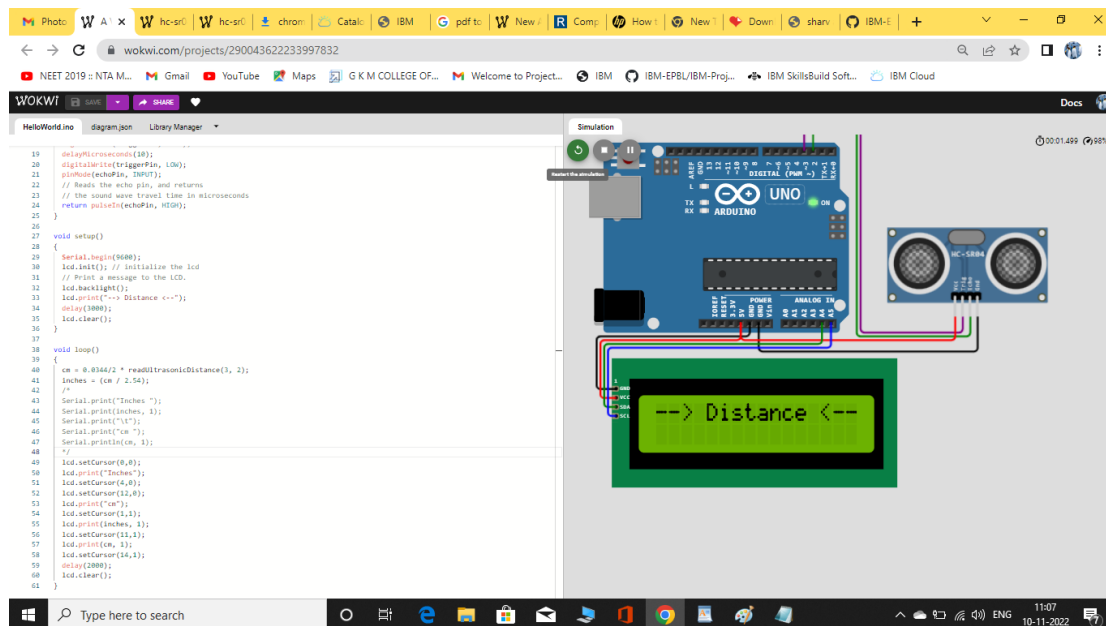
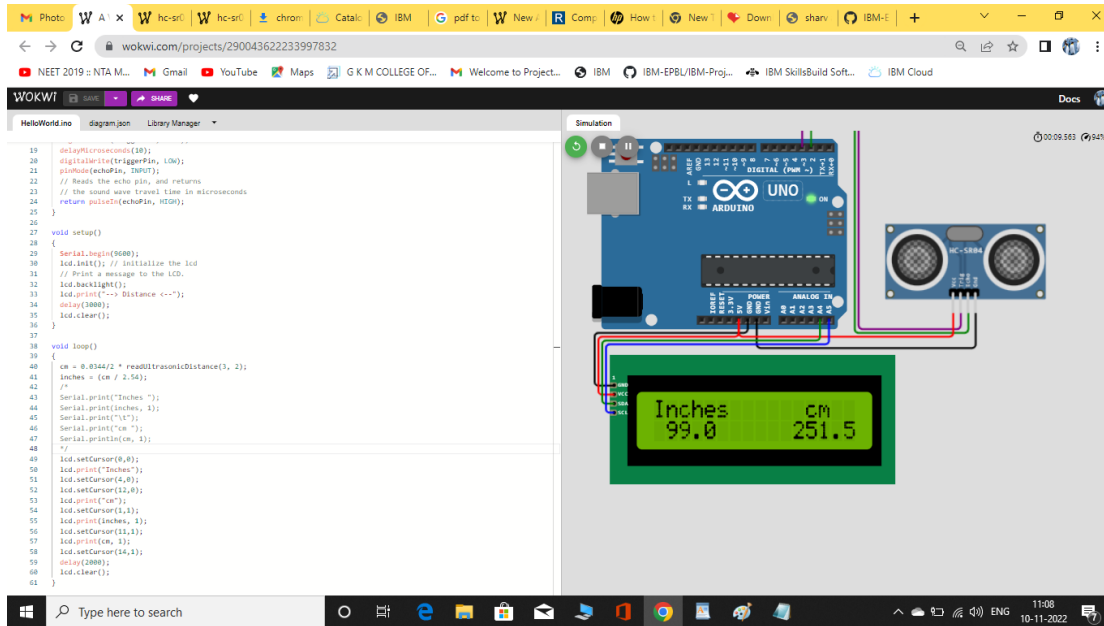


ASSIGNMENT 4

AssignmentDate	10 NOVEMBER 2022
StudentName	Pavithra S
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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.





```
#include <LiquidCrystal_I2C.h>
```

```
LiquidCrystal_I2C lcd(0x27,20,4);
// set the LCD address to 0x27 for a 16 chars and 2 line display
```

```
float cm;
float inches;
```

```
long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT); // Clear the trigger
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    // Sets the trigger pin to HIGH state for 10 microseconds
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    // Reads the echo pin, and returns
    // the sound wave travel time in microseconds
    return pulseIn(echoPin, HIGH);
}
```

```
void setup()
{
    Serial.begin(9600);
    lcd.init(); // initialize the lcd
    // Print a message to the LCD.
    lcd.backlight();
    lcd.print("--> Distance <--");
    delay(3000);
    lcd.clear();
}
```

```
void loop()
{
    cm = 0.0344/2 * readUltrasonicDistance(3, 2);
    inches = (cm / 2.54);
    /*
    Serial.print("Inches ");
    Serial.print(inches, 1);
    Serial.print("in");
    Serial.print("cm ");
    Serial.println(cm, 1);
    */
    lcd.setCursor(0,0);
    lcd.print("Inches");
    lcd.setCursor(4,0);
    lcd.print(cm, 1);
}
```

```
    lcd.setCursor(12,0);  
    lcd.print("cm");  
    lcd.setCursor(1,1);  
    lcd.print(inches, 1);  
    lcd.setCursor(11,1);  
    lcd.print(cm, 1);  
    lcd.setCursor(14,1);  
    delay(2000);  
    lcd.clear();  
}
```