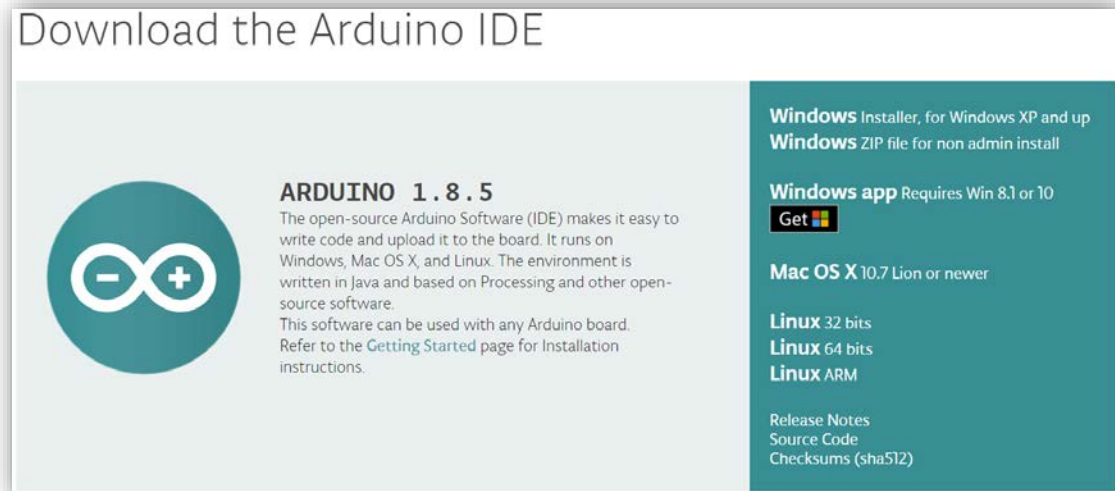


Upload Penguin-Bot program for MacOS

STEP1: Download the Arduino Software (IDE)

Open the URL: <https://www.arduino.cc/en/Main/Software> with browser

Click “Mac OSX 10.7 Lion or newer”



The screenshot shows the Arduino IDE download page. On the left, there is a large teal circle with a white infinity symbol. To its right, the text reads: **ARDUINO 1.8.5**. Below this, it says: "The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing and other open-source software. This software can be used with any Arduino board. Refer to the [Getting Started](#) page for Installation instructions." On the right side, there are several download options: "Windows Installer, for Windows XP and up" and "Windows ZIP file for non admin install", "Windows app Requires Win 8.1 or 10" with a "Get" button, "Mac OS X 10.7 Lion or newer", "Linux 32 bits", "Linux 64 bits", and "Linux ARM". At the bottom right, there are links for "Release Notes", "Source Code", and "Checksums (sha512)".

The version available at this website is usually the latest version, and the actual version may be newer than the version in the picture.

Click “JUST DOWNLOAD”

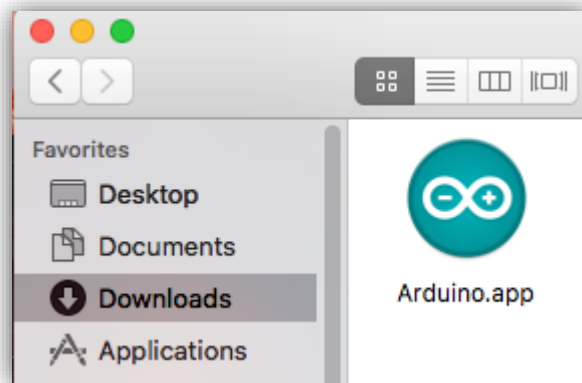


The screenshot shows the "Contribute to the Arduino Software" page. At the top, it says "Contribute to the Arduino Software". Below this, it says: "Consider supporting the Arduino Software by contributing to its development. (US tax payers, please note this contribution is not tax deductible). [Learn more on how your contribution will be used.](#)" In the center, there is an illustration of three stick figures: one with a square head, one with a rectangular head, and one with a circular head. To the right of the illustration, it says: "SINCE MARCH 2015, THE ARDUINO IDE HAS BEEN DOWNLOADED **23,213,129** TIMES. (IMPRESSIVE!) NO LONGER JUST FOR ARDUINO AND GENUINO BOARDS, HUNDREDS OF COMPANIES AROUND THE WORLD ARE USING THE IDE TO PROGRAM THEIR DEVICES, INCLUDING COMPATIBLES, CLONES, AND EVEN COUNTERFEITS. HELP ACCELERATE ITS DEVELOPMENT WITH A SMALL CONTRIBUTION! REMEMBER: OPEN SOURCE IS LOVE!" Below this text, there are six circular buttons with the following labels: "\$3", "\$5", "\$10", "\$25", "\$50", and "OTHER". At the bottom right, there are two buttons: "JUST DOWNLOAD" and "CONTRIBUTE & DOWNLOAD".

Open Finder

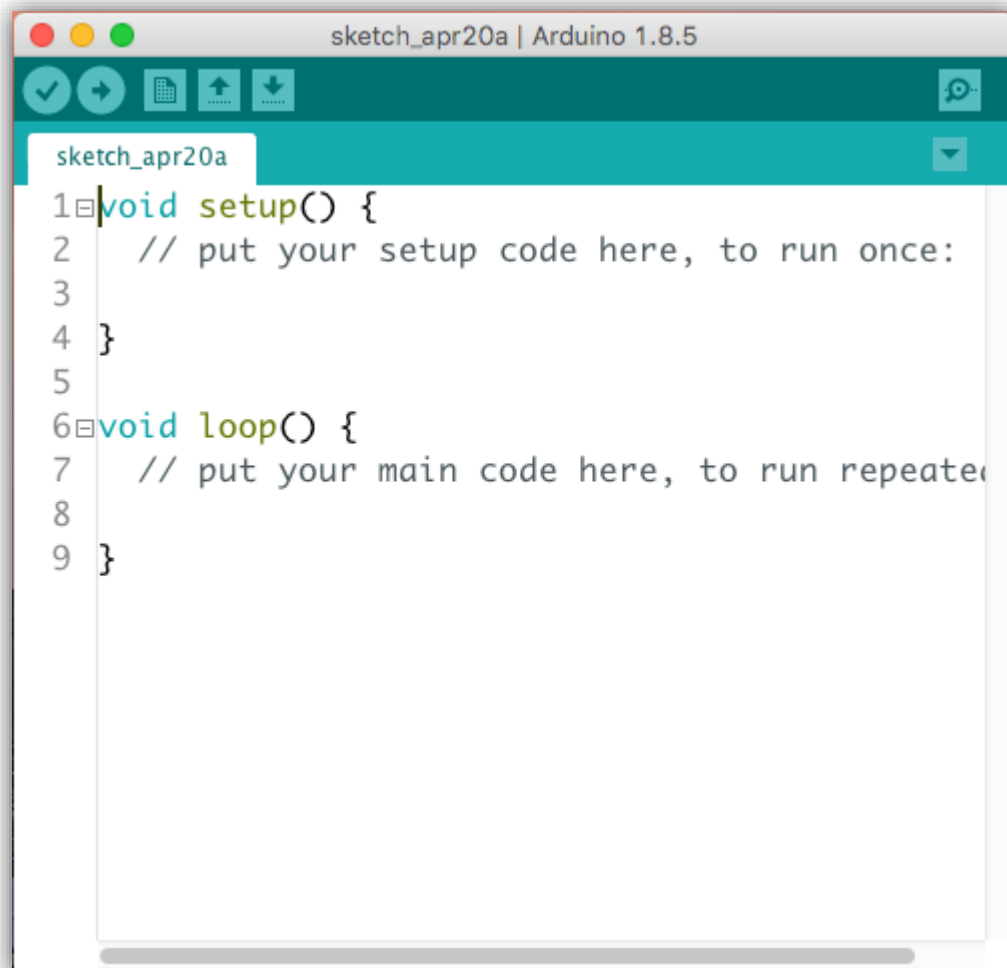


After the download is complete, an installation package will appear in the download directory

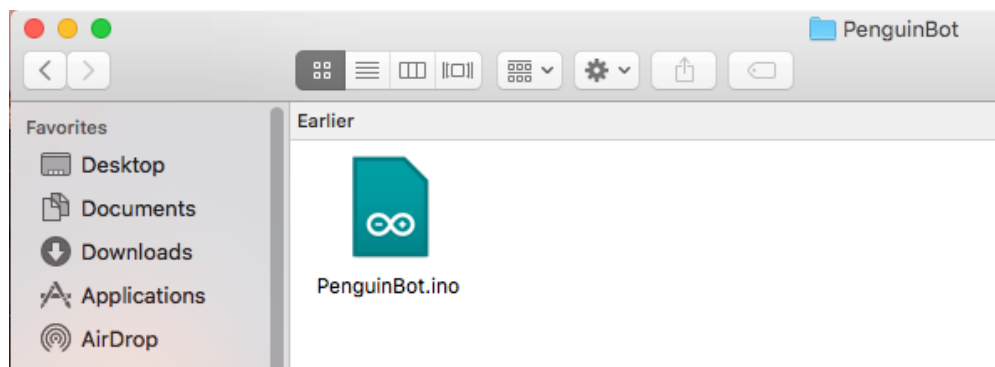


STEP2: Upload Penguin-Bot program.

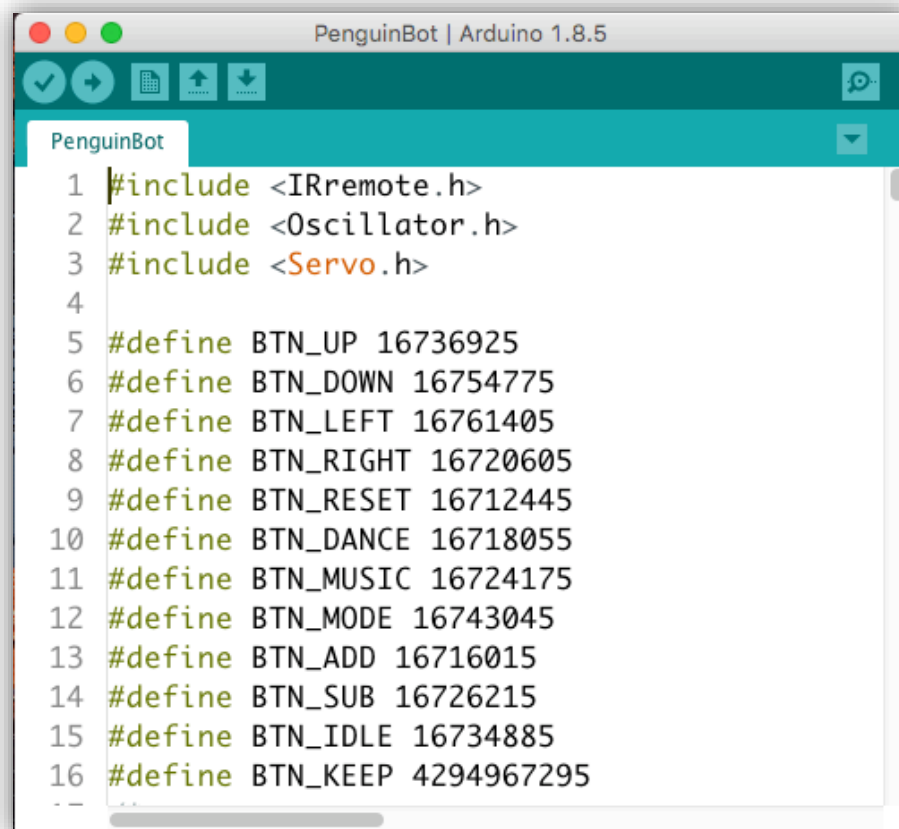
Double-click the Arduino application to enter the Arduino programming development environment.



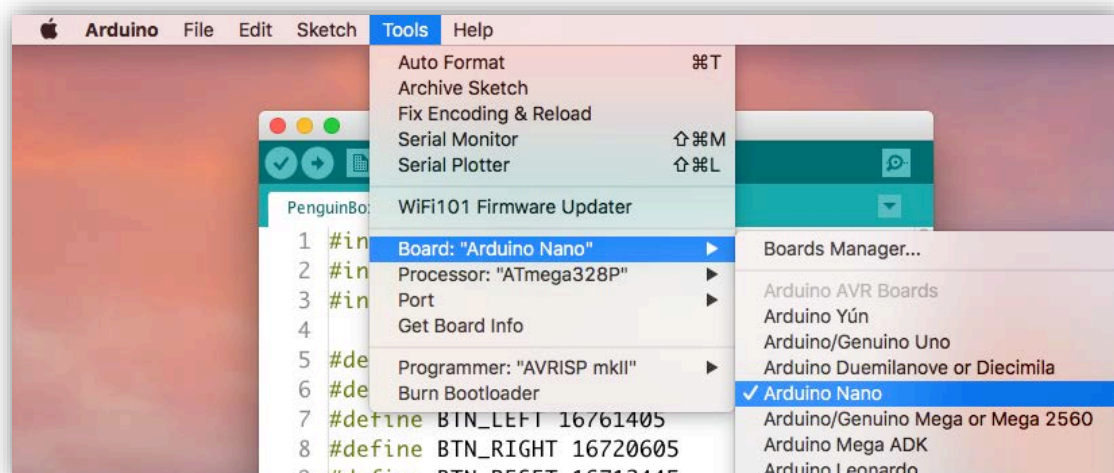
Connect the Penguin-Bot to PC with USB and open the directory where the Penguin-Bot sketch is located.



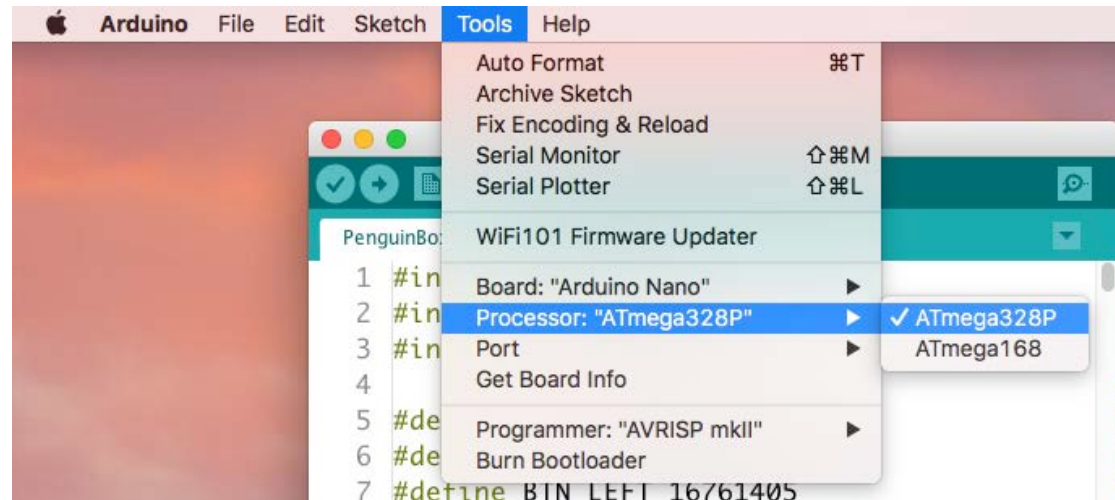
Double-click Penguin-Bot sketch. After open the Penguin-Bot sketch, we can see the code in the Arduino IDE.



Select the Arduino Nano board.

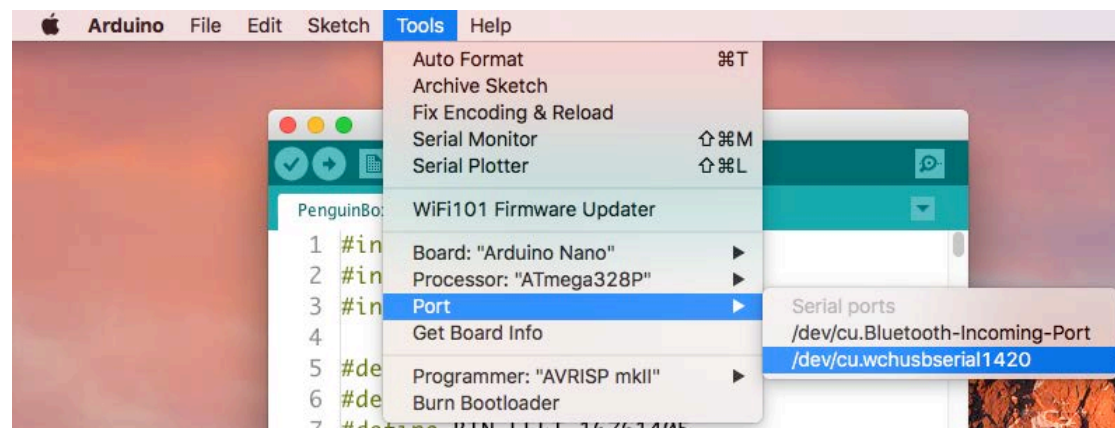


Select the Atmega328P Processor.

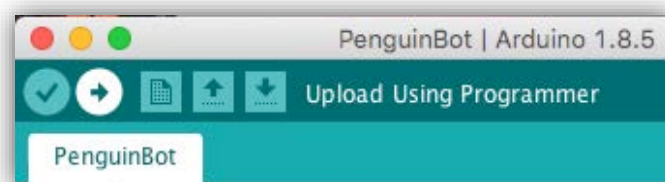


Select the SerialPort name.

(Tips: Each Arduino Nano board has a different COM number on the same computer. You should choose the COM number of the actual display.)



Click the upload button to start upload the Penguin-Bot program.



Done uploading.

