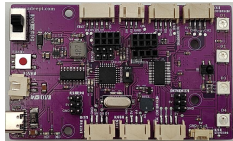




Lesson 10 How to use the OLED screen

In this lesson, we will learn how to use the OLED screen.

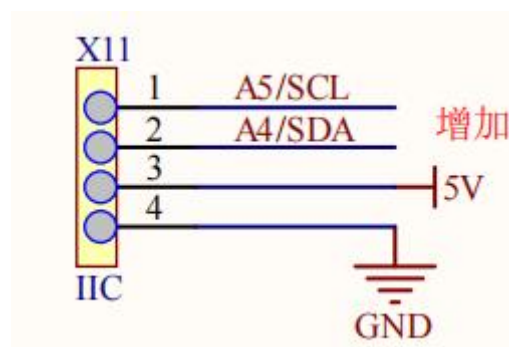
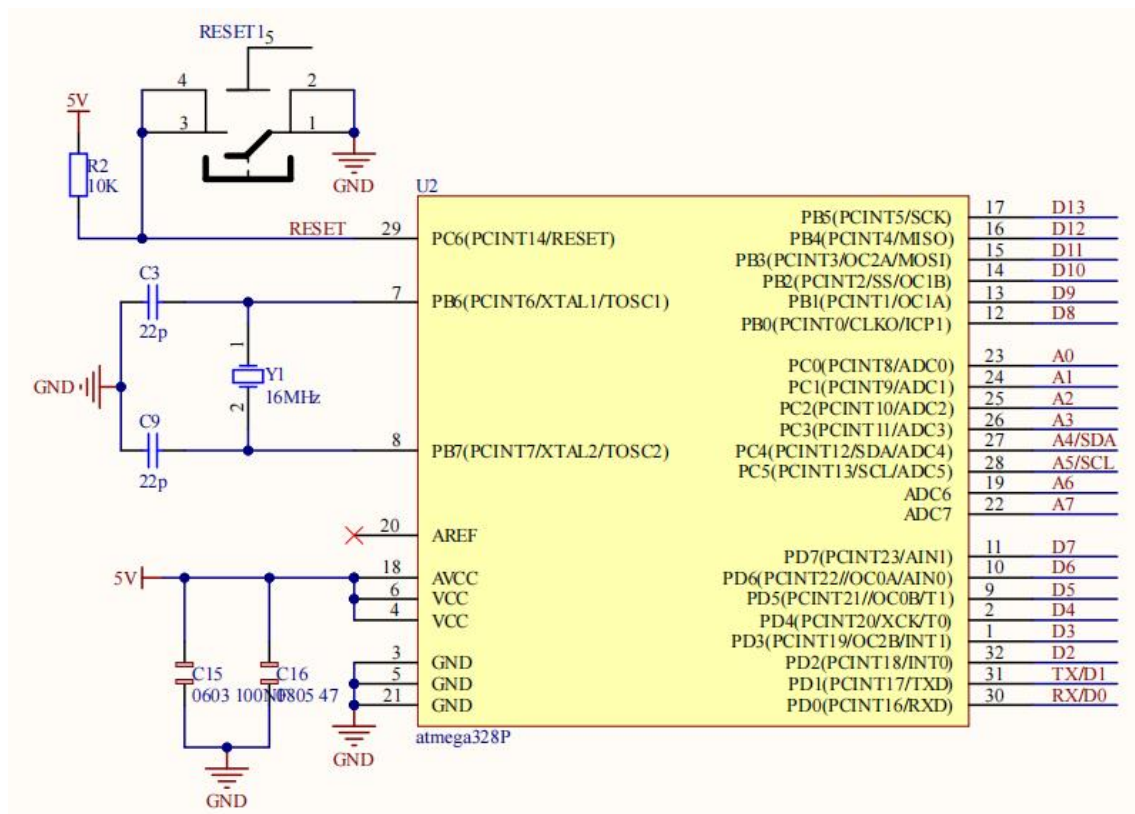
10.1 Components used in this course

Components	Quantity	Picture
Adeept Robot Control Board	1	
Type-C USB Cable	1	
OLED Screen	1	

10.2 The introduction of the OLED screen

OLED (Organic Light-Emitting Diode), also known as organic electric laser display, organic light-emitting semiconductor (Organic Electroluminescence Display, OLED). OLED belongs to a current-type organic light-emitting device, which generates light through the injection and recombination of carriers, and the light-emitting intensity is proportional to the injected current. And the power consumption is relatively low.

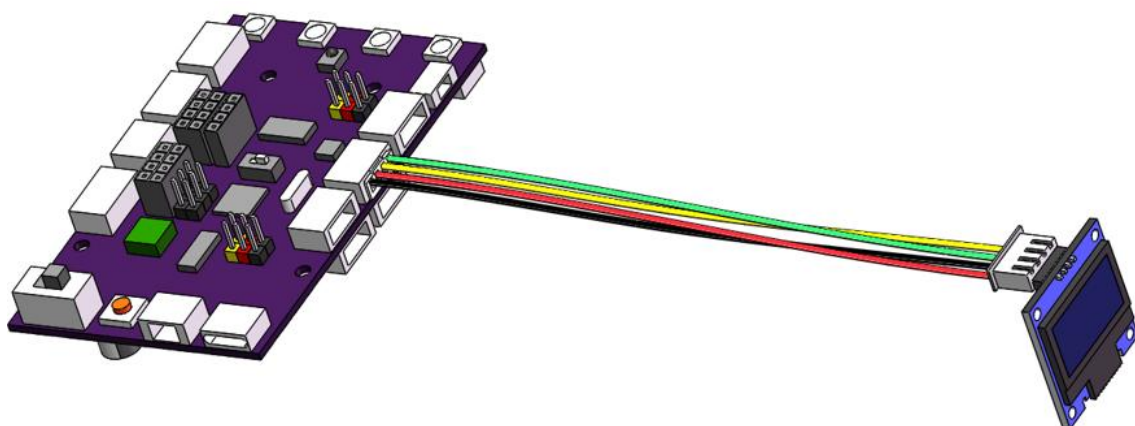
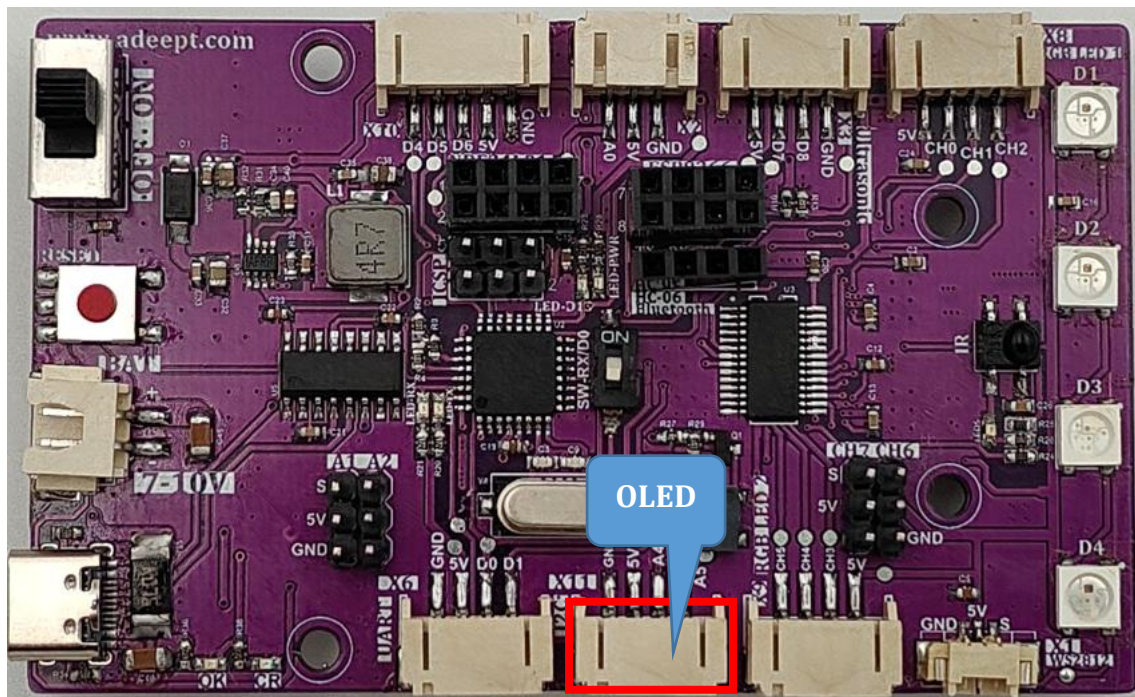
OLED screens are more and more used in embedded electronic devices because of their small size, lightness and low power consumption. There are different types of OLED screens, and the colors displayed are also different. Commonly used ones are white display, blue display and yellow-blue two-color display. There are also various screen sizes and built-in driver chips. The commonly used driver interfaces are SPI and IIC. Introduced in this article is a 0.96-inch blue IIC driver screen, and its built-in driver chip is SSD1306.



10.3 Wiring diagram

OLED Screen	Arduino(X11)
SDA	A4
SCL	A5
GND	GND
VCC	5V

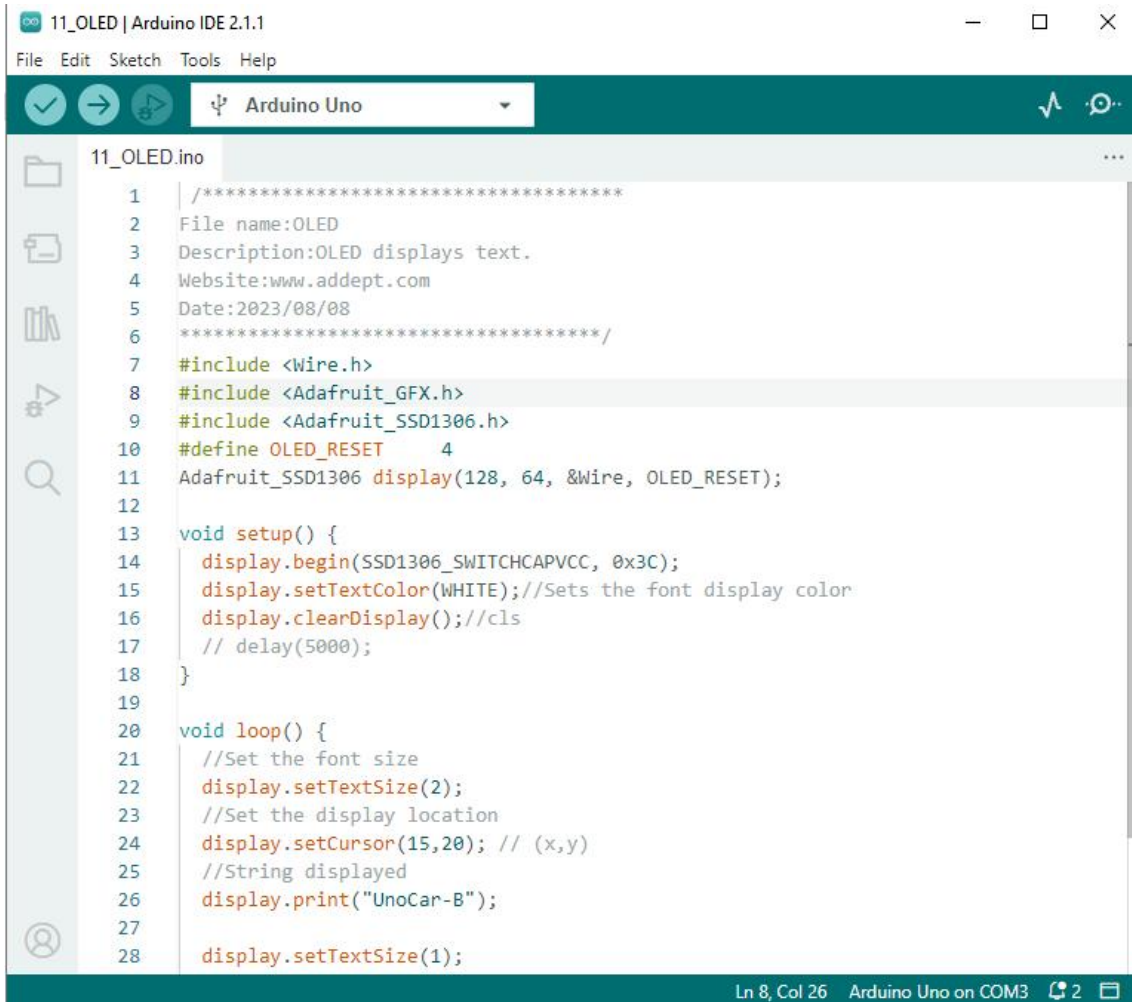
Figure as below:



The OLED module uses 4pin cable, the color is as shown in the picture, and the length is 15CM.

10.4 How to use the OLED screen

1. Connect your computer and Adeept Robot Control with a USB cable.
2. Open “10_OLED” folder in “/Code”, double-click “10_OLED.ino”.



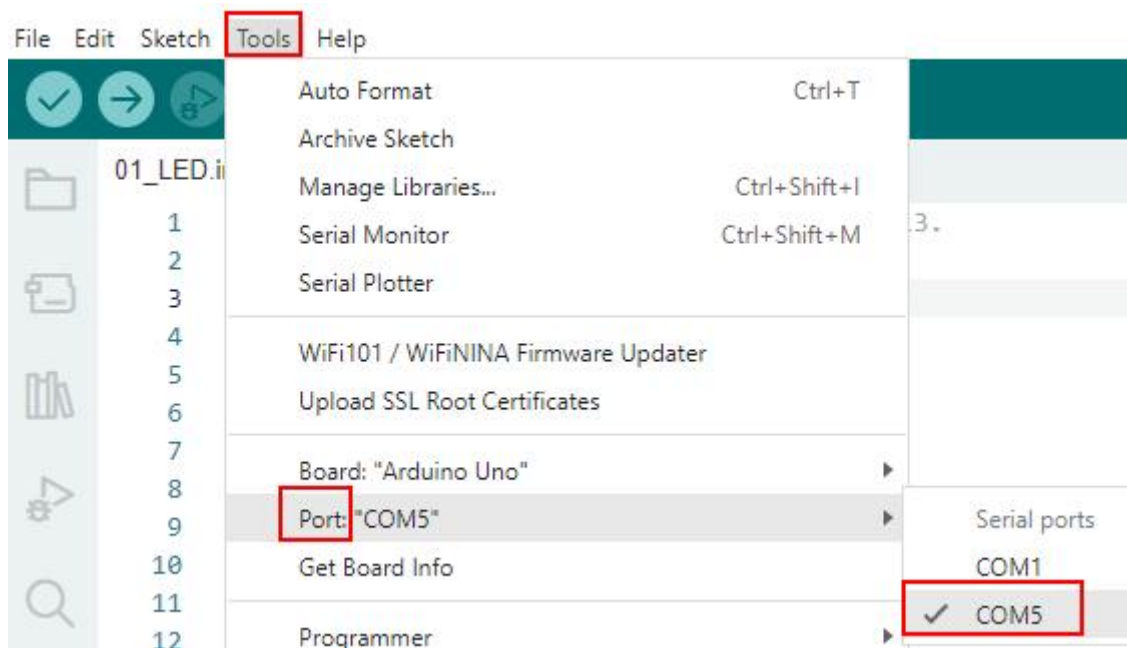
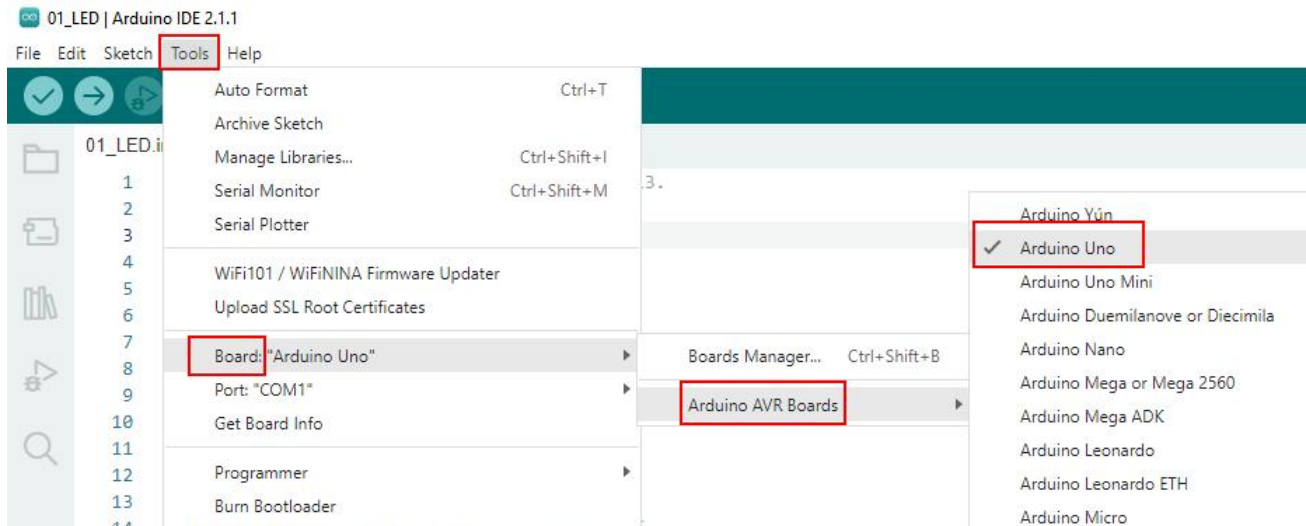
```
1  /*****
2  File name:OLED
3  Description:OLED displays text.
4  Website:www.adeept.com
5  Date:2023/08/08
6  *****/
7  #include <Wire.h>
8  #include <Adafruit_GFX.h>
9  #include <Adafruit_SSD1306.h>
10 #define OLED_RESET 4
11 Adafruit_SSD1306 display(128, 64, &Wire, OLED_RESET);
12
13 void setup() {
14   display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
15   display.setTextColor(WHITE); //Sets the font display color
16   display.clearDisplay(); //cls
17   // delay(5000);
18 }
19
20 void loop() {
21   //Set the font size
22   display.setTextSize(2);
23   //Set the display location
24   display.setCursor(15,20); // (x,y)
25   //String displayed
26   display.print("UnoCar-B");
27
28   display.setTextSize(1);
```

3. Select development board and serial port.


Board: Tools--->Board--->Arduino AVR Boards--->Arduino Uno

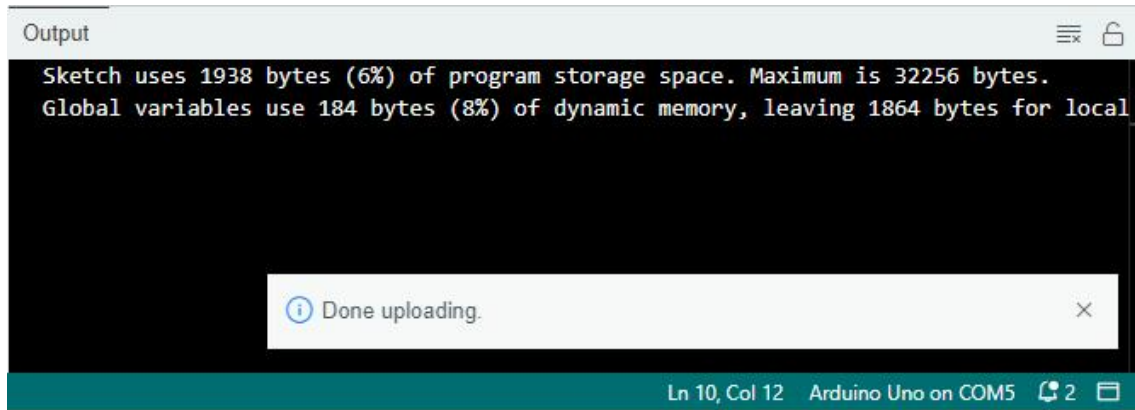
Port: Tools --->Port--->COMx

Note: The port number will be different in different computers.





4. After opening, click  to upload the code program to the Arduino. If there is no error warning in the console below, it means that the Upload is successful.



5. After successfully running the program, you will see the words "Uno-Car" displayed on the OLED screen.

10.5 Code

```
1. #include <Wire.h>
2. #include <Adafruit_GFX.h>
3. #include <Adafruit_SSD1306.h>
4. #define OLED_RESET 4
5. Adafruit_SSD1306 display(128, 64, &Wire, OLED_RESET);
6.
7. void setup() {
8.   display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
9.   display.setTextColor(WHITE); //Sets the font display color
10.  display.clearDisplay(); //cls
11.  // delay(5000);
12. }
13.
14. void loop() {
15.  //Set the font size
16.  display.setTextSize(2);
17.  //Set the display location
```

```
18. display.setCursor(15,20); // (x,y)
19. //String displayed
20. display.print("Uno-Car");
21.
22. display.setTextSize(1);
23. display.setCursor(80,55);
24. display.print("Adeept");
25. //Began to show
26. display.display();
27. }
```