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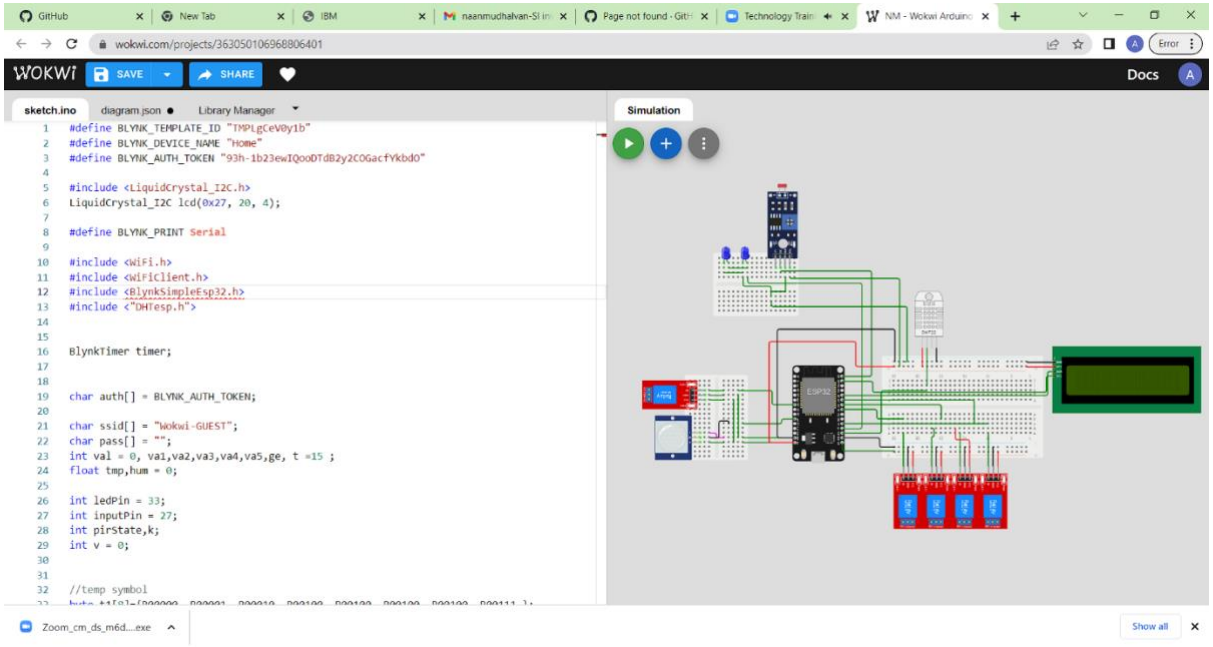
https://wokwi.com/projects/363062112330396673



Sketch.ino

```
#define BLYNK_TEMPLATE_ID "TMPLgCeV0y1b"
#define BLYNK_DEVICE_NAME "Home"
#define BLYNK_AUTH_TOKEN "93h-1b23ewIQooDTdB2y2COGacfYkbdO"

#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27, 20, 4);

#define BLYNK_PRINT Serial

#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include <"DHTesp.h">


BlynkTimer timer;


char auth[] = BLYNK_AUTH_TOKEN;
```

```
char ssid[] = "Wokwi-GUEST";
char pass[] = "";
int val = 0, va1,va2,va3,va4,va5,ge, t =15 ;
float tmp,hum = 0;

int ledPin = 33;
int inputPin = 27;
int pirState,k;
int v = 0;


//temp symbol
byte t1[8]={B00000, B00001, B00010, B00100, B00100, B00100, B00100, B00111,};
byte t2[8]={B00111, B00111, B00111, B01111,B11111, B11111, B01111, B00011,};
byte t3[8]={B00000, B10000, B01011, B00100, B00111, B00100, B00111, B11100,};
byte t4[8]={B11111, B11100, B11100, B11110,B11111, B11111, B11110, B11000,};

//humidity symbol
byte hum1[8]={B00000, B00001, B00011, B00011,B00111, B01111, B01111, B11111,};
byte hum2[8]={B11111, B11111, B11111, B01111,B00011, B00000, B00000, B00000,};
byte hum3[8]={B00000, B10000, B11000, B11000, B11100, B11110, B11110,
B11111,};
byte hum4[8]={B11111, B11111, B11111, B11110, B11100, B00000, B00000,
B00000,};

//Home Symbol
byte house1[8]={B00000, B00001, B00011, B00011, B00111, B01111, B01111,
B11111,};
byte house2[8]={B11111, B11111, B11100, B11100, B11100, B11100, B11100,
B11100,};
byte house3[8]={B00000, B10010, B11010, B11010, B11110, B11110, B11110,
B11111,};
byte house4[8]={B11111, B11111, B11111, B10001, B10001, B10001, B11111,
B11111,};

byte d[8] = { 0b00011,0b00011,0b00000,0b00000,0b00000,0b00000,0b00000,0b00000
};

byte Lck[] = { B01110, B10001, B10001, B11111, B11011, B11011, B11111, B00000
};



DHTesp temps;

BLYNK_WRITE(V0){
 va1 = param.asInt();
 digitalWrite(5, va1);
```

```
}
BLYNK_WRITE(V1){
 va2 = param.asInt();
 digitalWrite(18, va2);
}

BLYNK_WRITE(V2){
 va3 = param.asInt();
 digitalWrite(19, va3);
}
BLYNK_WRITE(V3){
 va4 = param.asInt();
 digitalWrite(4, va4);
}

BLYNK_WRITE(V4){
 va5 = param.asInt();
 digitalWrite(2, va5);
}

BLYNK_WRITE(V7) {
  pirState = param.asInt();
  if(pirState == 0){
    digitalWrite(ledPin, LOW);
    k = 1;
    ge = 0;
  }
  else {
    digitalWrite(ledPin, HIGH);
    k= 0;
    ge = 1;
  }
}

void myTimer()
{
  Blynk.virtualWrite(V5,tmp);
  Blynk.virtualWrite(V6,hum);
}


void setup()
{

 Serial.begin(115200);
 Blynk.begin(auth, ssid, pass);

pinMode(5, OUTPUT);
```

```
pinMode(18, OUTPUT);
pinMode(19, OUTPUT);
pinMode(4, OUTPUT);
pinMode(23,INPUT);
pinMode(2,OUTPUT);
temps.setup(t, DHTesp::DHT22);
pinMode(ledPin, OUTPUT);
pinMode(inputPin, INPUT_PULLUP);

lcd.init();
lcd.backlight();

digitalWrite(5, LOW);
digitalWrite(18, LOW);
digitalWrite(19, LOW);
digitalWrite(21, LOW);


lcd.setCursor(0,0);
lcd.print("CircuitDesignContest");
lcd.setCursor(8,1);
lcd.print("2022");
lcd.setCursor(0,2);
lcd.print("--------------------");
lcd.setCursor(9,3);
lcd.print("- eDiYLaBs");
delay(3000);
lcd.clear();
lcd.createChar(6, Lck);
lcd.createChar(1,house1);
lcd.createChar(2,house2);
lcd.createChar(3,house3);
lcd.createChar(4,house4);
lcd.setCursor(1,2);
lcd.write(1);
lcd.setCursor(1,3);
lcd.write(2);
lcd.setCursor(2,2);
lcd.write(3);
lcd.setCursor(2,3);
lcd.write(4);

lcd.setCursor(17,2);
lcd.write(1);
lcd.setCursor(17,3);
lcd.write(2);
lcd.setCursor(18,2);
lcd.write(3);
lcd.setCursor(18,3);
```

```
lcd.write(4);


lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(9,0);
lcd.print("connected-");
lcd.setCursor(2,1);
lcd.print("HOME AUTOMATION");
lcd.setCursor(6,2);
lcd.print("USING IOT");
delay(3000);

Blynk.virtualWrite(V7, pirState);
timer.setInterval(1000L, myTimer);

}


void loop()
{
 Blynk.run();
 timer.run();
 val = digitalRead(23);
  if(val == 1)
  {
   digitalWrite(2,va5);
  }

else{
      digitalWrite(2,LOW);
}

TempAndHumidity  x = temps.getTempAndHumidity();
tmp = x.temperature ;
hum = x.humidity ;

  v = digitalRead(inputPin);
  if (v == HIGH) {
    if (k == 1)   {
          digitalWrite(ledPin, LOW);
          k = 0 ;
          ge = 0;
    }
    else if (k == 0)   {
          digitalWrite(ledPin, HIGH);
          k = 1;
          ge = 1;
    }
```

```
}


if (va1 == 1){
 lcd.clear();
  lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(0, 1);
lcd.print("SW_1= ");
lcd.print("ON ");
}
else{
   lcd.clear();
    lcd.setCursor(19,0);
lcd.write(6);
    lcd.setCursor(0, 1);
lcd.print("SW_1= ");
lcd.print("OFF");
}
if (va2 == 1){


lcd.setCursor(11, 1);
lcd.print("SW_2= ");
lcd.print("ON ");
}
else{
    lcd.setCursor(11, 1);
lcd.print("SW_2= ");
lcd.print("OFF");
}
if (va3 == 1){

lcd.setCursor(0, 2);
lcd.print("SW_3= ");
lcd.print("ON ");
}
else{

    lcd.setCursor(0, 2);
lcd.print("SW_3= ");
lcd.print("OFF");
}
if (va4 == 1){

lcd.setCursor(11, 2);
lcd.print("SW_4= ");
lcd.print("ON ");
}
```

```
else{

    lcd.setCursor(11, 2);
lcd.print("SW_4= ");
lcd.print("OFF");
}
  if (va5 == 1){

lcd.setCursor(0, 3);
lcd.print("OD_L= ");
lcd.print("ON ");
}
else{

    lcd.setCursor(0, 3);
lcd.print("OD_L= ");
lcd.print("OFF");
}
 if (ge == 1){

lcd.setCursor(11, 3);
lcd.print("WR_L= ");
lcd.print("ON ");
}
else{

    lcd.setCursor(11, 3);
lcd.print("WR_L= ");
lcd.print("OFF");
}
delay(1500);

lcd.clear();
lcd.createChar(1,t1);
lcd.createChar(2,t2);
lcd.createChar(3,t3);
lcd.createChar(4,t4);
lcd.createChar(5, d);
lcd.createChar(6, Lck);

lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(1,1);
lcd.write(1);
lcd.setCursor(1,2);
lcd.write(2);
lcd.setCursor(2,1);
lcd.write(3);
```

```
  lcd.setCursor(2,2);
  lcd.write(4);
  lcd.setCursor(4,1);
  lcd.print("Temperature :");
  lcd.setCursor(7,2);
  lcd.print(tmp);
  lcd.setCursor(11,2);
  lcd.write(5);
  lcd.setCursor(12,2);
  lcd.print("C");

  delay(750);
  lcd.clear();

  lcd.createChar(1,hum1);
  lcd.createChar(2,hum2);
  lcd.createChar(3,hum3);
  lcd.createChar(4,hum4);

  lcd.setCursor(19,0);
  lcd.write(6);
  lcd.setCursor(3,1);
  lcd.write(1);
  lcd.setCursor(3,2);
  lcd.write(2);
  lcd.setCursor(4,1);
  lcd.write(3);
  lcd.setCursor(4,2);
  lcd.write(4);
  lcd.setCursor(6,1);
  lcd.print("Humidity :");
  lcd.setCursor(7,2);
  lcd.print(hum);
  lcd.setCursor(12,2);
  lcd.print("%");
  delay(750);


}
```

Diagram.json

```
{
```

```
  "version": 1,
  "author": "AshwinKumarPa",
  "editor": "wokwi",
  "parts": [
    { "type": "wokwi-breadboard-mini", "id": "bb1", "top": 75.4, "left": -
136.8, "attrs": {} },
    {
      "type": "wokwi-breadboard-mini",
      "id": "bb2",
      "top": 346.5,
      "left": -217.3,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-breadboard-half",
      "id": "bb3",
      "top": 284.6,
      "left": 205.8,
      "rotate": 180,
      "attrs": {}
    },
    { "type": "wokwi-esp32-devkit-v1", "id": "esp", "top": 302.3, "left":
23.8, "attrs": {} },
    {
      "type": "wokwi-photoresistor-sensor",
      "id": "ldr1",
      "top": -12.9,
      "left": -85.3,
      "rotate": 90,
      "attrs": {}
    },
    { "type": "wokwi-led", "id": "led1", "top": 54, "left": -130.6, "attrs": {
"color": "blue" } },
    { "type": "wokwi-led", "id": "led2", "top": 54, "left": -92.2, "attrs": {
"color": "blue" } },
    {
      "type": "wokwi-relay-module",
      "id": "relay1",
      "top": 335.4,
      "left": -281.6,
      "rotate": 180,
      "attrs": {}
    },
    {
      "type": "wokwi-pir-motion-sensor",
      "id": "pir1",
      "top": 402.48,
```

```
      "left": -251.7,
      "rotate": 270,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay2",
      "top": 543.8,
      "left": 194.8,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay3",
      "top": 543.8,
      "left": 252.4,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay4",
      "top": 543.8,
      "left": 310,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay5",
      "top": 543.8,
      "left": 367.6,
      "rotate": 90,
      "attrs": {}
    },
    { "type": "wokwi-dht22", "id": "dht1", "top": 153.9, "left": 273, "attrs":
{} },
    {
      "type": "wokwi-lcd1602",
      "id": "lcd1",
      "top": 265.6,
      "left": 552.8,
      "attrs": { "pins": "i2c" }
    }
  ],
  "connections": [
    [ "esp:TX0", "$serialMonitor:RX", "", [] ],
```

```
[ "esp:RX0", "$serialMonitor:TX", "", [] ],
[ "led1:A", "bb1:3t.b", "", [ "$bb" ] ],
[ "led1:C", "bb1:2t.b", "", [ "$bb" ] ],
[ "led2:A", "bb1:7t.b", "", [ "$bb" ] ],
[ "led2:C", "bb1:6t.b", "", [ "$bb" ] ],
[ "bb1:3t.c", "bb1:7t.c", "green", [ "v0" ] ],
[ "bb1:2t.d", "bb1:6t.d", "green", [ "v0" ] ],
[ "ldr1:VCC", "bb1:16t.c", "", [ "$bb" ] ],
[ "ldr1:GND", "bb1:15t.c", "", [ "$bb" ] ],
[ "ldr1:DO", "bb1:14t.c", "", [ "$bb" ] ],
[ "ldr1:AO", "bb1:13t.c", "", [ "$bb" ] ],
[ "bb2:3b.f", "bb2:3t.e", "green", [ "h0" ] ],
[ "bb2:5b.f", "bb2:5t.e", "green", [ "h0" ] ],
[ "bb2:4b.f", "bb2:4t.e", "green", [ "h0" ] ],
[ "bb2:12b.f", "bb2:13t.e", "magenta", [ "h12.89", "v8.78" ] ],
[ "bb2:13b.f", "bb2:10t.d", "black", [ "h18.1", "v-34.22", "h18.79" ] ],
[ "relay1:VCC", "bb2:5b.g", "", [ "$bb" ] ],
[ "relay1:GND", "bb2:4b.g", "", [ "$bb" ] ],
[ "relay1:IN", "bb2:3b.g", "", [ "$bb" ] ],
[ "pir1:VCC", "bb2:14b.h", "", [ "$bb" ] ],
[ "pir1:OUT", "bb2:13b.h", "", [ "$bb" ] ],
[ "pir1:GND", "bb2:12b.h", "", [ "$bb" ] ],
[ "bb2:14b.f", "bb2:14t.e", "green", [ "h0" ] ],
[ "bb2:5t.c", "bb2:14t.c", "green", [ "h0" ] ],
[ "bb2:4t.b", "bb2:13t.b", "green", [ "h0.17", "v80.37" ] ],
[ "bb2:10t.a", "esp:D27", "green", [ "h78.61", "v-37.6" ] ],
[ "bb2:13t.a", "esp:GND.2", "green", [ "h85.08", "v-28.31" ] ],
[ "bb2:3t.b", "esp:D33", "green", [ "h68.81", "v23.13" ] ],
[ "bb2:14t.a", "esp:VIN", "green", [ "h0" ] ],
[ "relay2:IN", "bb3:28t.a", "green", [ "v0" ] ],
[ "relay2:GND", "bb3:tn.22", "black", [ "v0" ] ],
[ "relay2:VCC", "bb3:tp.21", "red", [ "v0" ] ],
[ "relay3:IN", "bb3:22t.b", "green", [ "v-59.9", "h4.85", "v-15.69" ] ],
[ "relay3:GND", "bb3:tn.17", "black", [ "v0" ] ],
[ "relay3:VCC", "bb3:tp.16", "red", [ "v0" ] ],
[ "relay4:IN", "bb3:16t.a", "green", [ "v0" ] ],
[ "relay4:GND", "bb3:tn.12", "black", [ "v0" ] ],
[ "relay4:VCC", "bb3:17t.b", "red", [ "v-53.63", "h-28.23" ] ],
[ "relay5:IN", "bb3:10t.a", "green", [ "v0" ] ],
[ "relay5:GND", "bb3:tn.7", "black", [ "v0" ] ],
[ "relay5:VCC", "bb3:tp.6", "red", [ "v0" ] ],
[ "dht1:VCC", "bb3:bp.20", "red", [ "v0" ] ],
[ "dht1:SDA", "bb3:23b.i", "green", [ "v0" ] ],
[ "dht1:GND", "bb3:bn.17", "black", [ "v0" ] ],
[ "lcd1:GND", "bb3:bn.1", "black", [ "h0" ] ],
[ "lcd1:VCC", "bb3:bp.1", "red", [ "h0" ] ],
[ "bb1:7t.e", "esp:D2", "green", [ "v11.69", "h232.06", "v290.83" ] ],
[ "bb1:6t.e", "bb1:12b.g", "green", [ "v18.13", "h57.29", "v20.27" ] ],
```

```
    [ "bb1:12b.f", "bb1:15b.f", "green", [ "v0" ] ],
    [ "bb1:15b.f", "bb1:15t.e", "green", [ "v0" ] ],
    [ "bb1:16t.e", "bb3:bp.24", "green", [ "v2.06", "h188.5" ] ],
    [ "bb1:14t.d", "esp:D23", "green", [ "v-3.25", "h184.75", "v208.85" ] ],
    [ "bb1:12b.h", "bb3:bn.23", "green", [ "v11.44", "h276.24", "v6.89" ] ],
    [ "esp:D22", "lcd1:SCL", "green", [ "h61.94", "v22.36", "h353.43", "v-
33.28", "h20.66" ] ],
    [ "lcd1:SDA", "esp:D21", "green", [ "h-14.03", "v70.75" ] ],
    [ "bb3:10t.c", "esp:D4", "green", [ "v0" ] ],
    [ "esp:GND.1", "bb3:tn.25", "black", [ "h76.03", "v12.93" ] ],
    [ "esp:3V3", "bb3:tp.25", "green", [ "v17.2", "h71.44" ] ],
    [ "esp:D15", "bb3:23b.h", "green", [ "h79.47", "v-91.17" ] ],
    [ "esp:D19", "bb3:13t.c", "green", [ "h0" ] ],
    [ "esp:D18", "bb3:20t.d", "green", [ "h0" ] ],
    [ "esp:D5", "bb3:28t.d", "green", [ "h70.29", "v15.55" ] ],
    [ "esp:VIN", "bb3:bp.25", "red", [ "h-52.56", "v-205.38", "h176.34",
"v52.9" ] ],
    [ "esp:GND.2", "bb3:bn.25", "black", [ "h-35.85", "v-220.93", "h61.26" ] ]
  ],
  "dependencies": {}
}
```