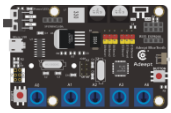
Let's learn how to show some text on the OLED

In this lesson, we will learn how to display text on the OLED screen.

1. Components used in this course

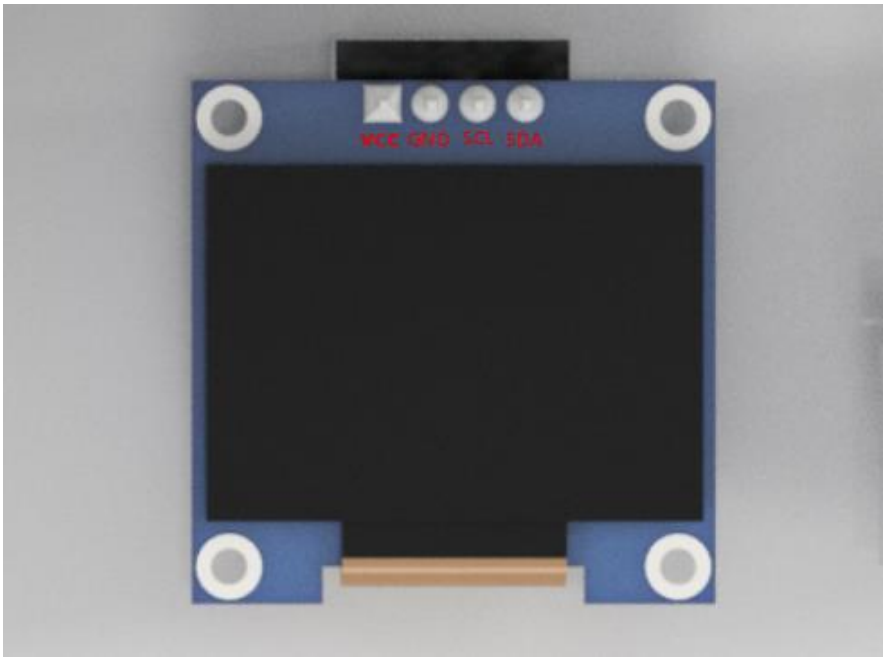
Components	Quantity	Picture
Adeept Arm Drive Board	1	
Micro USB Cable	1	
OLED screen	1	

2. Introduction of OLED Screen

OLED (Organic Light-Emitting Diode), also known as organic electric laser display, organic light emitting semiconductor (Organic Electroluminesence Display, OLED). OLED is a kind of current-type organic light-emitting device, which produces light by the injection and recombination of carriers, and the luminous intensity is proportional to the injected current. The Alter robot uses an OLED screen to display the expressions or some parameters of the robot. OLED Screen is a commonly used module on robot products. Due to the black non-luminous feature of OLED Screen, this type of screen has extremely high contrast. Even if the ambient light is strong, you can see the information on the OLED Screen clearly, and the power consumption is relatively low.

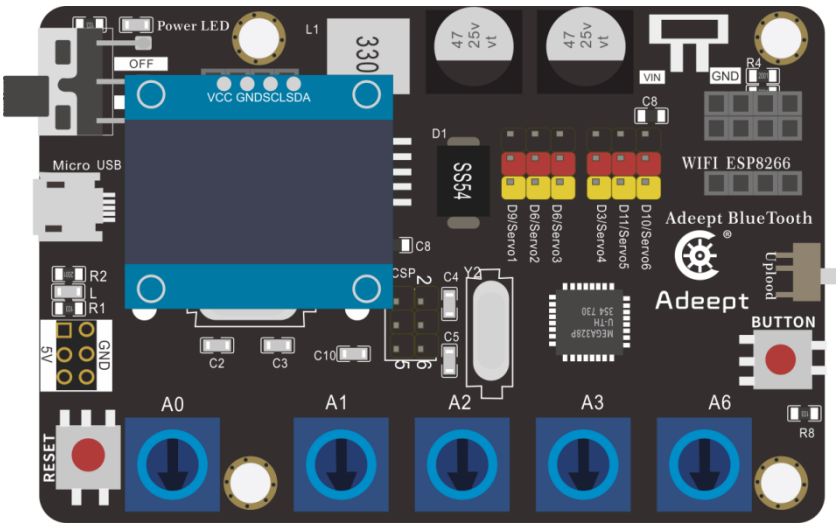
When using the OLED Screen, you need to connect it to the OLED interface on

the Adeept Arm Drive Board.



3. Wiring diagrams (Circuit diagram)

You need to connect it to the OLED interface on the Adeept Arm Drive Board.As shown below:

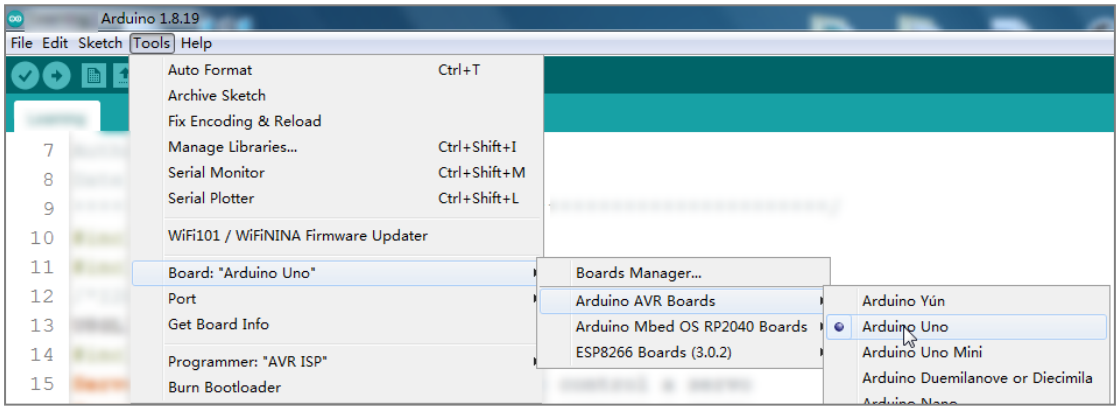


4. How to display text on the OLED screen

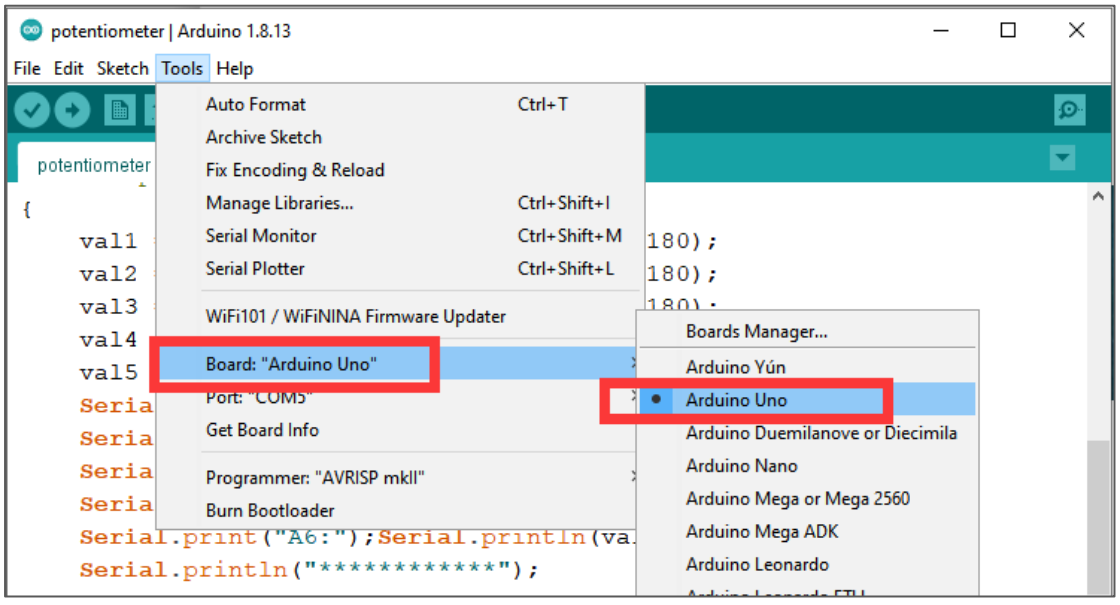
4.1. Compile and run the code program of this course

1. Open the Arduino IDE, as shown below:

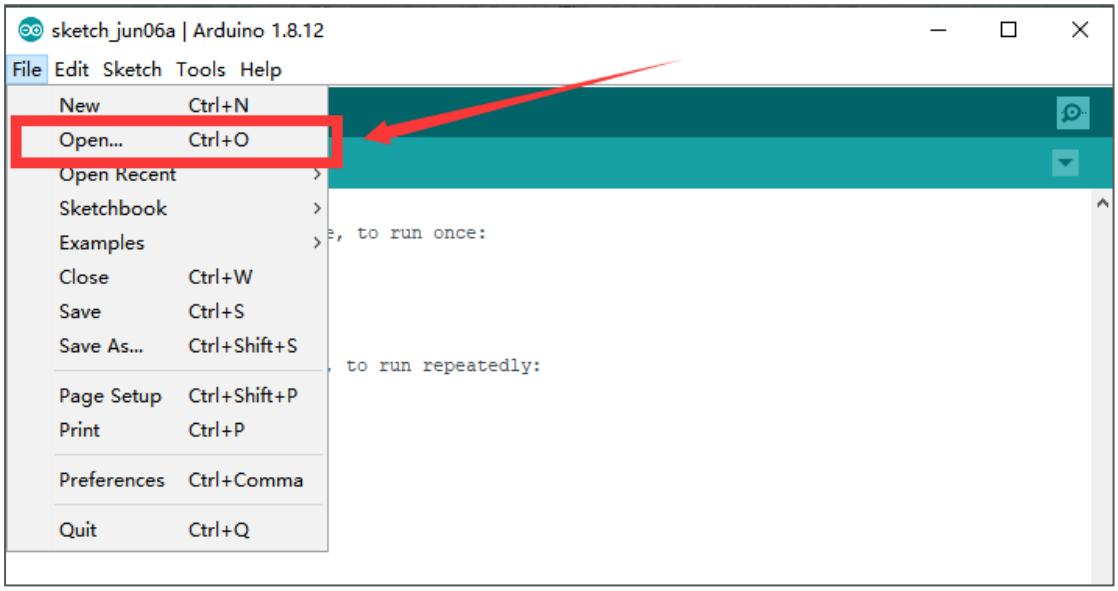
2. In the Tools toolbar, find Board and select Arduino Uno, as shown below:



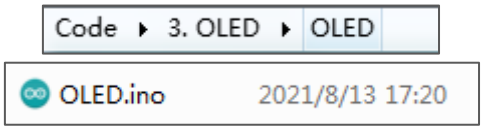
Or:



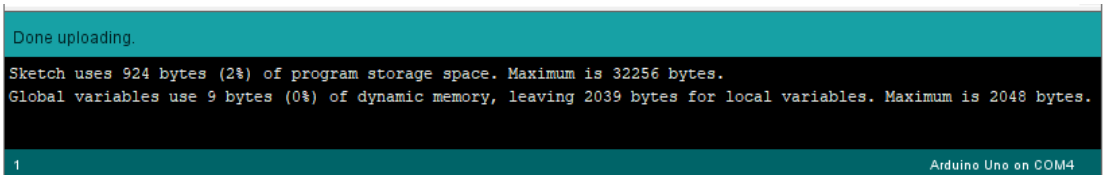
3. Click Open in the File drop-down menu:



4. Find **the Package of Documentation** (Reference: Chapter: "_4 build Arduino development environment", step 2 under subsection (3) under subsection 5) that we provide to the user. Open the directory in sequence: “Code” -> “3. OLED” -> “OLED”. Then select the code file "OLED.ino" and click the "Open" button.



5. After opening, click  to upload the code program to the Adeept Arm Drive Board. If there is no error warning in the console below, it means that the Upload is successful.



6. After successfully running the program, you will observe that text will be displayed on the OLED screen.

4.2. Learning the code of this lesson

After the above practical operation, you must be very curious to know how we use C language to program on the Adeept Arm Drive Board to display text on the OLED screen. Below we will introduce how the main code program is implemented.

First, in the setup() function, set the display color of the font to white.

```
void setup() {
  display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
  display.setTextColor(WHITE);//Sets the font display color
  display.clearDisplay();//cls
}
```

In the loop() function, set the display font size with setTextSize(1); setCursor(30,30) sets the position of the text displayed on the OLED screen, and print("TEST") prints out the text information that needs to be displayed.

```
void loop() {
  //Set the font size
  display.setTextSize(1);
  //Set the display location
  display.setCursor(50,50);
  //String displayed
  display.print("TEST");
  //Began to show
  display.display();
}
```