```
#include <Wire.h>   //  library for I2C protocol
#include <LiquidCrystal_I2C.h>  // library for I2C LCD

int analogInput = A0;
int value = 0;
float in_min=24;
float in_max=27.6;

int Soc;


float vout = 0.0;
float vin = 0.0;
float R1 = 100300;              // Resistor R1 100k
float R2 = 10140;               // Resistor R2 10k


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

void setup()
{pinMode(analogInput, INPUT);
  Serial.begin(115200);


  lcd.init();                   // initialize the lcd
  lcd.init();                   // initialize the lcd
  lcd.backlight();  // backlight ON
 //lcd.print(" Discharging ");
 lcd.begin(16,2);
}
```

```
void loop()
{
  lcd.setCursor(3,0);
  lcd.print("DISCHARGING");
lcd.setCursor(0,1);
  lcd.print("Soc: ");
lcd.setCursor(3,1);
lcd.print("=");
  lcd.print(Soc);
  lcd.print("%");
  lcd.setCursor(10,1);
  lcd.print("vin: ");
lcd.setCursor(11,1);
lcd.print("=");
  lcd.print(vin);
  lcd.print("v");

 /* if (in_min<=24)
  {
  set.setCursor(0,0);
  lcd.print("Plz Charge")*/


 value = analogRead(analogInput);
 vout = (value * 3.3) / 1023.0;   // mybe u must change the 3.3 to 5 and
                          // *** work not correct with ESP32 ***
                          //for the ESP32 u have to change the 1023 to 4095
                          // **********************************
 vin = vout / (R2/(R1+R2));

 Serial.print("INPUT V= ");
```

```
 Serial.println(vin,4);

 showonoled();

}
void showonoled() {
  Serial.println("Display on external");

Soc =((vin-in_min)/(in_max-in_min))*100;

  if( vin >=in_max)
  {
   Soc = 100;

  }

  if (vin <= in_min)
  {
    Soc= 1;
    lcd.clear();
    lcd.setCursor(0,0);
  lcd.print("ON RESERVE");
  lcd.setCursor(0,1);
  lcd.print("PLEASE CHARGE");
  }
  delay(2000);
  Serial.print("Soc =");
  Serial.print(Soc);
  Serial.print("   ");

  delay(500);
```

}