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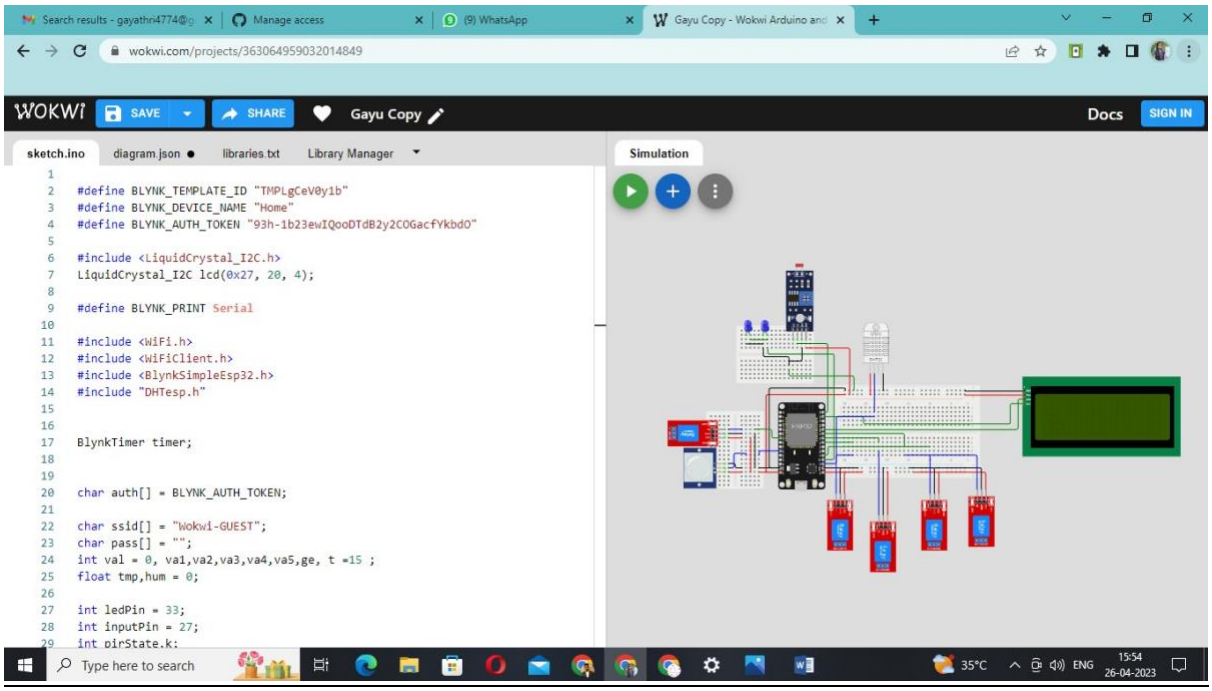
https://wokwi.com/projects/363064959032014849



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("2023");
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": "Gayathri.M",
  "editor": "wokwi",
  "parts": [
    {
      "type": "wokwi-breadboard-half",
      "id": "bb1",
      "top": -176.2,
"left": -91.8,
      "rotate": 180,
```

```
      "attrs": {}
    },
    { "type": "wokwi-breadboard-mini", "id": "bb2", "top": -308.6, "left": -
309.6, "attrs": {} },
    {
      "type": "wokwi-breadboard-mini",
      "id": "bb3",
      "top": -95.1,
      "left": -399.7,
      "rotate": 90,
      "attrs": {}
    },
    { "type": "wokwi-esp32-devkit-v1", "id": "esp", "top": -139.3, "left": -
216.2, "attrs": {} },
    {
      "type": "wokwi-relay-module",
      "id": "relay1",
      "top": 82.37,
      "left": -101.01,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay2",
      "top": 81.06,
      "left": -42.41,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay3",
      "top": 81.06,
      "left": 14.35,
      "rotate": 90,
      "attrs": {}
```

```
},
{
```

```
      "type": "wokwi-relay-module",
      "id": "relay4",
      "top": 81.06,
      "left": 73.22,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-photoresistor-sensor",
      "id": "ldr1",
      "top": -396.4,
      "left": -257.6,
      "rotate": 90,
      "attrs": {}
    },
    {
      "type": "wokwi-lcd2004",
      "id": "lcd1",
      "top": -195.2,
      "left": 255.2,
      "attrs": { "pins": "i2c" }
    },
    {
      "type": "wokwi-led",
      "id": "led1",
      "top": -330,
      "left": -303.4,
      "attrs": { "color": "blue" }
    },
    { "type": "wokwi-led", "id": "led2", "top": -330, "left": -265, "attrs": {
"color": "blue" } },
    {
      "type": "wokwi-dht22",
      "id": "dht1",
      "top": -316.5,
      "left": -24.6,
```

```
      "attrs": { "temperature": "-0.4", "humidity": "65.5" }
    },
    {
      "type": "wokwi-pir-motion-sensor",
      "id": "pir1",
      "top": -38.62,
      "left": -425,
      "rotate": 270,
      "attrs": {}
    },
    {
      "type": "wokwi-relay-module",
      "id": "relay5",
      "top": -96.6,
      "left": -464,
      "rotate": 180,
      "attrs": {}
    }
  ],
  "connections": [
    [ "esp:TX0", "$serialMonitor:RX", "", [] ],
    [ "esp:RX0", "$serialMonitor:TX", "", [] ],
    [ "esp:3V3", "bb1:tp.25", "red", [ "v0" ] ],
    [ "esp:GND.1", "bb1:tn.25", "black", [ "h0" ] ],
    [ "relay1:VCC", "bb1:tp.21", "red", [ "v0" ] ],
    [ "relay1:GND", "bb1:tn.22", "black", [ "v0" ] ],
    [ "esp:D5", "bb1:28t.d", "green", [ "h0" ] ],
    [ "relay1:IN", "bb1:28t.a", "blue", [ "v0" ] ],
[ "esp:D18", "bb1:22t.d", "green", [ "h0" ] ],
    [ "relay2:IN", "bb1:22t.b", "blue", [ "v0" ] ],
    [ "relay2:VCC", "bb1:tp.16", "red", [ "v0" ] ],
    [ "relay2:GND", "bb1:tn.17", "black", [ "v0" ] ],
    [ "relay3:VCC", "bb1:tp.11", "red", [ "v0" ] ],
    [ "relay3:GND", "bb1:tn.12", "black", [ "v0" ] ],
    [ "esp:D19", "bb1:16t.c", "green", [ "h0" ] ],
    [ "relay3:IN", "bb1:16t.a", "blue", [ "v0" ] ],
    [ "relay4:VCC", "bb1:tp.6", "red", [ "v0" ] ],
    [ "relay4:GND", "bb1:tn.7", "black", [ "v0" ] ],
    [ "relay4:IN", "bb1:10t.a", "blue", [ "v0" ] ],
    [ "esp:VIN", "bb1:bp.25", "red", [ "h-32.73", "v-11.44" ] ],
```

```
    [ "esp:GND.2", "bb1:bn.25", "black", [ "h-25.72", "v-179.53", "h4.67" ] ],
    [ "lcd1:GND", "bb1:bn.1", "black", [ "h0" ] ],
    [ "lcd1:VCC", "bb1:bp.1", "red", [ "h0" ] ],
    [ "esp:D4", "bb1:10t.c", "green", [ "h10.27", "v-16.8" ] ],
    [ "lcd1:SDA", "esp:D21", "green", [ "h-14", "v51.46" ] ],
    [ "lcd1:SCL", "esp:D22", "green", [ "h-31", "v45.74", "h-329.93", "v-
23.93" ] ],
    [ "led2:A", "bb2:7t.b", "", [ "$bb" ] ],
    [ "led2:C", "bb2:6t.b", "", [ "$bb" ] ],
    [ "led1:A", "bb2:3t.b", "", [ "$bb" ] ],
    [ "led1:C", "bb2:2t.b", "", [ "$bb" ] ],
    [ "bb2:3t.c", "bb2:7t.c", "green", [ "v0" ] ],
    [ "esp:D2", "bb2:7t.e", "green", [ "h24", "v-237.12", "h-155.28" ] ],
    [ "bb2:2t.d", "bb2:6t.d", "black", [ "v0" ] ],
    [ "bb1:bn.23", "bb2:12b.h", "green", [ "v-31.96", "h-1.89" ] ],
    [ "bb2:6t.e", "bb2:12b.g", "black", [ "v19.43", "h2.01" ] ],
    [ "bb2:15t.e", "bb2:12b.f", "black", [ "v0" ] ],
    [ "bb1:bp.24", "bb2:16t.e", "red", [ "v0" ] ],
    [ "esp:D23", "bb2:14t.d", "green", [ "h9.67", "v-154.15", "h-19.54" ] ],
    [ "ldr1:VCC", "bb2:16t.c", "", [ "$bb" ] ],
    [ "ldr1:GND", "bb2:15t.c", "", [ "$bb" ] ],
    [ "ldr1:DO", "bb2:14t.c", "", [ "$bb" ] ],
    [ "ldr1:AO", "bb2:13t.c", "", [ "$bb" ] ],
    [ "dht1:GND", "bb1:bn.17", "black", [ "v0" ] ],
    [ "dht1:VCC", "bb1:bp.20", "red", [ "v0" ] ],
    [ "dht1:SDA", "bb1:23b.i", "blue", [ "v0" ] ],
    [ "esp:D15", "bb1:23b.h", "blue", [ "h29.06", "v-1.34" ] ],
    [ "esp:VIN", "bb3:14t.a", "red", [ "h0" ] ],
    [ "esp:GND.2", "bb3:13t.a", "black", [ "h0" ] ],
    [ "bb3:5b.f", "bb3:5t.e", "black", [ "h0" ] ],
    [ "bb3:13t.e", "bb3:12b.f", "black", [ "h-15.22", "v-10.88" ] ],
    [ "bb3:4t.b", "esp:D33", "green", [ "h38.08", "v1.59" ] ],
    [ "bb3:14b.f", "bb3:14t.e", "red", [ "h0" ] ],
    [ "bb3:13b.f", "bb3:10t.d", "blue", [ "h10.42", "v-32.65", "h-0.66" ] ],
    [ "esp:D27", "bb3:10t.a", "blue", [ "h0" ] ],
    [ "bb3:4t.e", "bb3:4b.f", "blue", [ "h0" ] ],
```

```
    [ "bb3:6b.f", "bb3:6t.e", "red", [ "h0" ] ],
    [ "pir1:VCC", "bb3:14b.g", "", [ "$bb" ] ],
    [ "pir1:OUT", "bb3:13b.g", "", [ "$bb" ] ],
    [ "pir1:GND", "bb3:12b.g", "", [ "$bb" ] ],
    [ "relay5:VCC", "bb3:6b.g", "", [ "$bb" ] ],
    [ "relay5:GND", "bb3:5b.g", "", [ "$bb" ] ],
    [ "relay5:IN", "bb3:4b.g", "", [ "$bb" ] ],
    [ "bb3:14t.c", "bb3:6t.c", "red", [ "h0" ] ],
    [ "bb3:13t.b", "bb3:5t.b", "black", [ "h0" ] ]
]
}
```