

CLCD interface and Coding

CLCD – Character Liquid Crystal Display

It is most commonly used to display ASCII characters.

Some customization in symbols possible.

Communication Modes are-

8 - Bit Mode

4 – Bit Mode

Library Functions:

- Classes-LiquidCrystal_I2C (address, columns, rows)
Set the LCD address and number of display lines and characters in line.

Syntax:

LiquidCrystal_I2C(address,columns,rows)

Parameters:

Columns – number of characters in each line.

Rows- Number of display lines

Address- 0x27

- Classes-LiquidCrystal_I2C → setCursor(columns, rows);

It is used to set cursor at particular position

Syntax:

setCursor(columns,rows)

parameters:

Columns – character position

Rows- Line number

- Classes- LiquidCrystal_I2C → print(string);
It is used to print the string on the CLCD.

Syntax:

Print(string)

Arduino

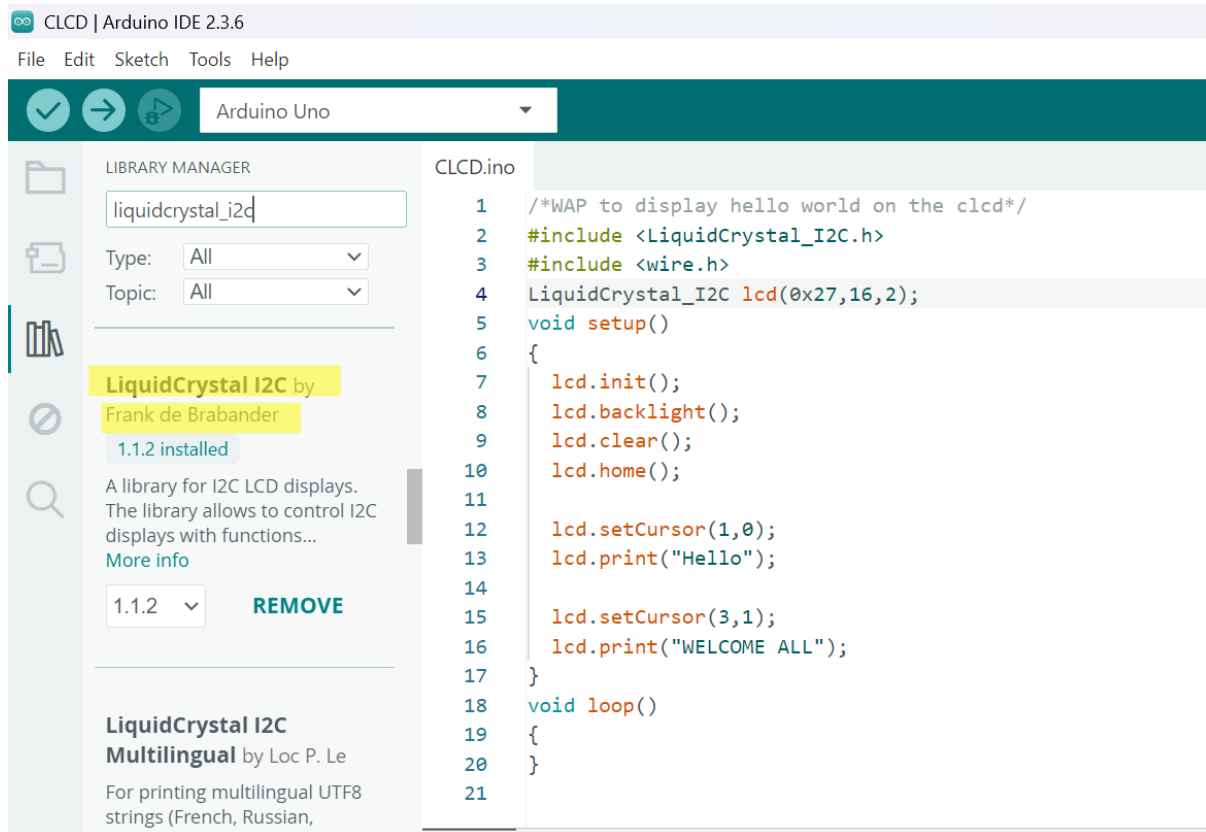
```
lcd.init();           // Initialize the LCD
```

```
lcd.backlight( );    // Turn ON the back light
```

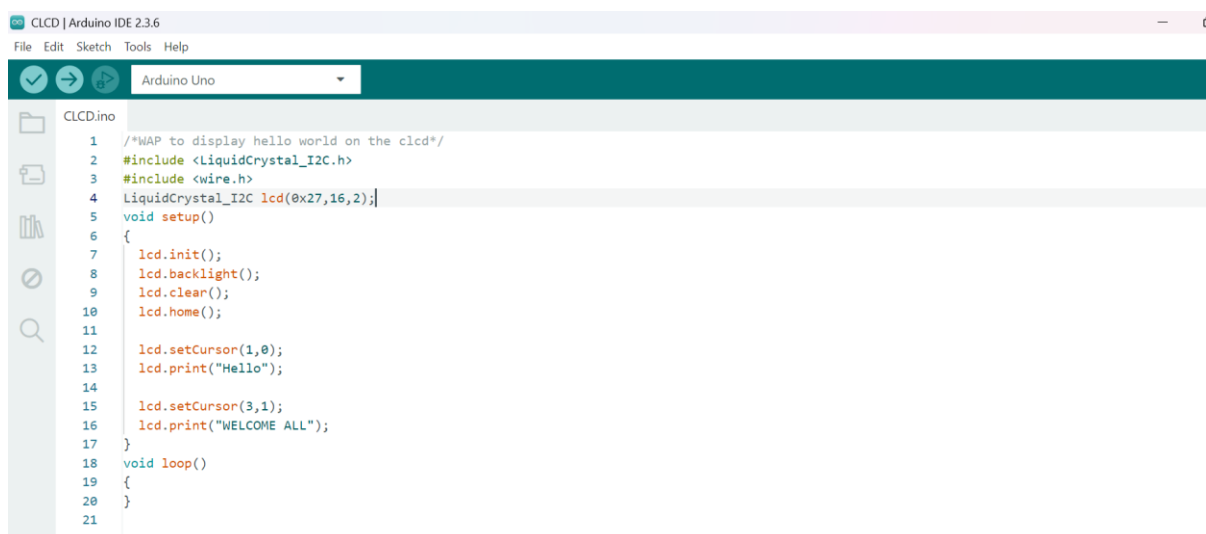
```
lcd.clear( );        //clear the CLCD screen
```

lcd.home(); //set cursor to the first position on the clcd

- Open Arduino-IDE.
- Open new sketch (file → new sketch)
- Install LiquidCrystal_I2C library from manage library by **Frank de Brabander**.

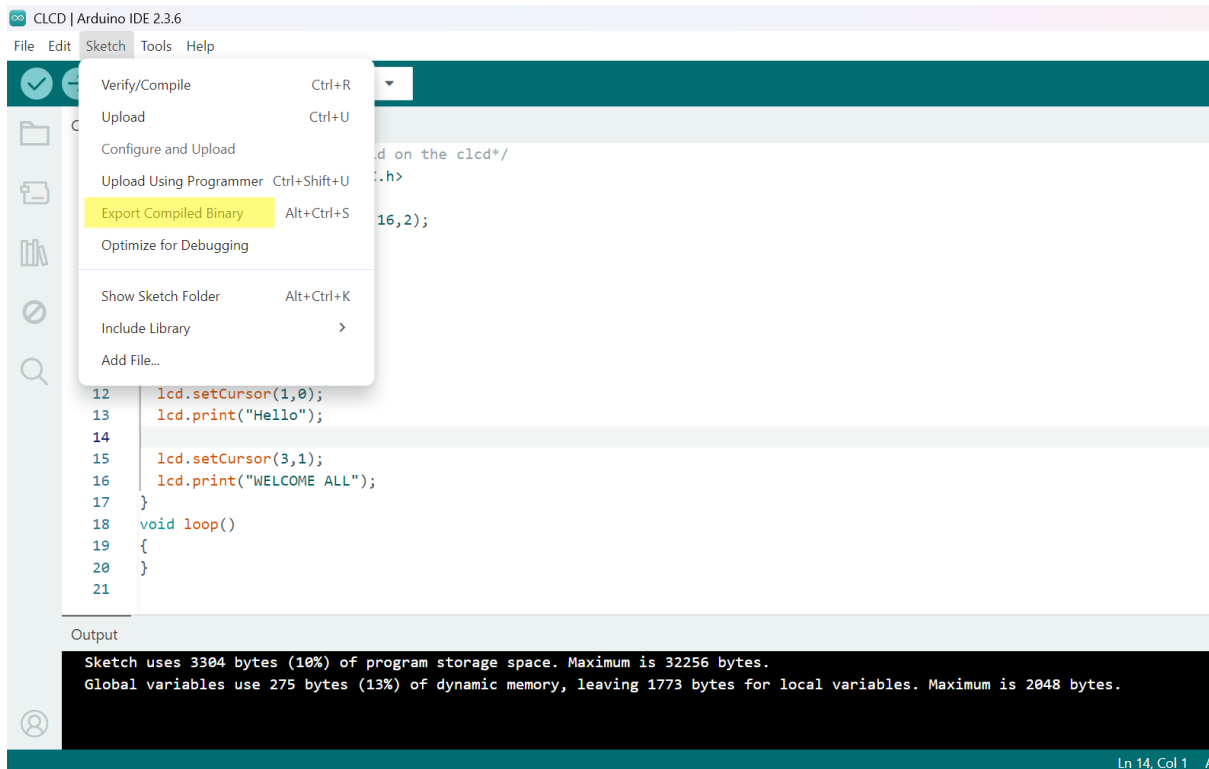


- Write the code and save it.



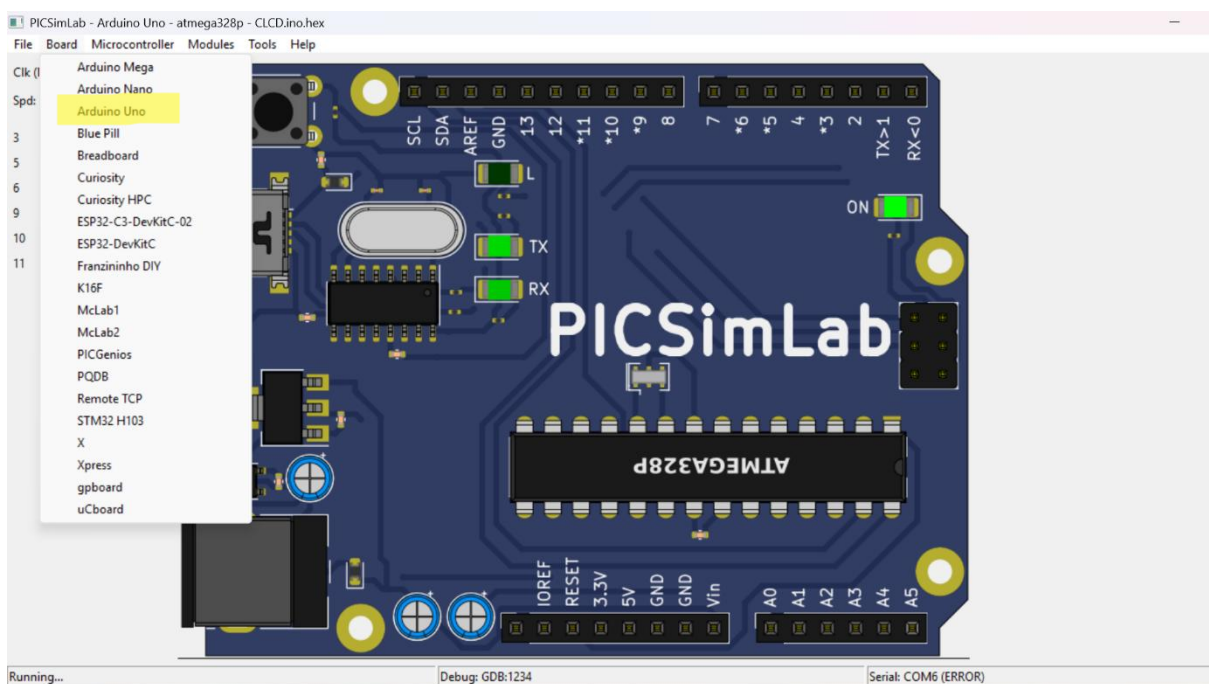
- Compile the code:
- Go to **Sketch** → **Export Compiled Binary**.

- Arduino IDE will generate .hex
- These files will be placed in your **sketch folder** (same folder as your .ino).

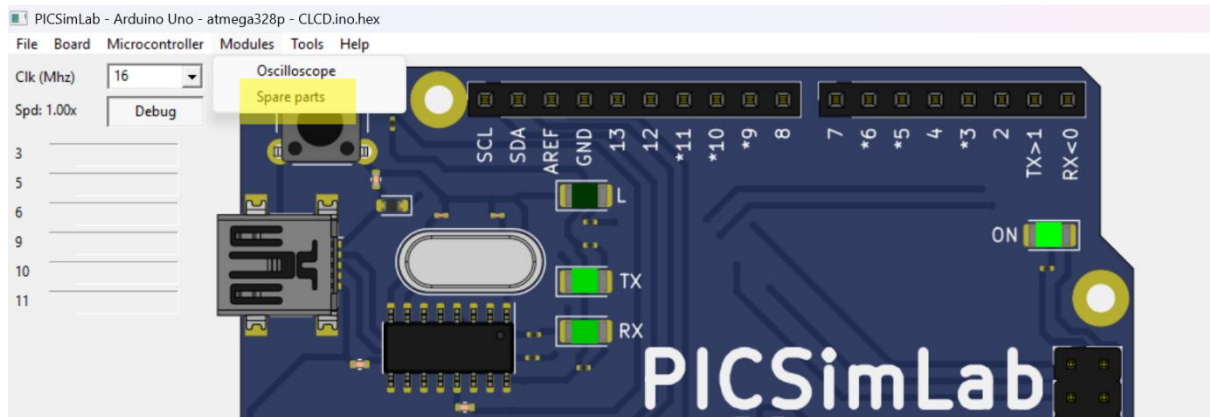


Display message on CLCD using PICSimLab software

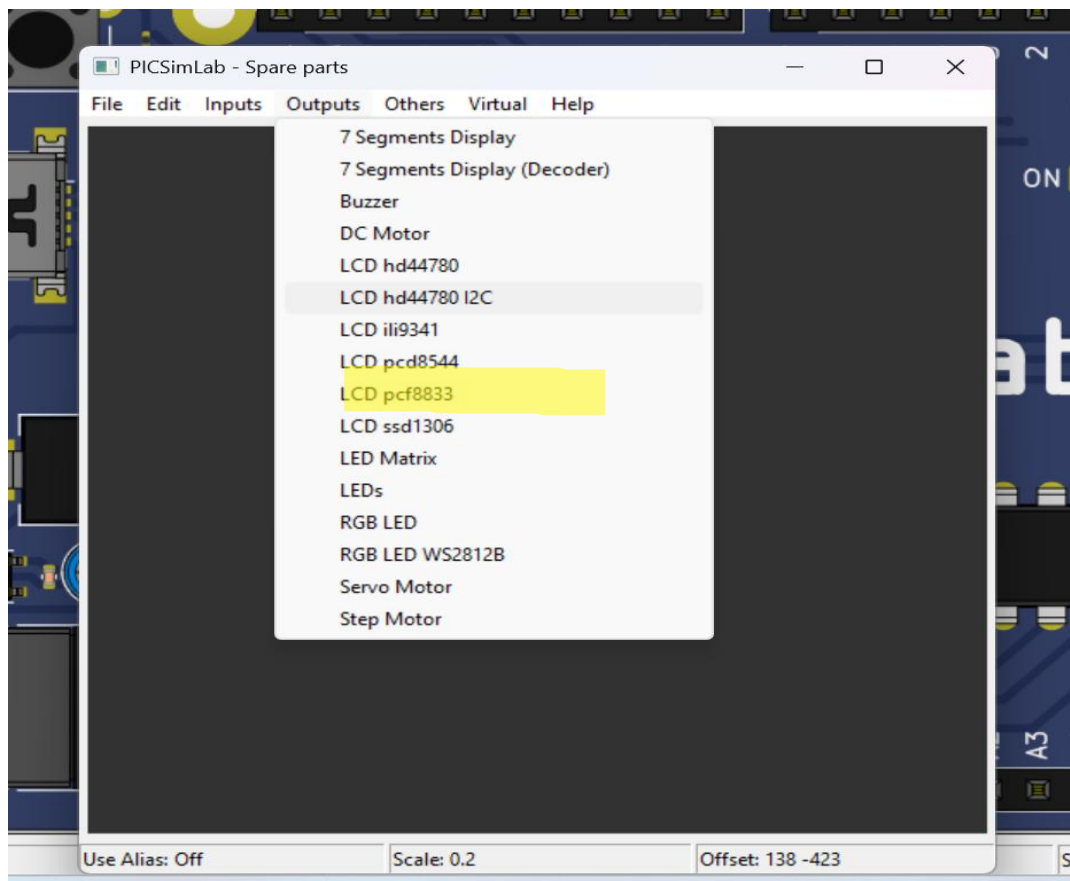
- In this project we are interface a Character LCD (CLCD, like the 16x2 module) with Arduino.
- Select the board as Arduino Uno.



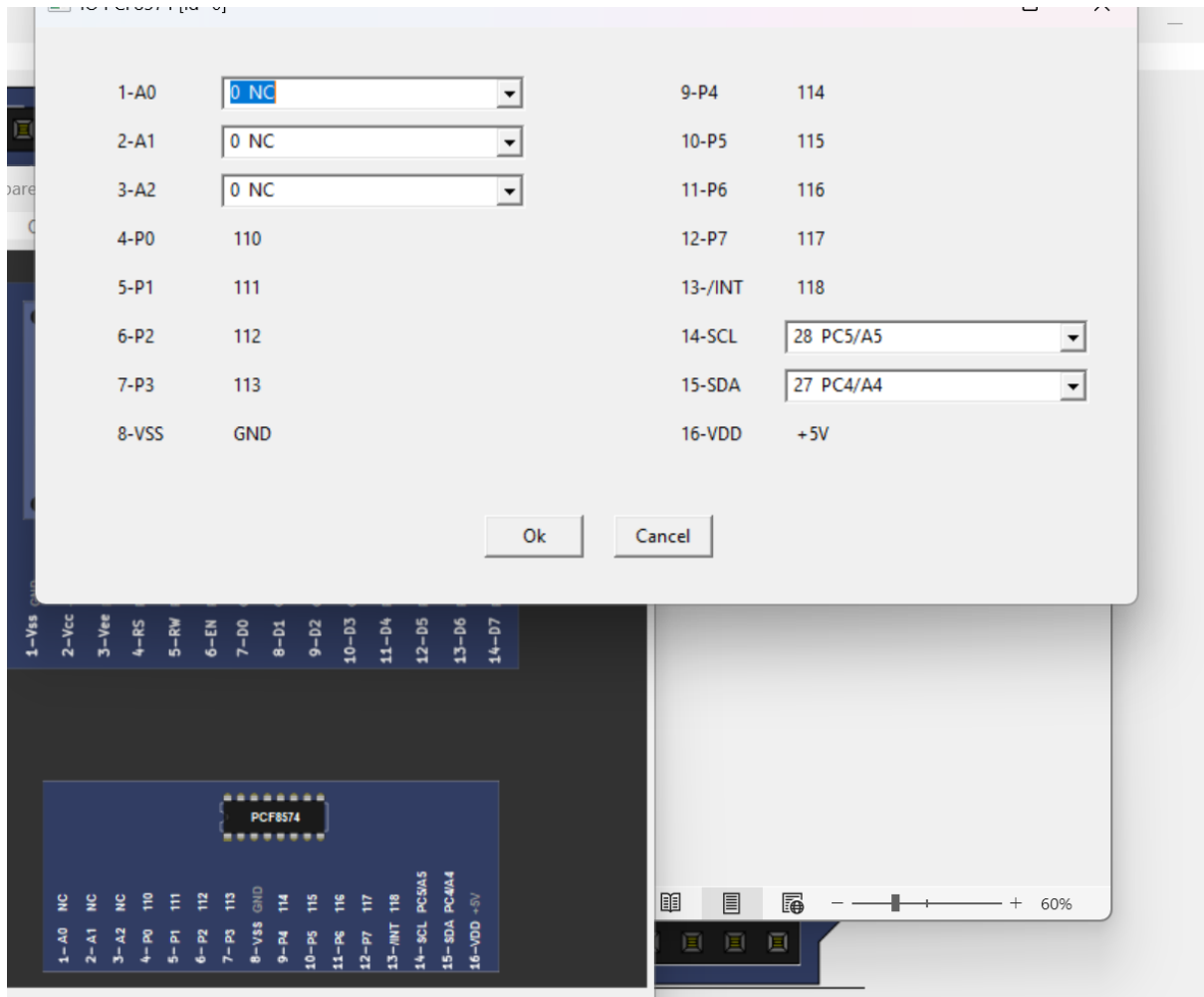
- Add CLCD from Spare parts (Tools → spare parts)



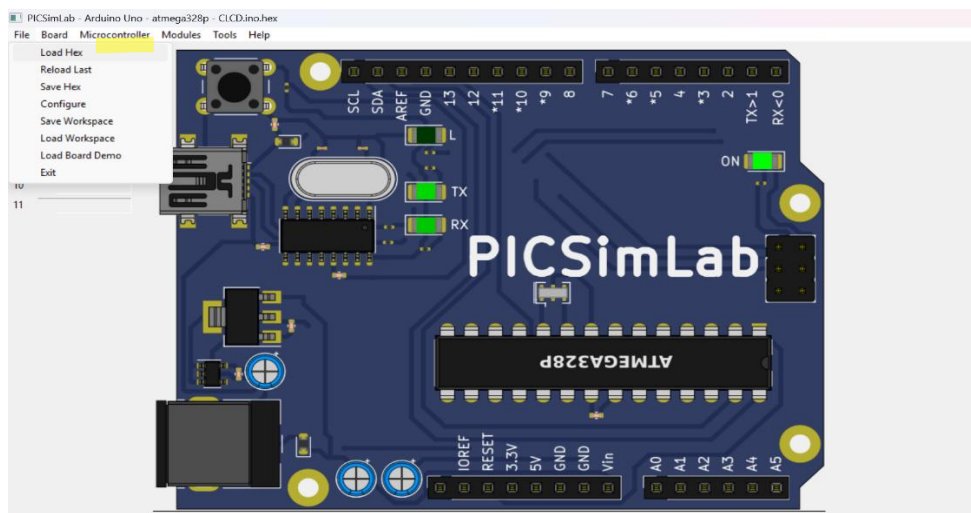
- Add LCD_I2C from the outputs



- Click the properties of PCF8574 and set 14-SCL to A5 , 15-SDA to A4.It Support TWI communication using the Wire library . Click Ok.



- Load the HEX file:
- **File** → **Load HEX** → select the .hex file



- The output on CLCD is shown below

