Project 51: Add OLED Display

Overview

In the previous lesson, the 1602 LCD can only display numbers and characters rather that patterns and Chinese. And the displayed characters can only be up to 32 characters. Here, we have particularly added an OLED liquid crystal module, which can perfectly solve these problems.

The OLED crystal module also uses I2C communication, and the connection diagram is similar to the 1602 LCD. DA interface is P20, and SCL interface is P19.

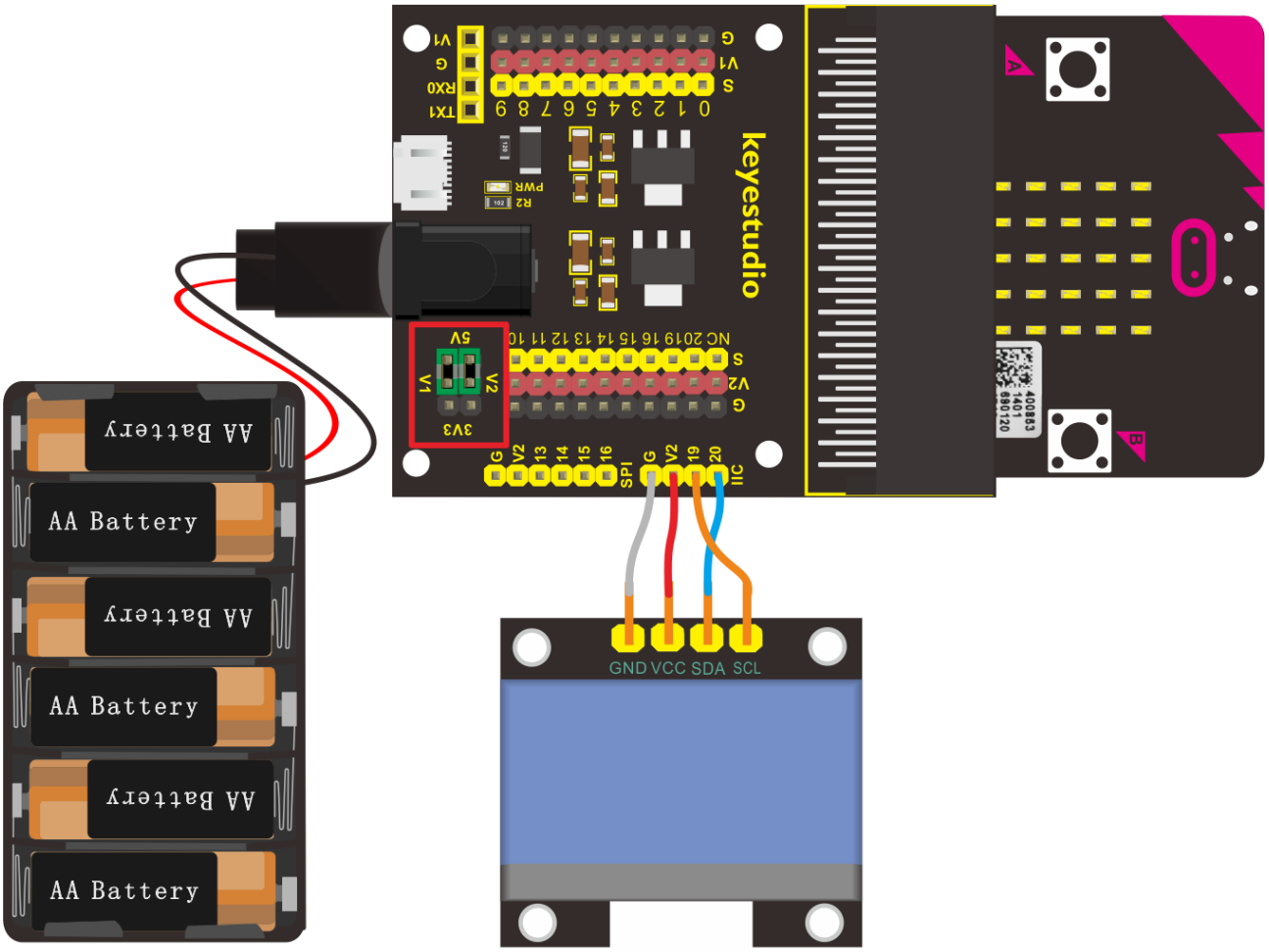
In this experiment, we link the OLED crystal module to the I2C communication interface on the expansion board. Upload the corresponding program, and after power on, the corresponding characters and patterns are displayed on the OLED screen.

Components Needed:

- micro: bit main board * 1
- Keyestudio Micro bit sensor V2 expansion board * 1
- USB cable * 1
- OLED * 1
- Dupont jumper wire*3
- Premium Battery Holder 6-cell AA*1

- 1.5V AA Battery*6

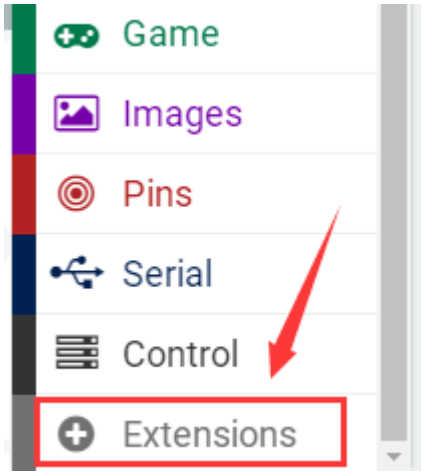
Connection Diagram



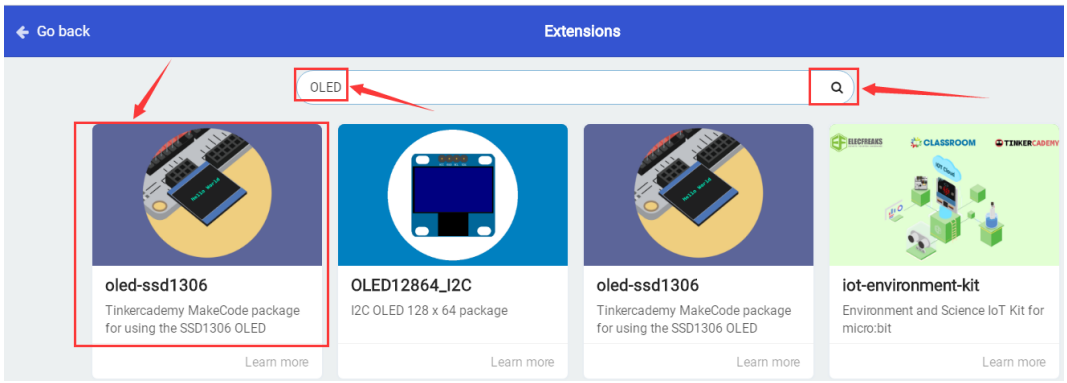
Test Code

Set test code with library file

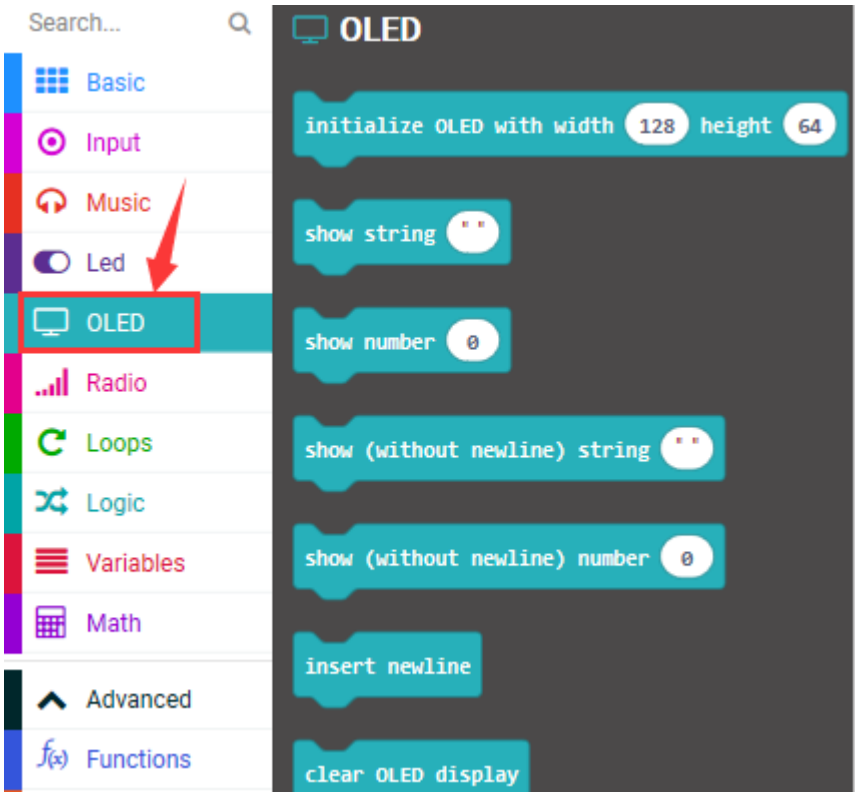
Add library file in the following block

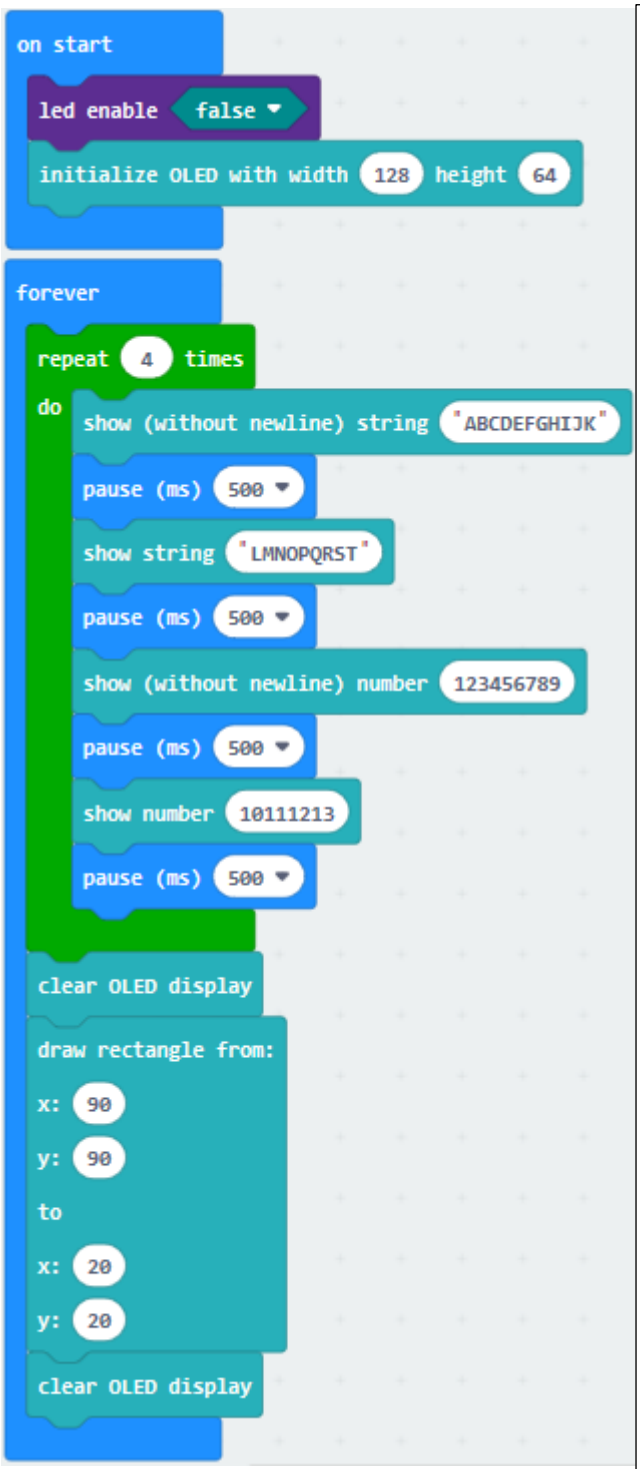


Search “OLED”, as shown below, choose the first pattern, then automatically download and install library file.



After installing successfully, the corresponding block will be shown in the edit code column.


Search...
Basic
Input
Music
Led
OLED
Radio
Loops
Logic
Variables
Math
Advanced
Functions
OLED
initialize OLED with width 128 height 64
show string ""
show number 0
show (without newline) string ""
show (without newline) number 0
insert newline
clear OLED display



"on start" : command block only runs once to start program.

Turn off LED dot matrix on micro:bit

Initialize OLED, width: 128, height: 64

The program under the block " forever " runs cyclically.

repeat 4 timers

OLED shows the character string "ABCDEFGHIJK"

Delay in 500ms

OLED shows character string "LMNOPQRST"

Delay in 500ms

OLED shows "123456789"

Delay in 500ms

OLED shows "10111213"

Delay in 500ms

Clear OLED display

Draw the square from

Draw a square from x:90 y:90 to x:20 y:20

Clear OLED display

Test Results : Wire up according to connection diagram. plug in external power and upload code to micro:bit, the corresponding character and patterns are displayed on OLED.