007 - UPDATING FIRMWARE

The firmware that runs on the controller board of the printer is open source. This means everybody who wants can download, change, compile and upload changed code to the printer.

(Velleman will only give support to the stock firmware and to updates of the firmware that Velleman issues. You will NOT void your warranty if you change your firmware. You can always revert back to the stock firmware following the instructions below.)

To view, change, compile and upload the firmware to the controller board you will need the Arduino software.

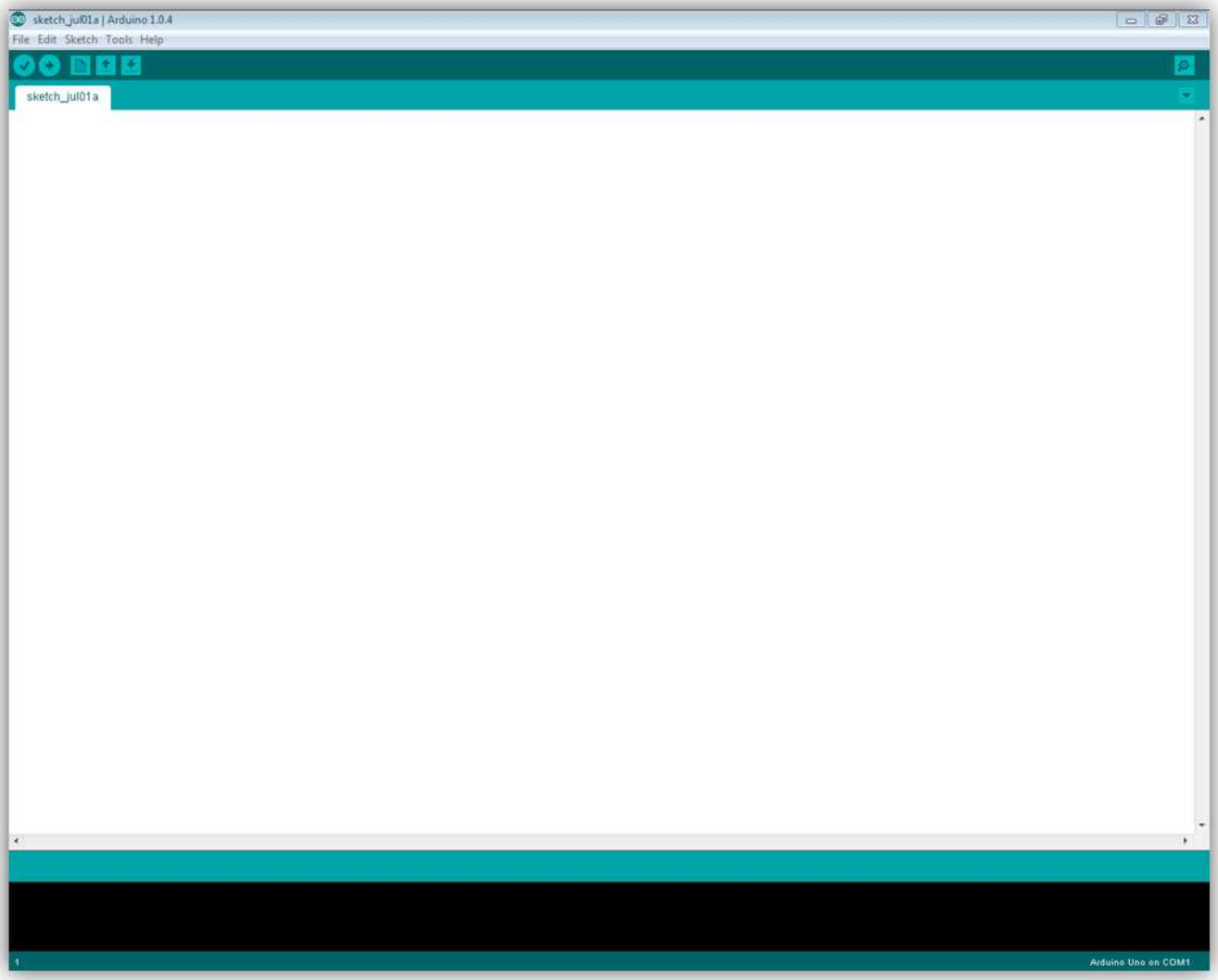
You can find the download link and install instructions on this page:

http://arduino.cc/en/Main/Software

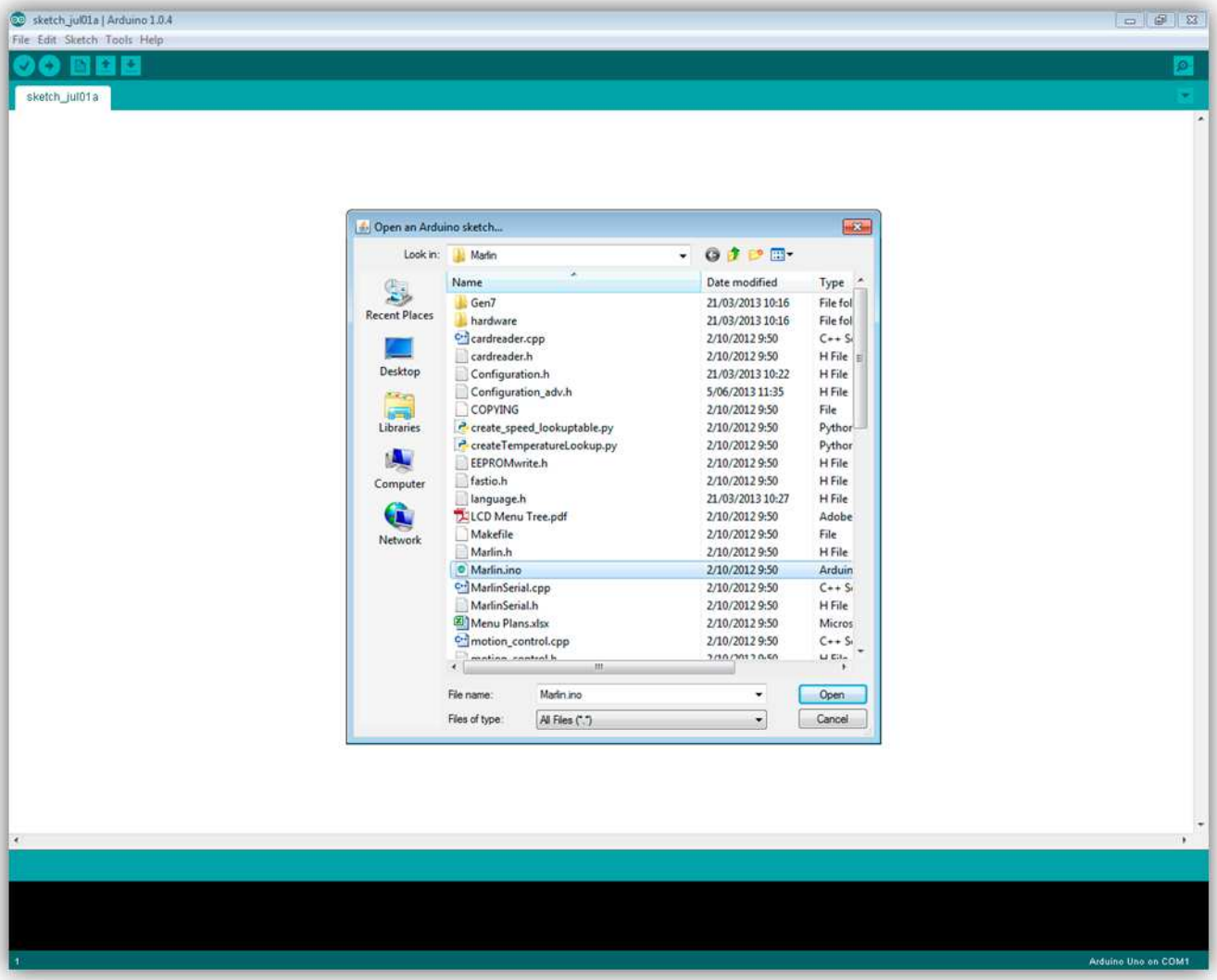
You will also need the source code of the firmware, you can download it in the download sections of this website.

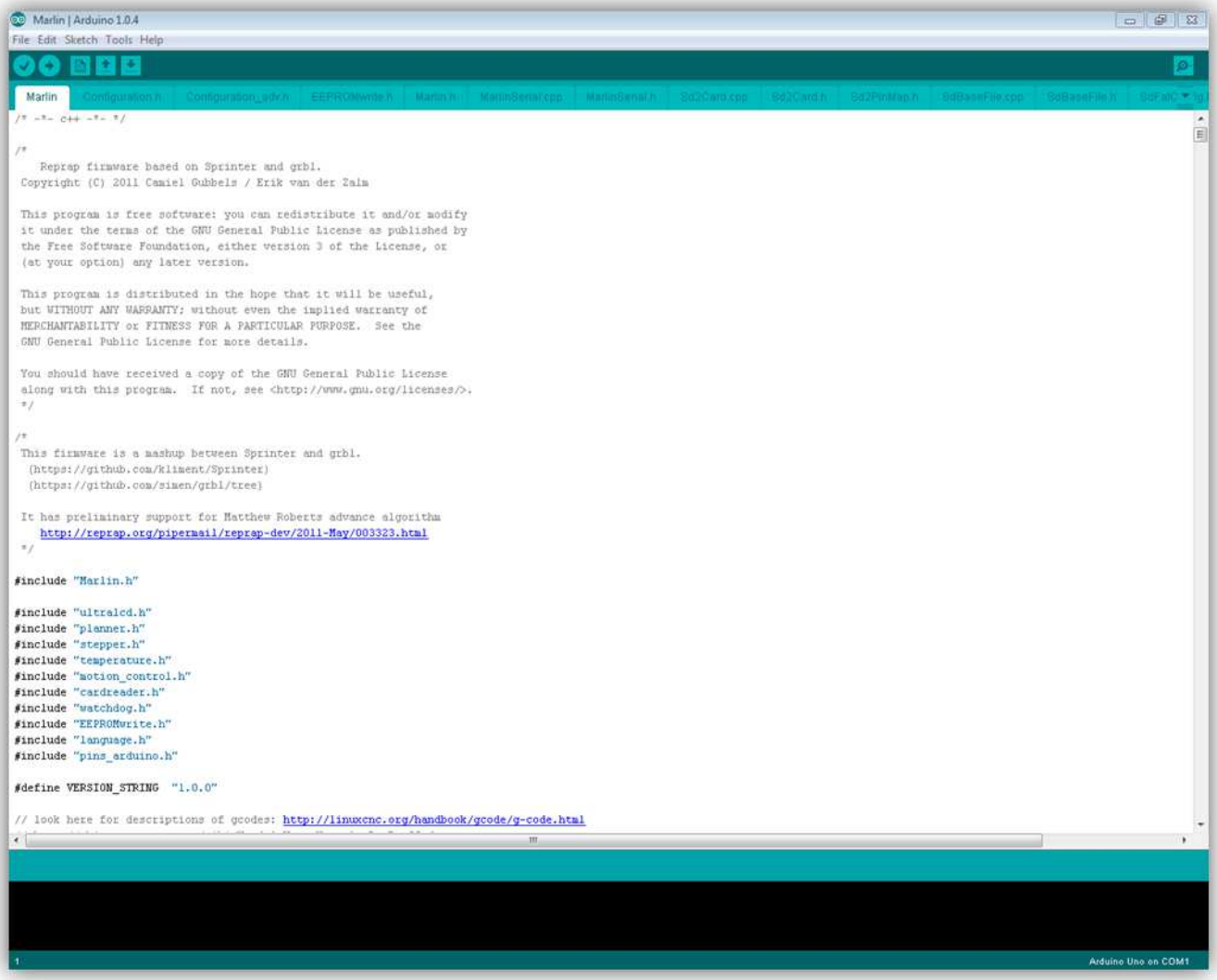
When you start the Arduino software make sure the board is powered and connected to the computer **(driver must be installed)** and that the Repetier software is closed.

You should see something like this:



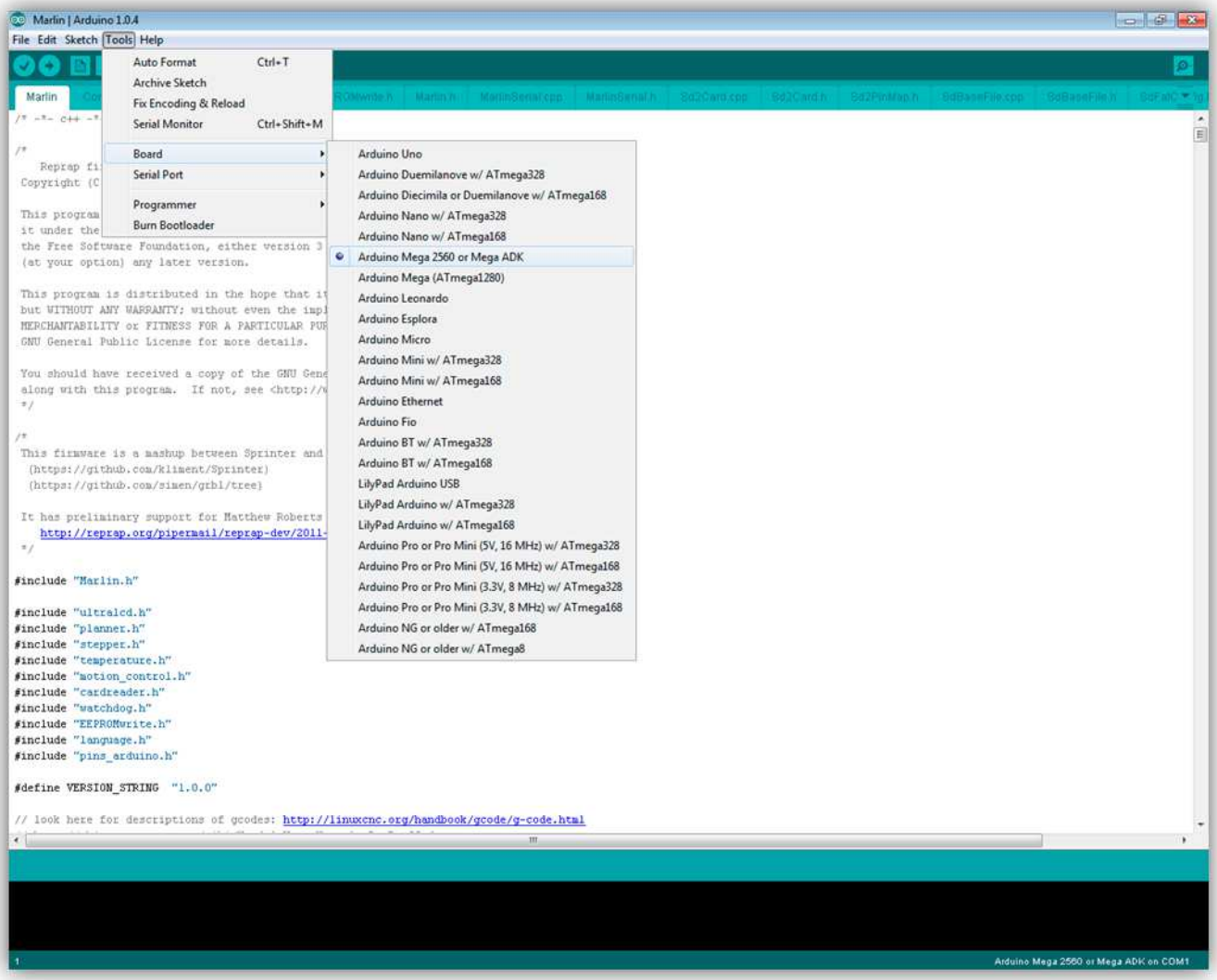
Click **File -> Open** and in the firmware folder you downloaded select the **"Marlin.ino"** file.


sketch_jul01a | Arduino 1.0.4
File Edit Sketch Tools Help
sketch_jul01a
Open an Arduino sketch...
Look in: Marlin
Recent Places
Desktop
Libraries
Computer
Network
Name
Date modified
Type
Gen7 21/03/2013 10:16 File fol
hardware 21/03/2013 10:16 File fol
cardreader.cpp 2/10/2012 9:50 C++ S
cardreader.h 2/10/2012 9:50 H File
Configuration.h 21/03/2013 10:22 H File
Configuration_adv.h 5/06/2013 11:35 H File
COPYING 2/10/2012 9:50 File
create_speed_lookuptable.py 2/10/2012 9:50 Pythor
createTemperatureLookup.py 2/10/2012 9:50 Pythor
EEPROMwrite.h 2/10/2012 9:50 H File
fastio.h 2/10/2012 9:50 H File
language.h 21/03/2013 10:27 H File
LCD Menu Tree.pdf 2/10/2012 9:50 Adobe
Makefile 2/10/2012 9:50 File
Marlin.h 2/10/2012 9:50 H File
Marlin.ino 2/10/2012 9:50 Arduin
MarlinSerial.cpp 2/10/2012 9:50 C++ S
MarlinSerial.h 2/10/2012 9:50 H File
Menu Plans.xlsx 2/10/2012 9:50 Micros
motion_control.cpp 2/10/2012 9:50 C++ S
File name: Marlin.ino
Open
Files of type: All Files (*.*)
Cancel
1
Arduino Uno on COM1

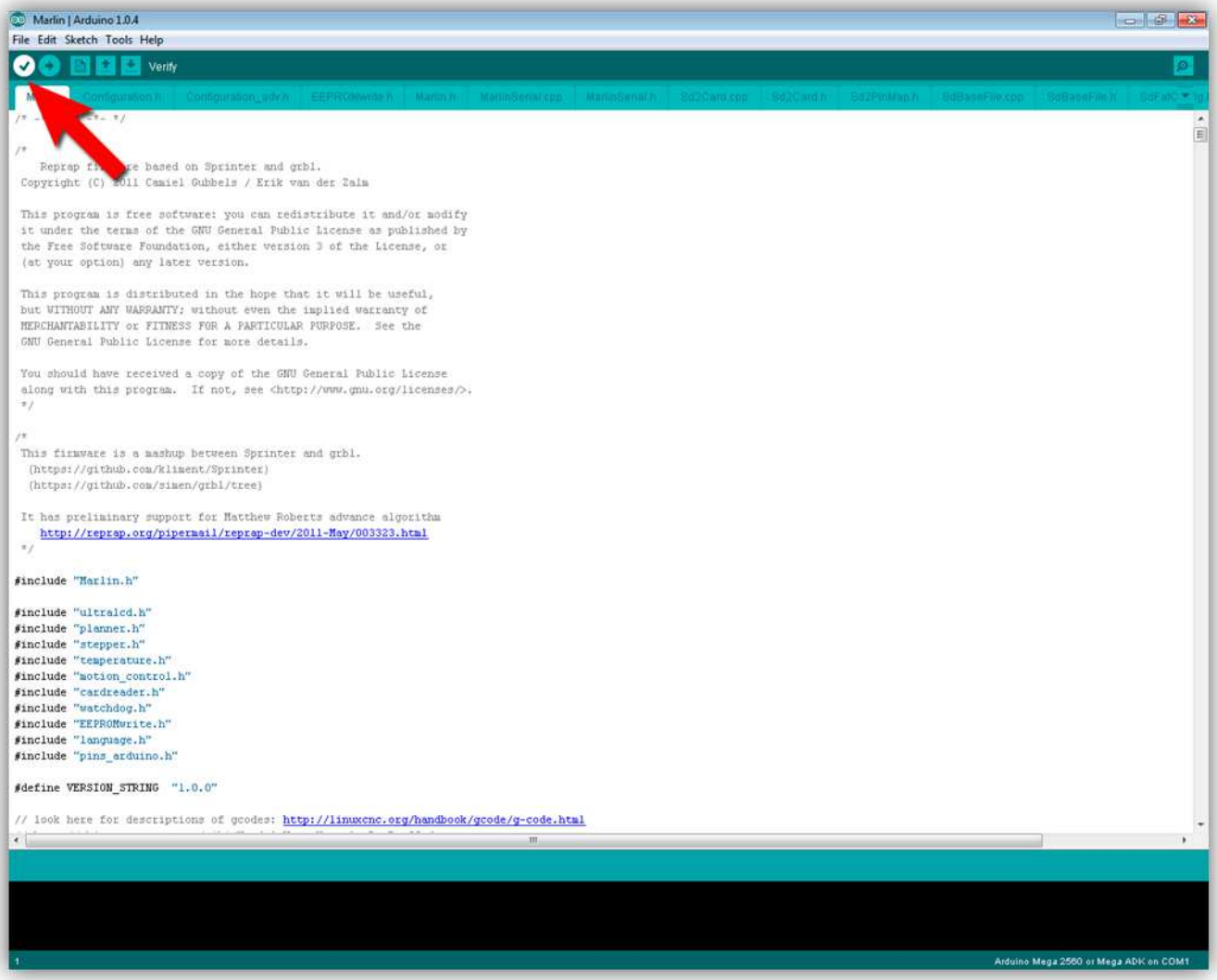


Before making any changes make sure that you selected the right board. This setting can be found under:

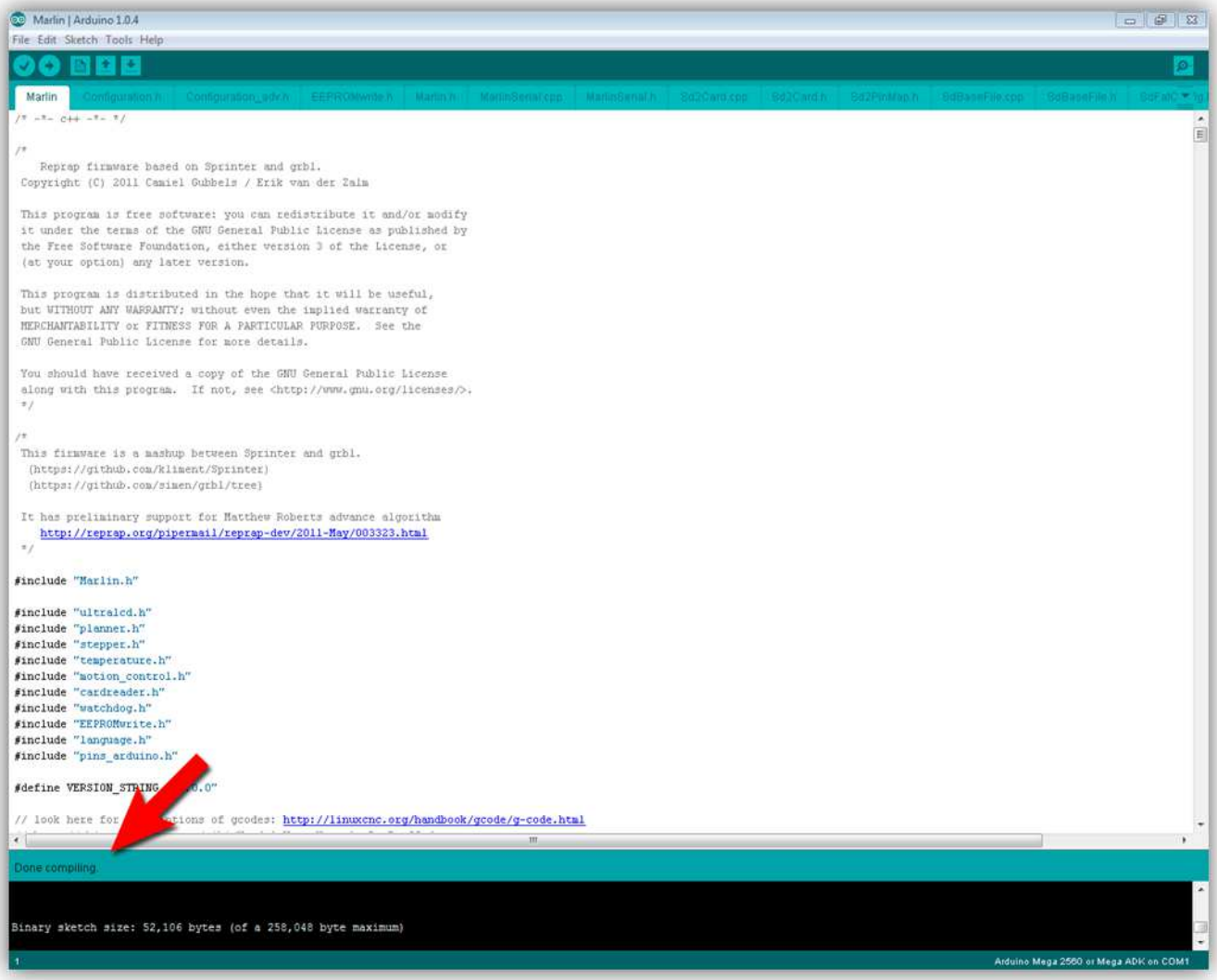
Tools - > Board -> Arduino Mega 2560 or Mega ADK



Now you can check if the source code compiles correctly, press the “Verify” button.

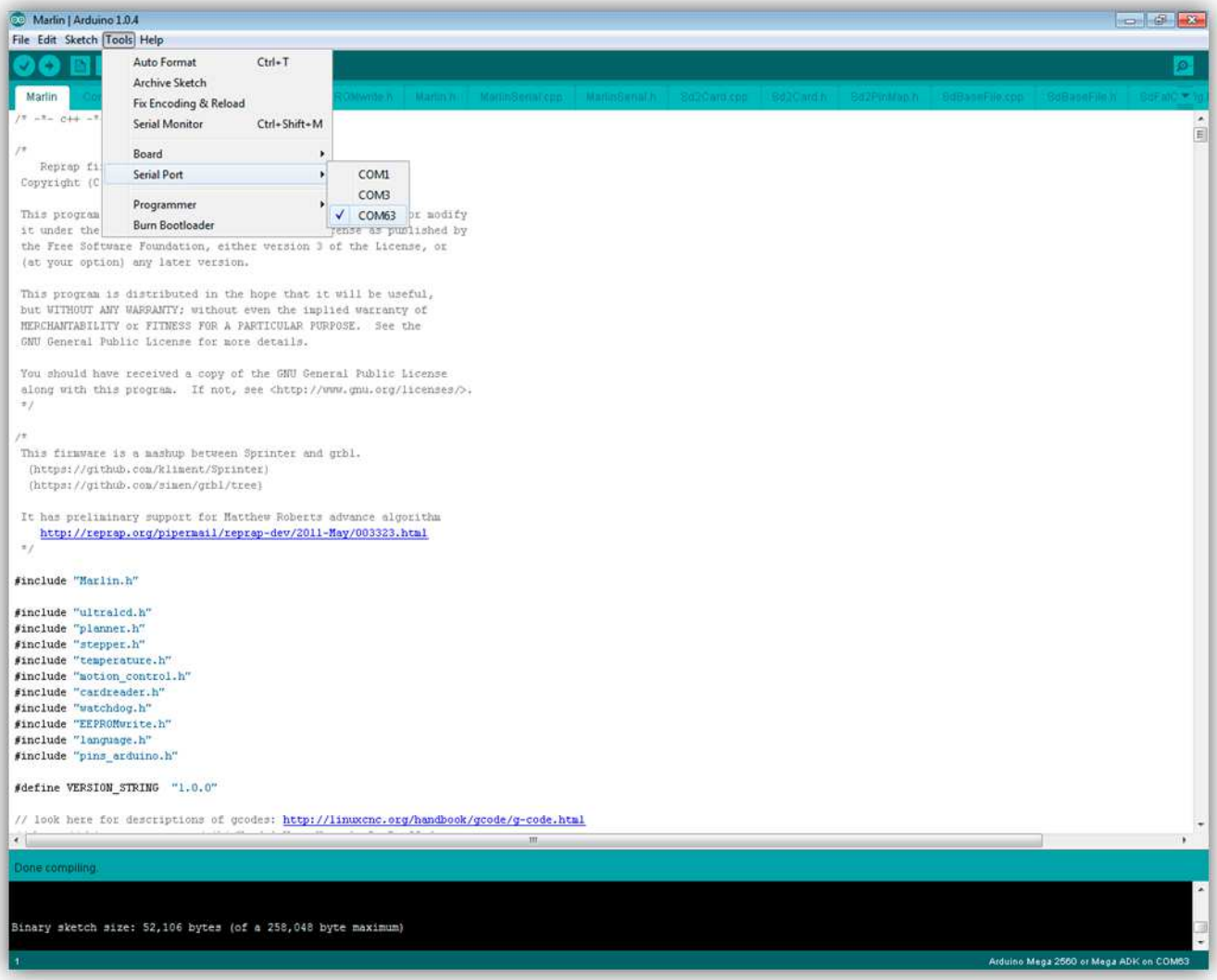


If everything went correct you should see a “Done compiling” message at the bottom of the window.

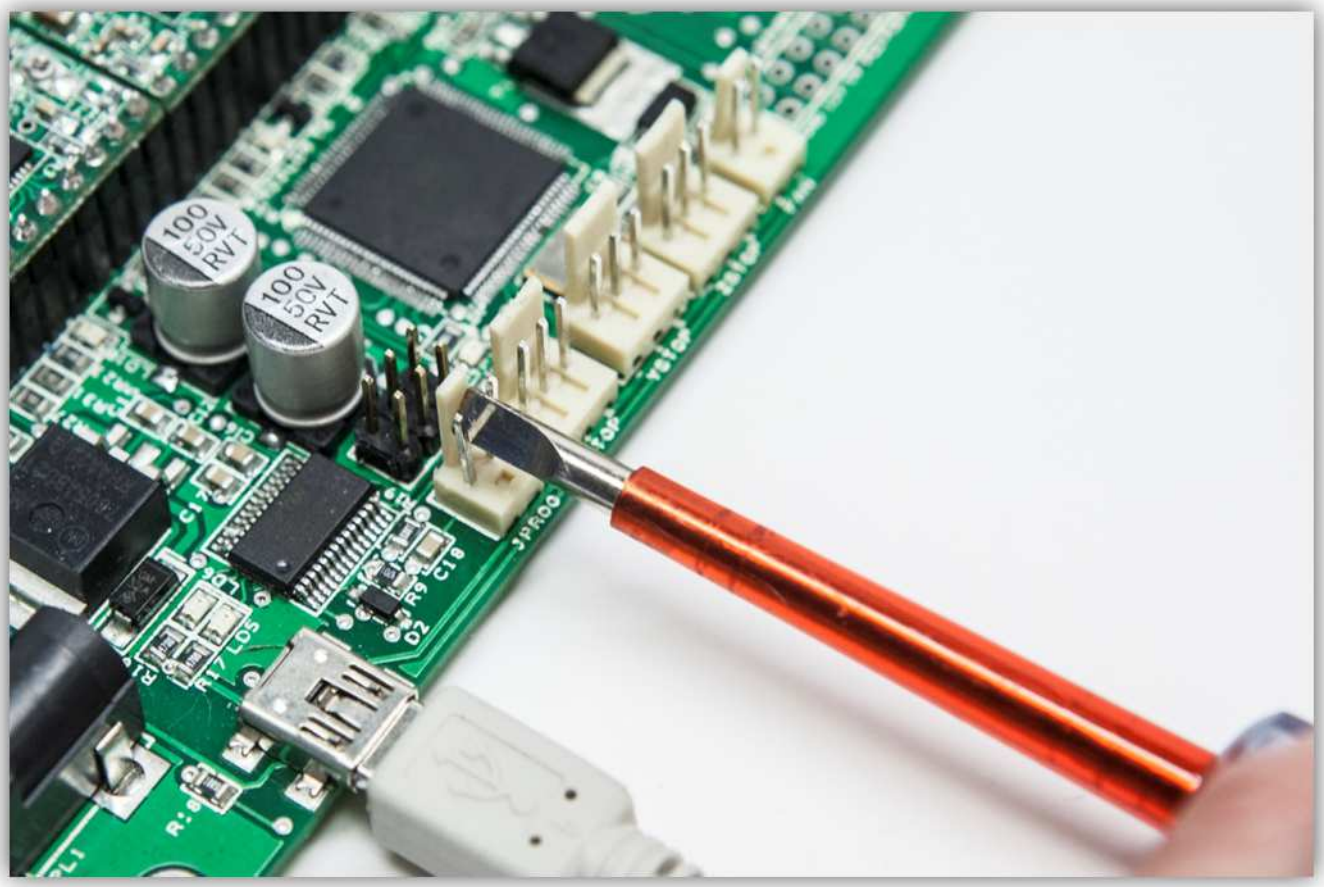


Now select the correct COM port your board is on. This setting can be found under:

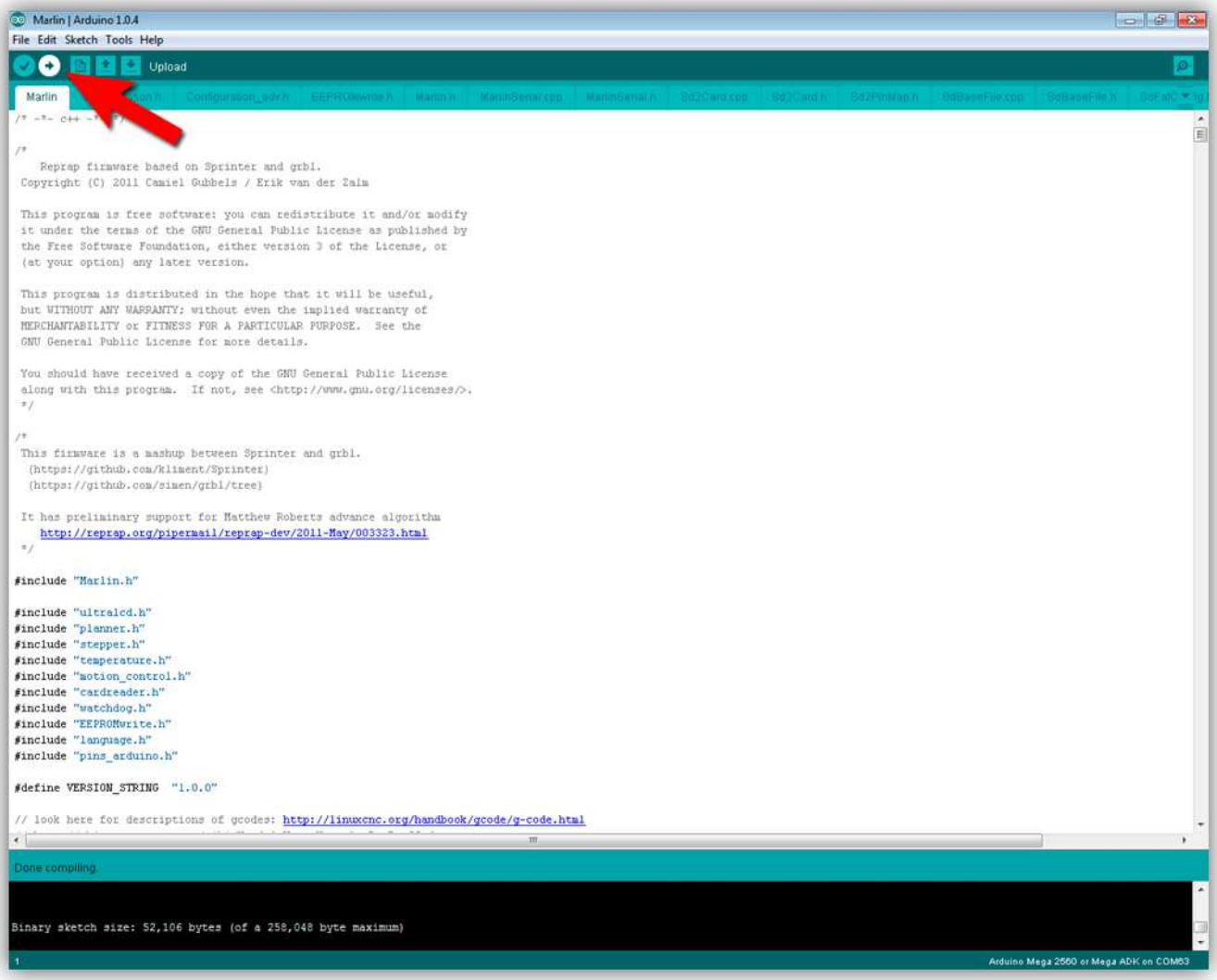
Tools -> Serial Port



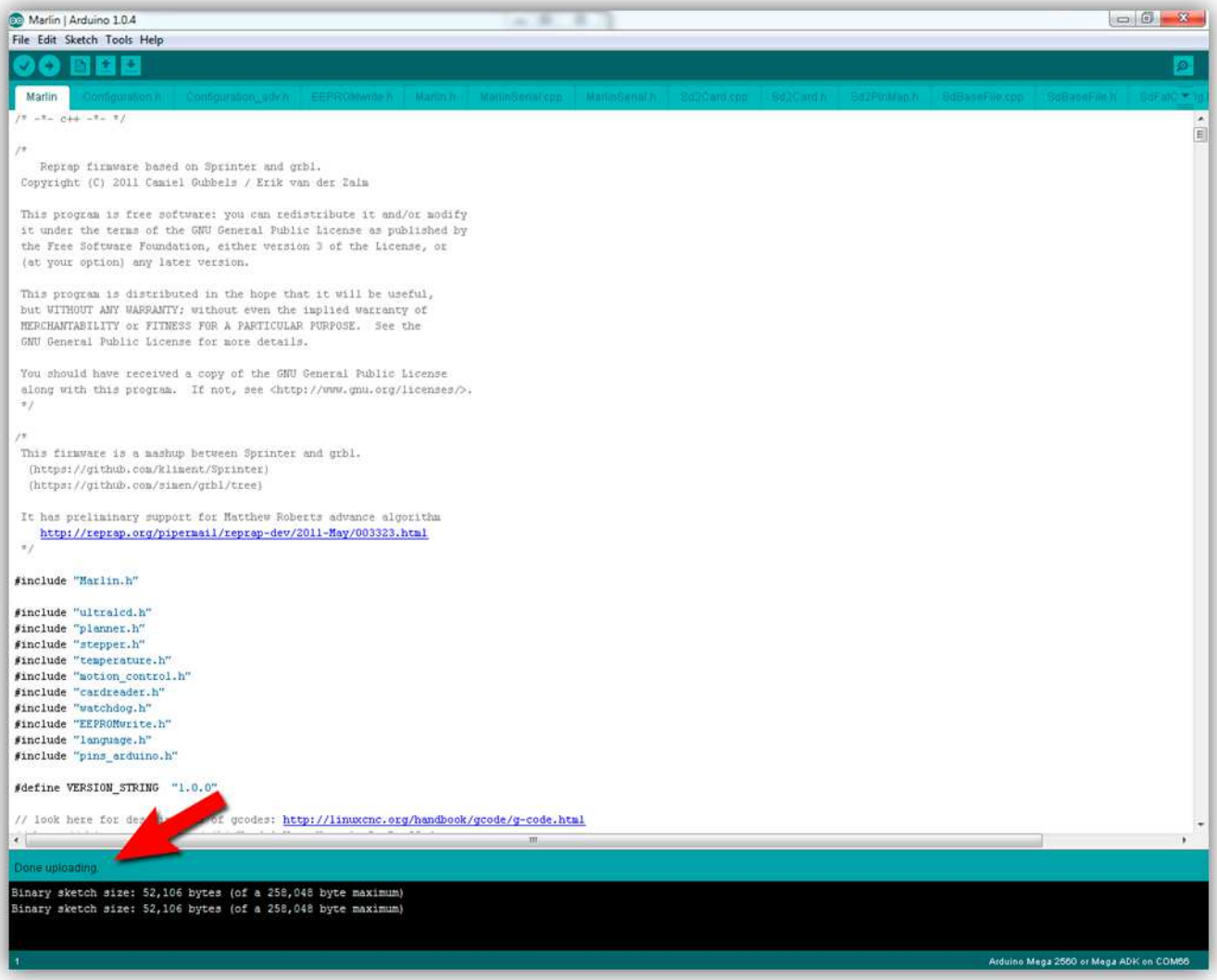
Before we can flash the board we need to short the pins on the JPROG connector. You can do this by putting a screwdriver between the pins. **Be sure to do this continually while the Arduino software is programming the board.**



Press the “Upload” button to program the board via USB.



You should see the LEDs flash for a while and when it’s all done the Arduino software should show “Done uploading”


Marlin | Arduino 1.0.4
File Edit Sketch Tools Help
Marlin
Configuration.h
Configuration_adv.h
EEPROMwrite.h
Marlin.h
MarlinSerial.cpp
MarlinSerial.h
Sd2Card.cpp
Sd2Card.h
Sd2PinMap.h
SdBaseFile.cpp
SdBaseFile.h
/* -*- c++ -*- */
/*
Reprap firmware based on Sprinter and grbl.
Copyright (C) 2011 Camiel Gubbels / Erik van der Zalm
This program is free software: you can redistribute it and/or modify
it under the terms of the GNU General Public License as published by
the Free Software Foundation, either version 3 of the License, or
(at your option) any later version.
This program is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
GNU General Public License for more details.
You should have received a copy of the GNU General Public License
along with this program. If not, see <http://www.gnu.org/licenses/>.
*/
/*
This firmware is a mashup between Sprinter and grbl.
(https://github.com/kliment/Sprinter)
(https://github.com/simen/grbl/tree)
It has preliminary support for Matthew Roberts advance algorithm
http://reprap.org/pipermail/reprap-dev/2011-May/003323.html
*/
#include "Marlin.h"
#include "ultralcd.h"
#include "planner.h"
#include "stepper.h"
#include "temperature.h"
#include "motion_control.h"
#include "cardreader.h"
#include "watchdog.h"
#include "EEPROMwrite.h"
#include "language.h"
#include "pins_arduino.h"
#define VERSION_STRING "1.0.0"
// look here for des of gcodes: http://linuxcnc.org/handbook/gcode/g-code.html
Done uploading.
Binary sketch size: 52,106 bytes (of a 258,048 byte maximum)
Binary sketch size: 52,106 bytes (of a 258,048 byte maximum)
1
Arduino Mega 2560 or Mega ADK on COM66