

## Introduction

A programmer likes calligraphy when he retires. One day, he suddenly has an aesthetic mood after a meal, so he prepares for "The Four Treasures of the Study", Mao, ink, paper, and research. He has the demeanor of Wang Xizhi and Yan Zhenqing's attitude. After a moment of contemplation, he wrote seriously: "Hello world!". Why are programmers so passionate about these words? The birth of "Hello world" can be traced back to 1972. Brian Kernighan, a famous researcher at Bell Laboratory, used it (program) for the first time when he wrote "Tutorial the Introduction to the Language B", which is the earliest "Hello" and "word" are used together in computer work. Then, in 1978, he used this sentence pattern "hello, world" in the C language Bible "C programming language" again, co-authored with Dennis Ritchie as the first program of the opening ceremony. In this program, the output of "hello, world" is all lowercase, there is no exclamation mark, and the comma is followed by a space. Since then, "Hello, the world" has become the tradition of the world welcoming the outside world. "Hello Arduino!", Without exception, became the first program in the tutorial.

## Connection

There is a serial port on the Arduino Mega 2560 board, so the first program does not need to connect other devices, only need Arduino Mega 2560 to directly connect the PC and the USB cable.

## Code

```
void setup()
{
    // put your setup code here, to run once:
    Serial.begin(9600); // Set the serial port baud rate to 9600
}

void loop()
{
    // put your main code here, to run repeatedly:
    Serial.println("Hello Arduino !"); // Print text Hello Arduino!
    delay(1000); // 1 second delay
}
```

## Run the program and observe the experimental results

1. Connect Arduino Mega 2560 and computer via USB;
2. Open the Arduino IDE software and click "File-Open-Select HelloArduino. Ino-Open", as shown in Figure 3.1.1

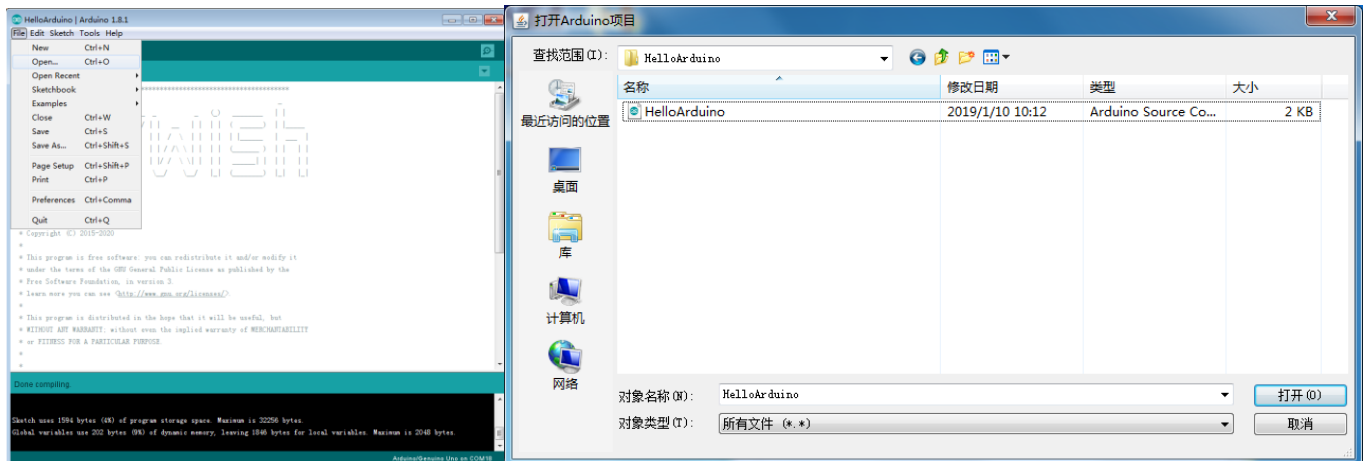


Figure 3.1.1 Select file diagram

- 1) Open the Arduino IDE software and click "Tools-Port-COM38 (different board port numbers are different)", as shown in Figure 3.1.1

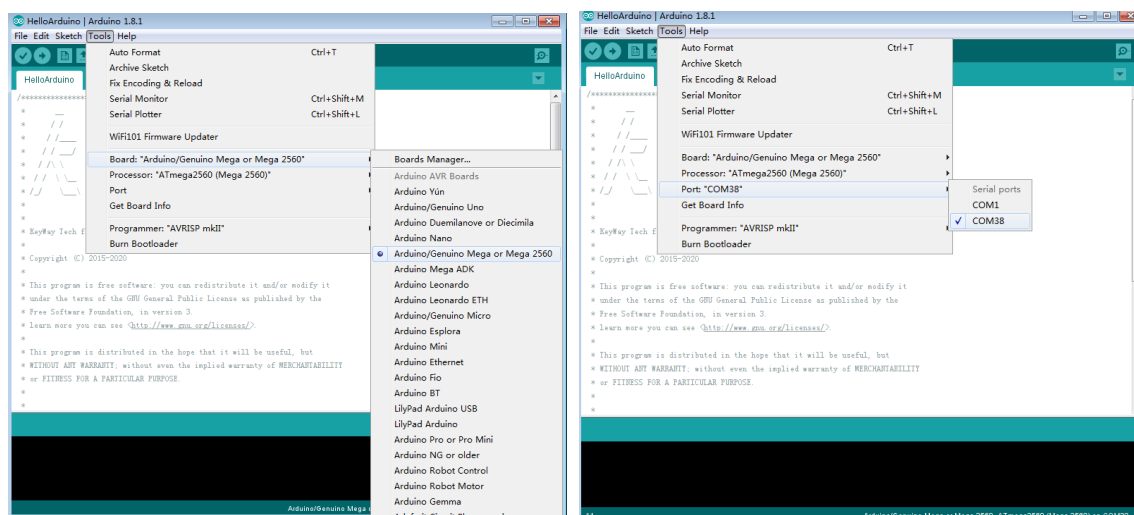


Figure 3.1.2 Port selection

## 2) Click "Tools-Programmer--ArduinoISP"

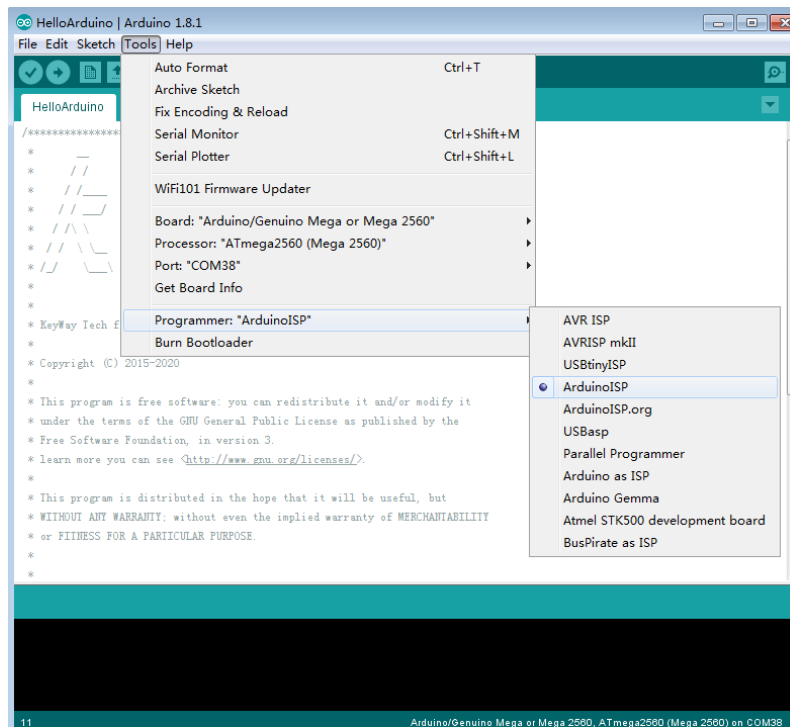


Figure 3.1.3 Programmer selection

## 3) Click the "Upload button" to start the upload process

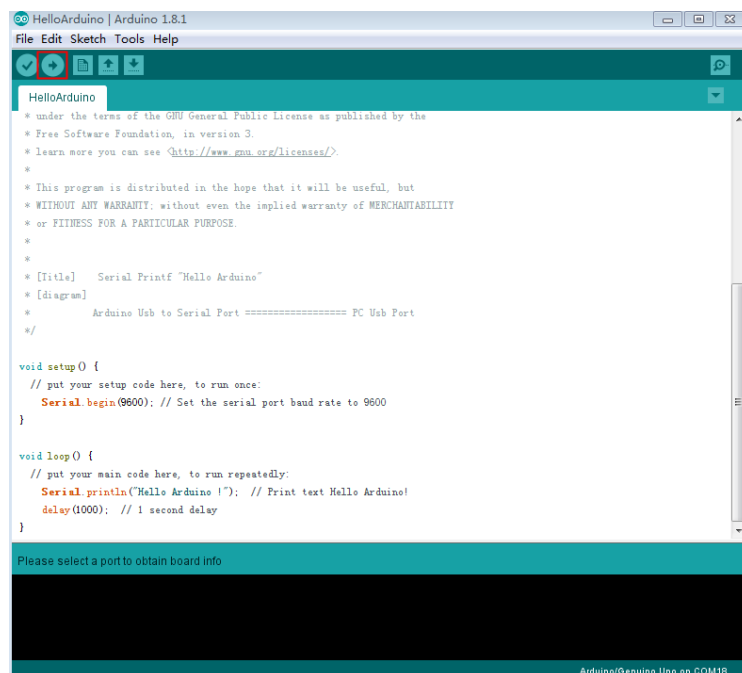


Figure 3.1.4 Upload procedure

- 4) Start uploading the program. After a while, there will be a prompt "Upload successful" in the lower left corner, which proves that the program has been successfully burned. As shown in Figure 3.1.6

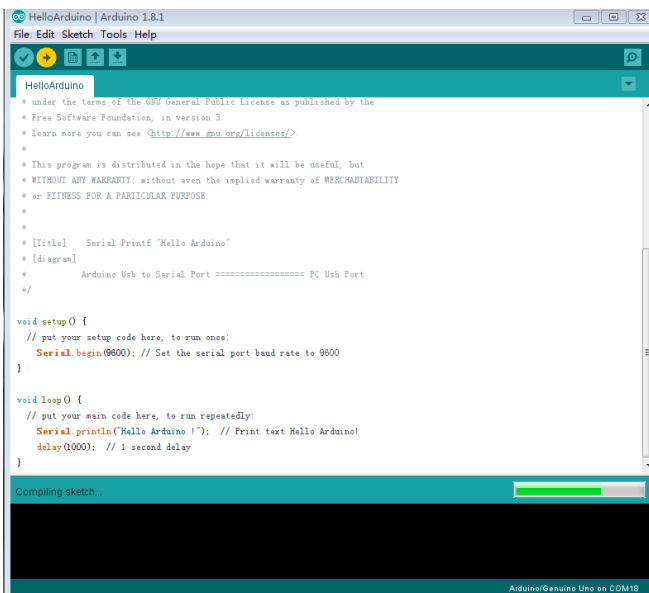


Figure 3.1.5 Burning

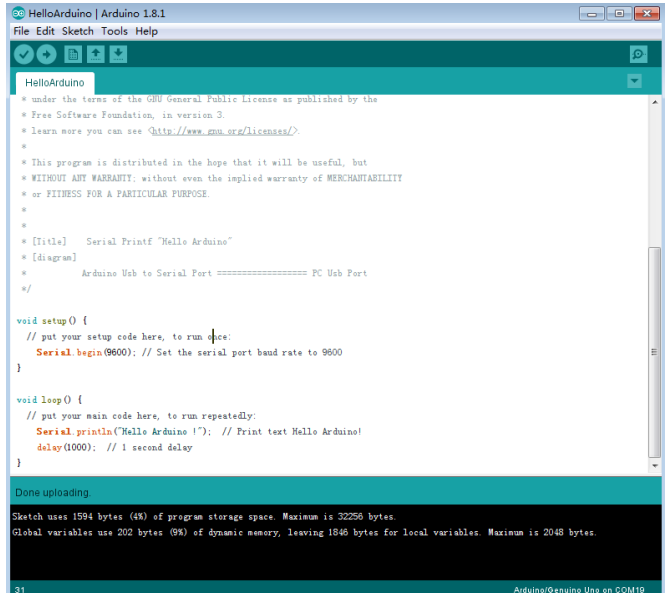


Figure 3.1.6 Burning completed

- 5) Open the serial monitor, as shown in Figure 3.1.7 and Figure 3.1.8, set the baud rate to 9600 (the baud rate should be the same as the code, otherwise the printed content will be garbled), you will see The serial port constantly prints "Hello Arduino!"

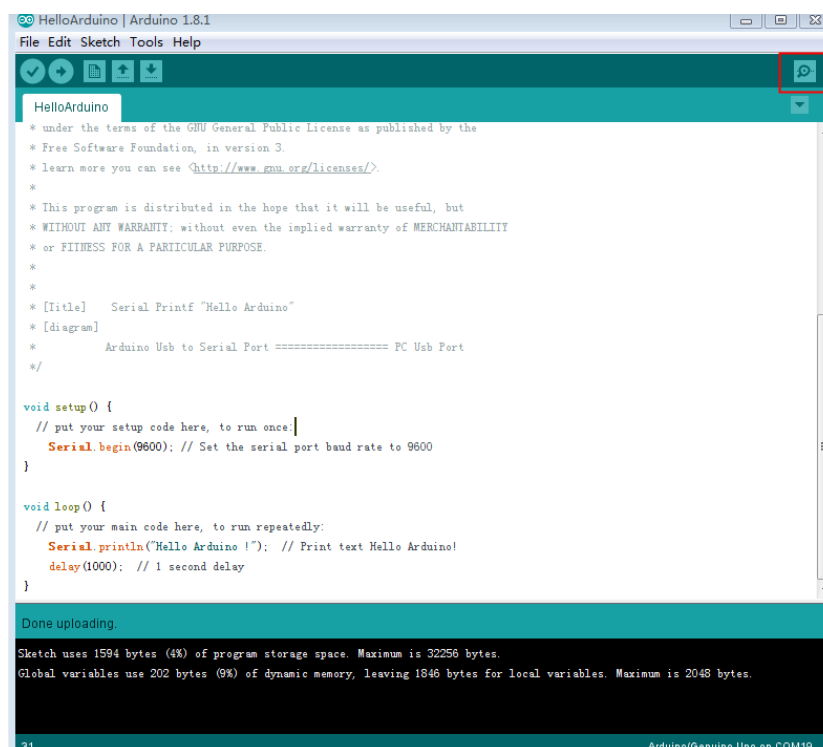


Figure 3.1.7 Serial monitor switch

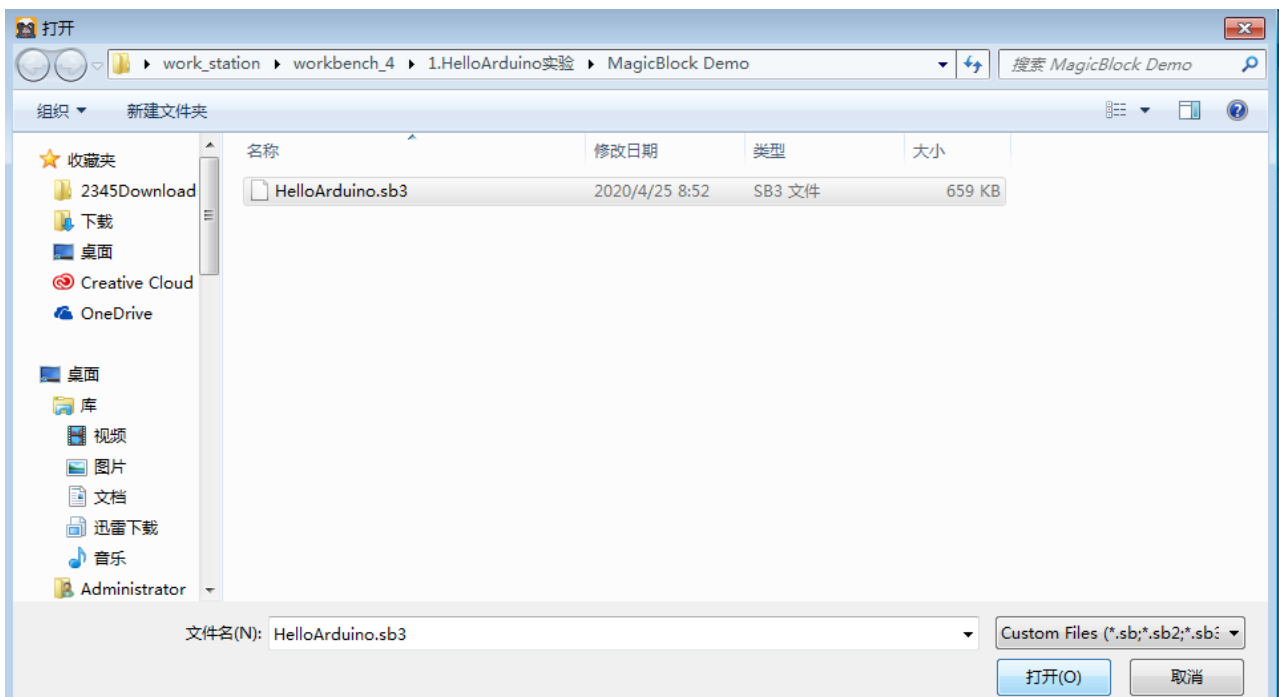
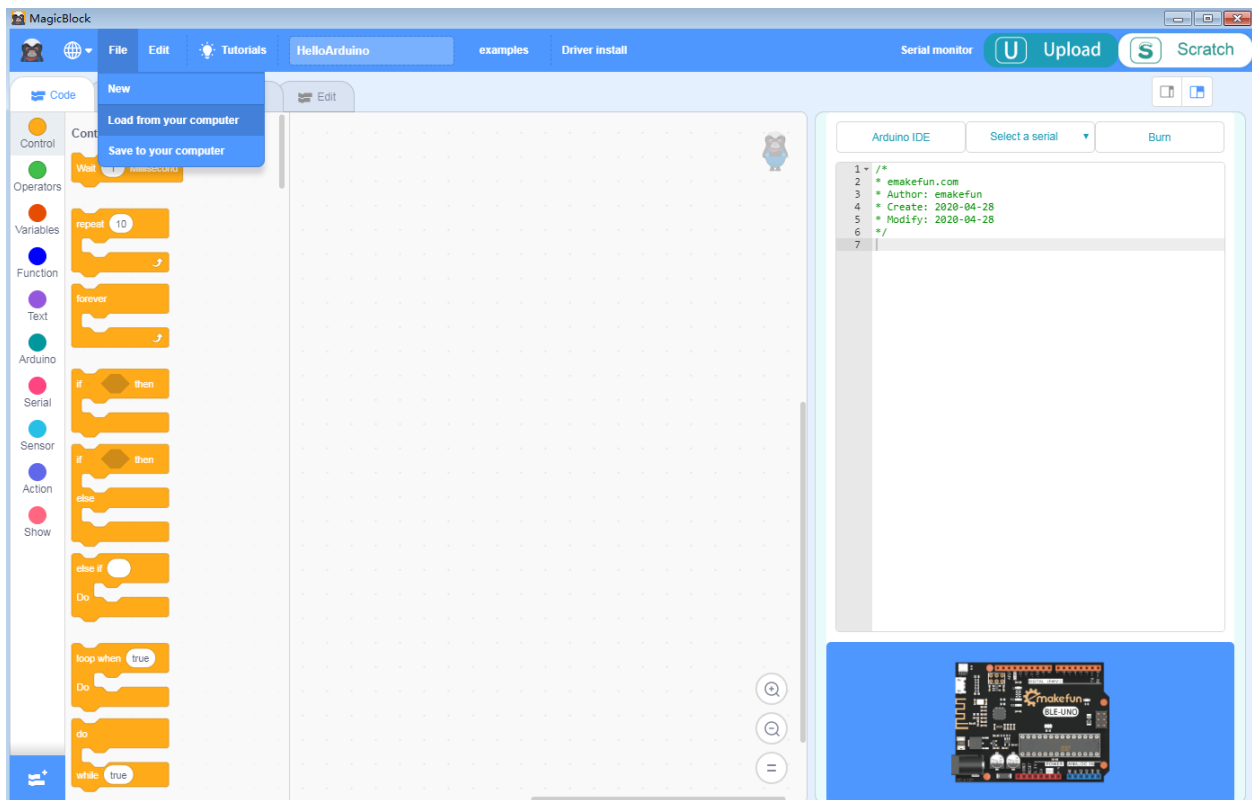


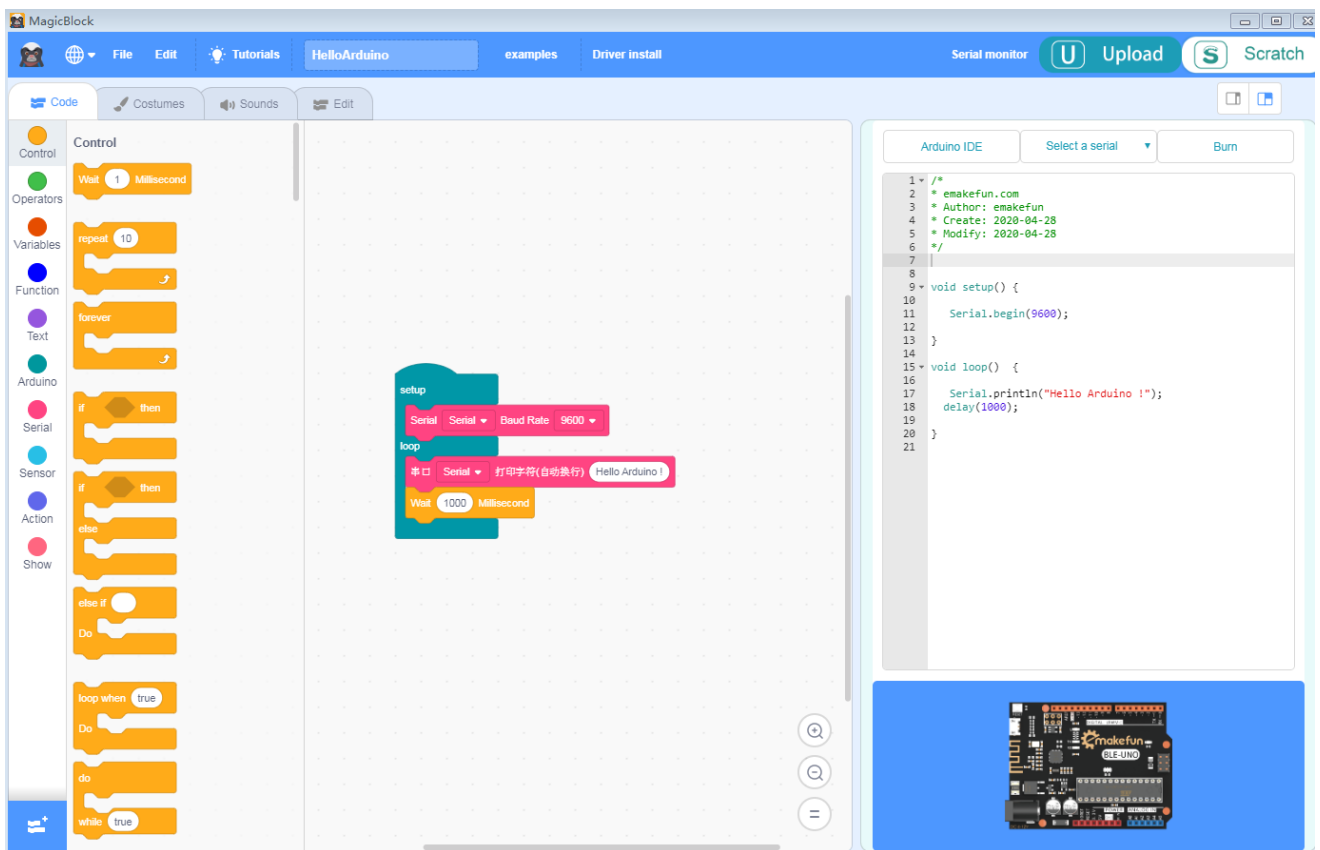
Figure 3.1.8 Serial port printing interface

## MagicBlock graphical programming program

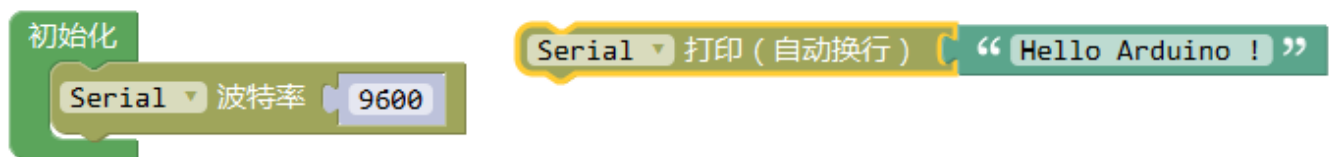


You can also directly open the already written program file, it is a .sb3 file, the following are the opening steps:





## Mixly graphical programming program



You can also directly open the program file that has been written. It is a .mix file. The following are the opening steps:

