

What programs to download to run the HILO App?

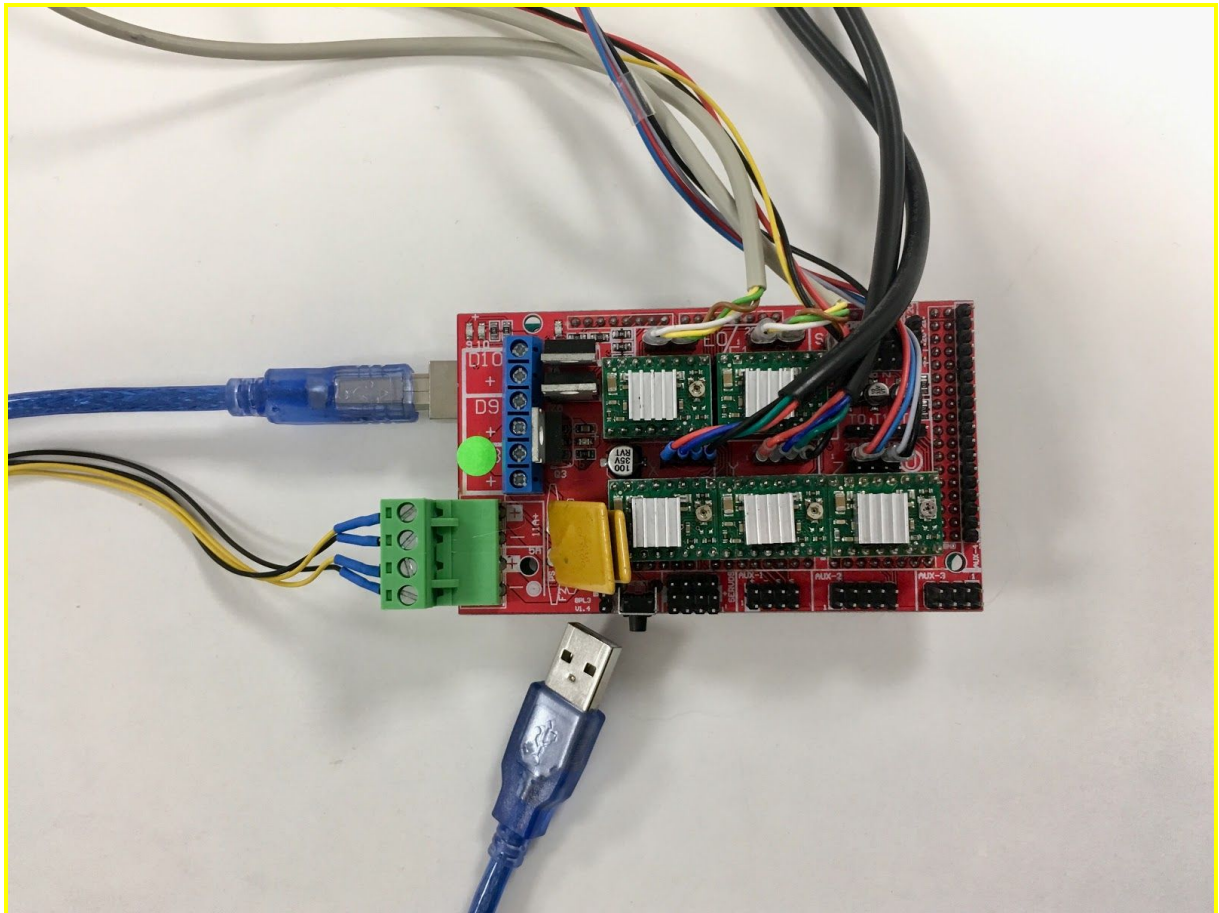
Please download the free programs “Processing” and “Arduino” on the following websites. We use them to run the HILO App and they are all connected with each other.

Processing: <https://processing.org/download/>

Arduino: <https://www.arduino.cc/en/Main/Software>

How to activate Arduino?

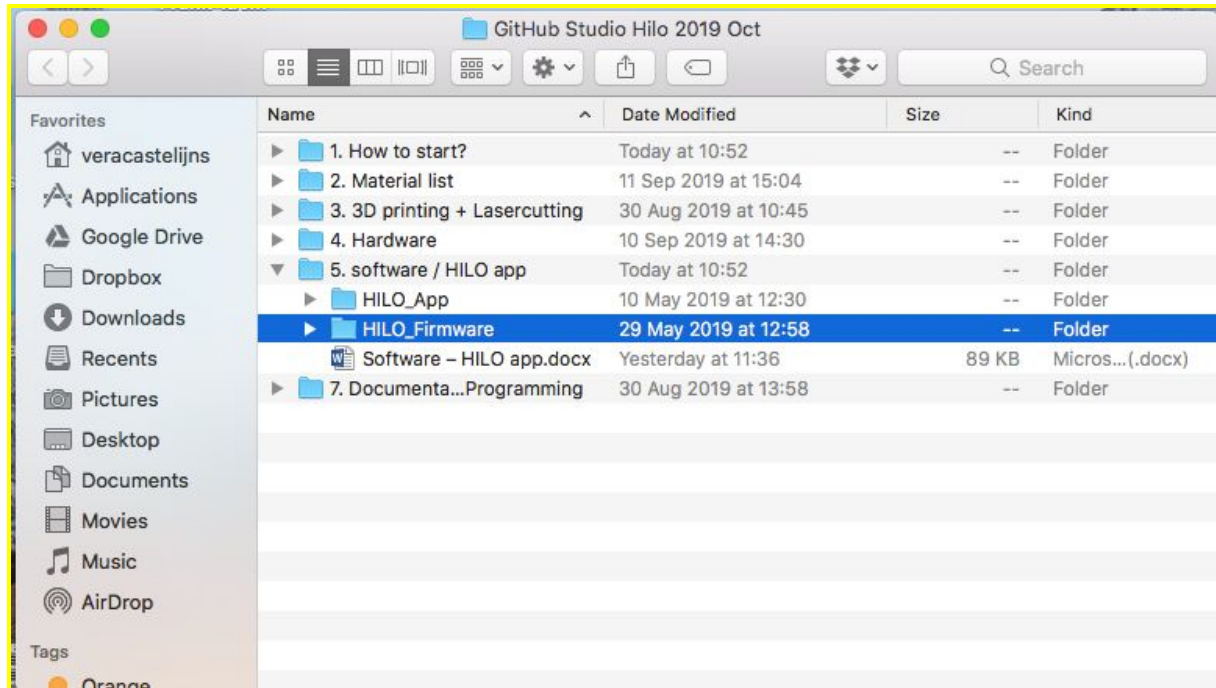
To activate the Arduino Mega and app follow the next steps →



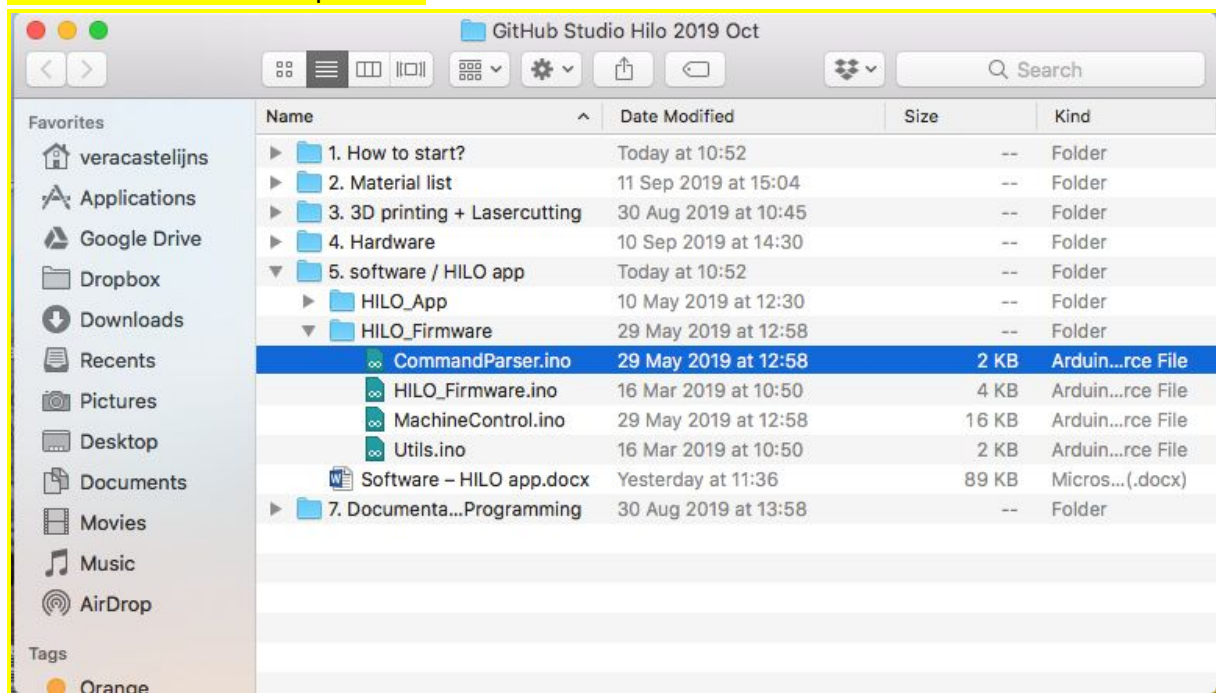
Connect the USB cable in the Arduino Mega and in the Computer



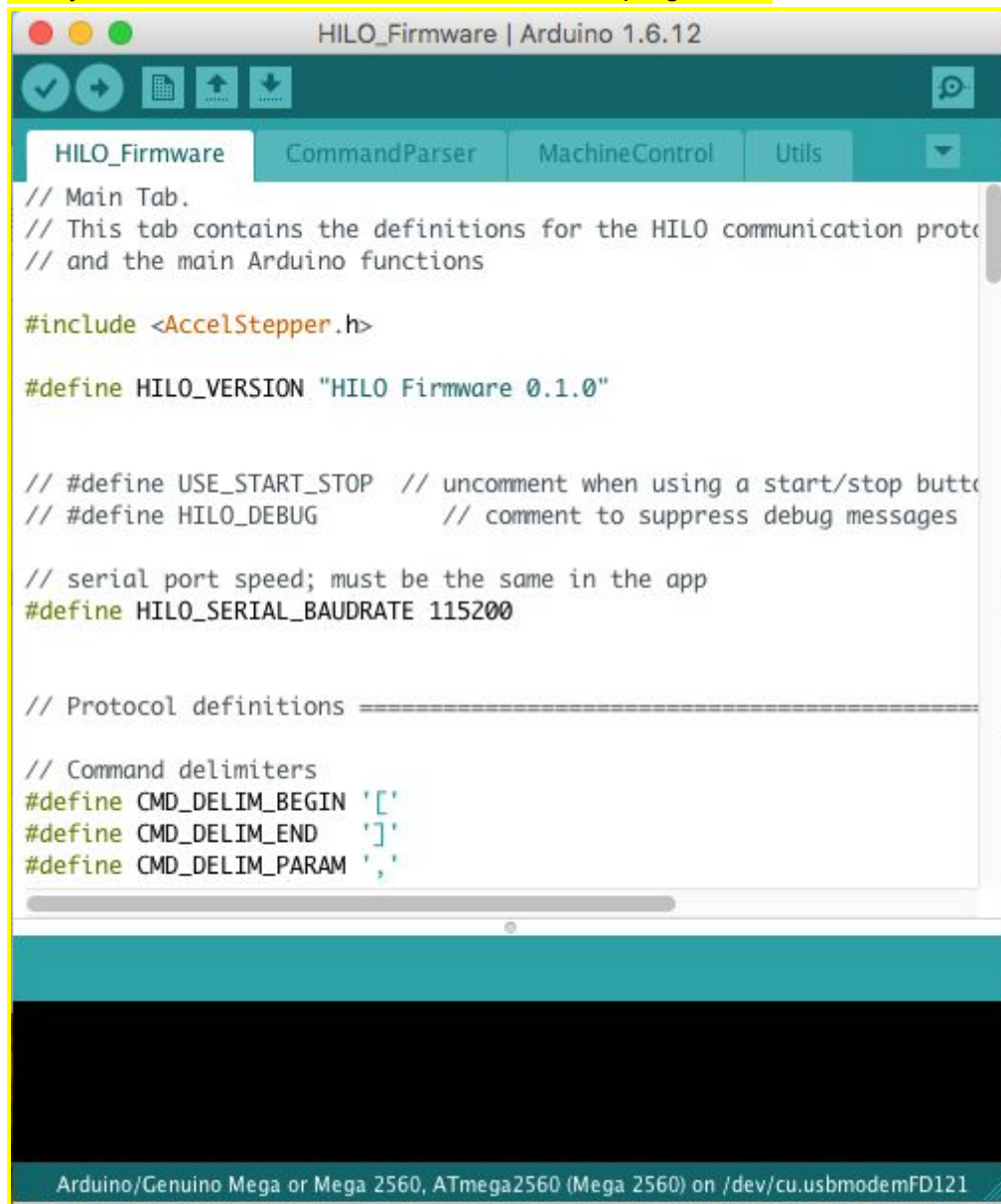
To Start with the Arduino software → open the HILO Firmware in the folder Software/HILO App



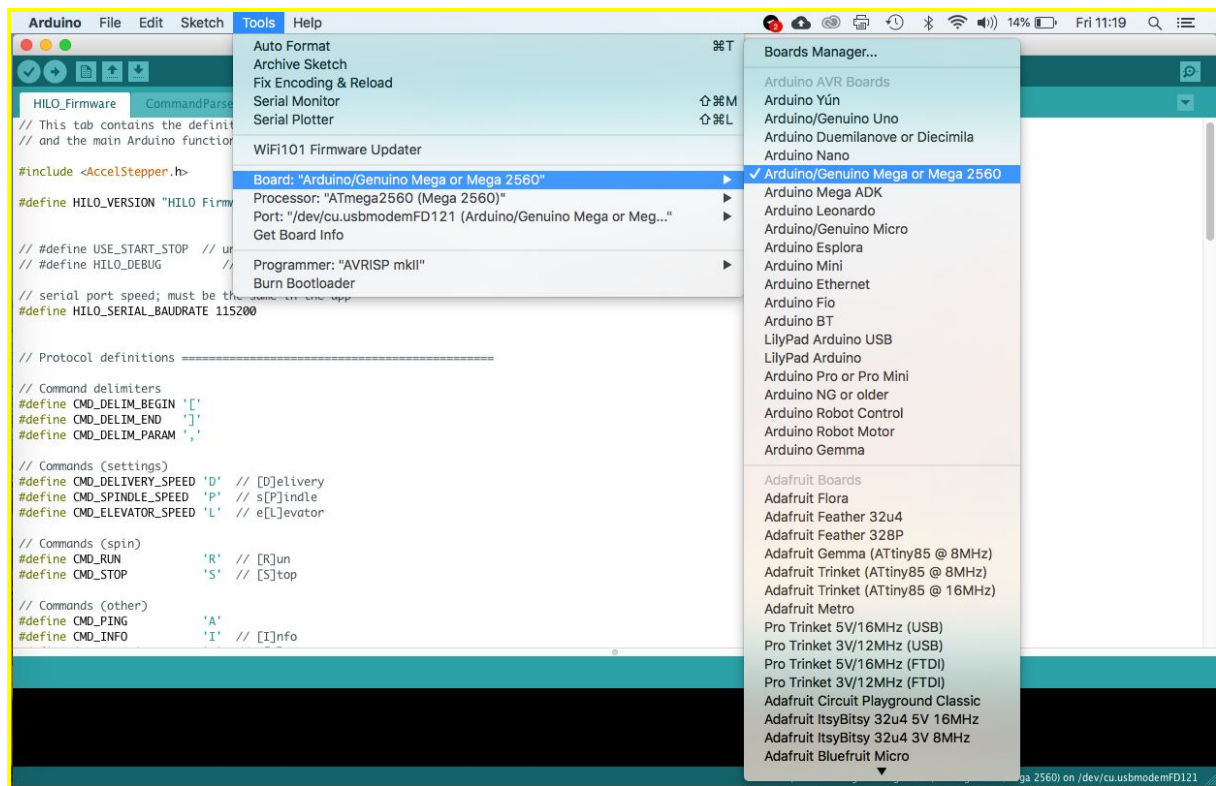
Please click double to open it →



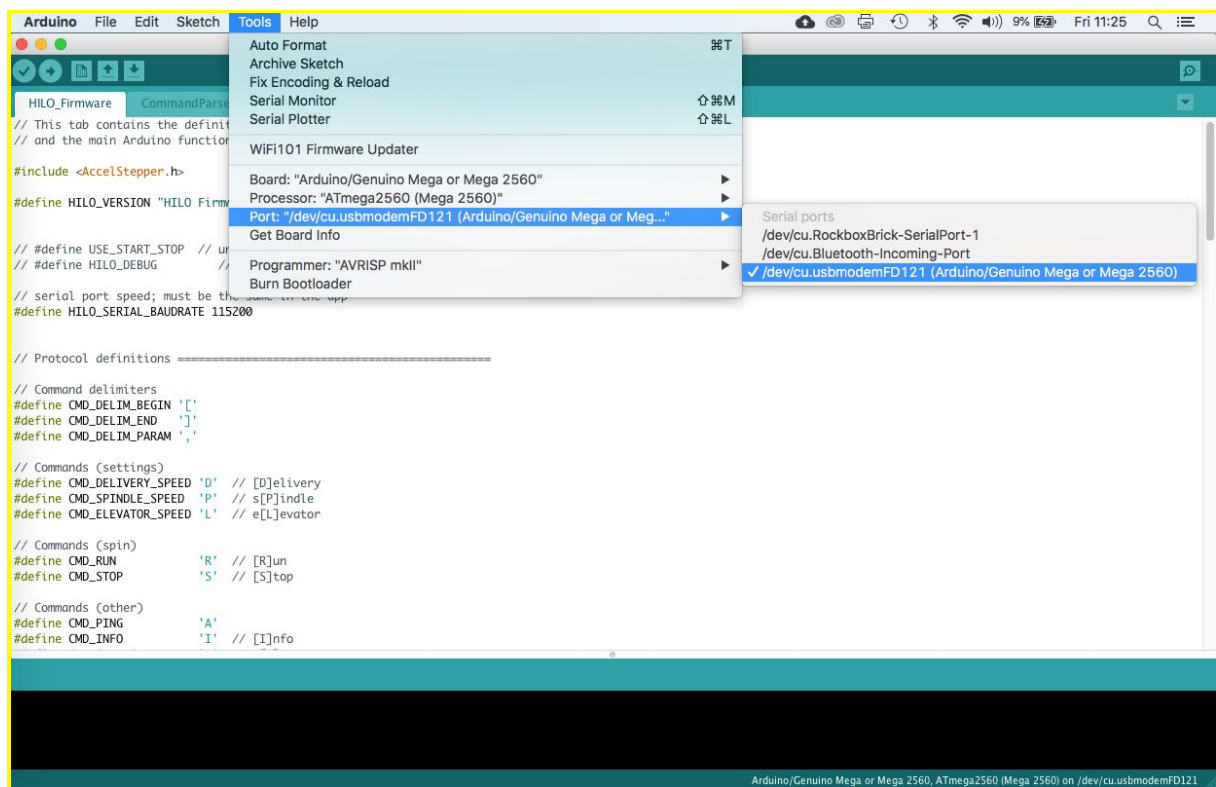
now you see all the four fensters in the Arduino programm?



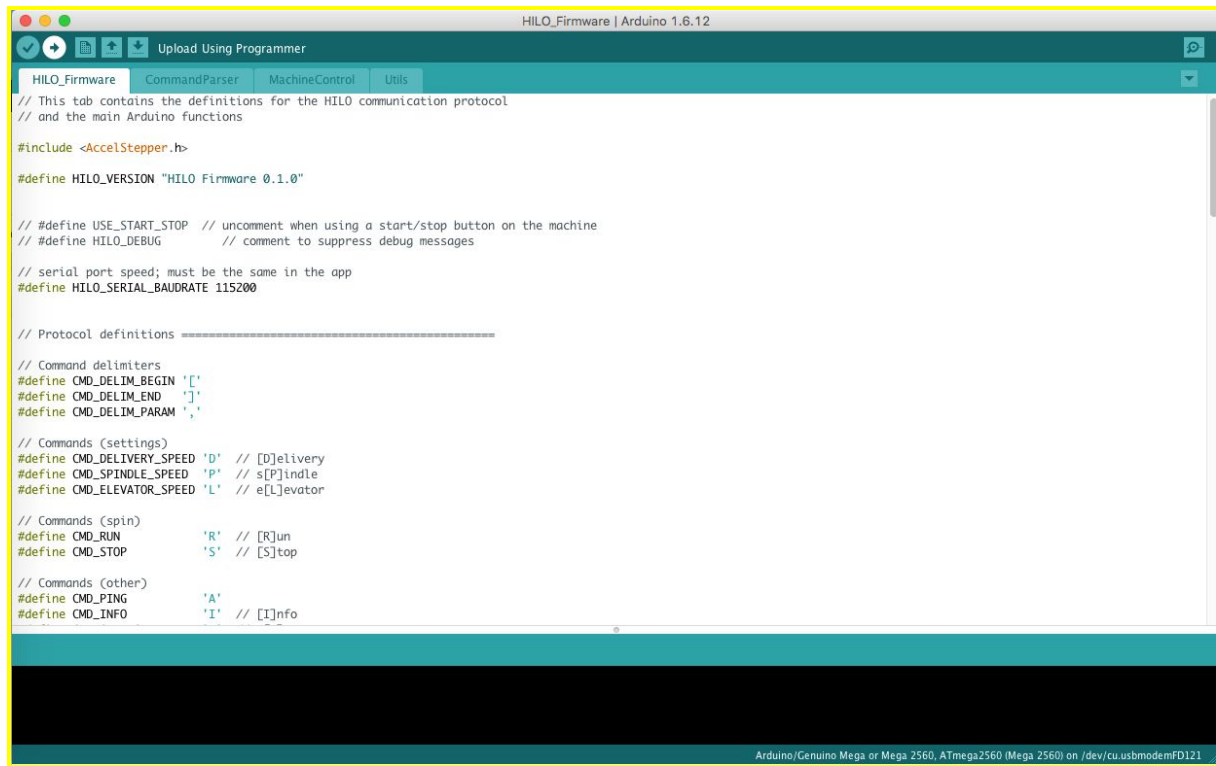
Go to tools → select the Arduino Board → Arduino/Genuino Mega or Mega 2560



Go to tools → select the Port (please write it down) →



Press on the play button to upload the Software in the Arduino (take's some seconds to upload it!!) if the code it on the arduino, you don't need to open the arduino program anymore. It stays there forever till you upload another project on it. But you to connect the arduino always with the USB in the computer!!! why? The arduino need power to run.



```
// HILO_Firmware | Arduino 1.6.12
// This tab contains the definitions for the HILO communication protocol
// and the main Arduino functions

#include <AccelStepper.h>

#define HILO_VERSION "HILO Firmware 0.1.0"

// #define USE_START_STOP // uncomment when using a start/stop button on the machine
// #define HILO_DEBUG // comment to suppress debug messages

// serial port speed; must be the same in the app
#define HILO_SERIAL_BAUDRATE 115200

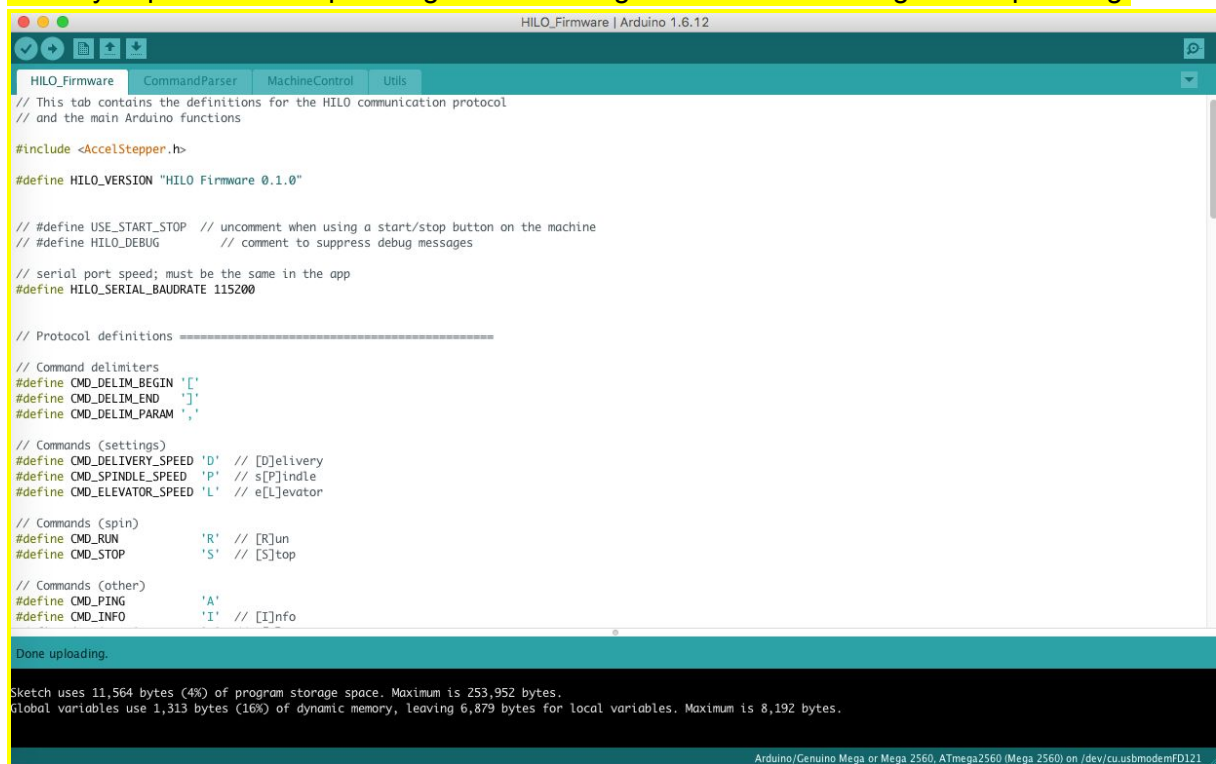
// Protocol definitions =====
// Command delimiters
#define CMD_DELIM_BEGIN '['
#define CMD_DELIM_END ']'
#define CMD_DELIM_PARAM ','

// Commands (settings)
#define CMD_DELIVERY_SPEED 'D' // [D]elivery
#define CMD_SPINDLE_SPEED 'P' // s[P]indle
#define CMD_ELEVATOR_SPEED 'L' // e[L]evator

// Commands (spin)
#define CMD_RUN 'R' // [R]un
#define CMD_STOP 'S' // [S]top

// Commands (other)
#define CMD_PING 'A'
#define CMD_INFO 'I' // [I]nfo
```

When you press on it's uploading wait till the sign left under is coming Done uploading.



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```

Done uploading.

Sketch uses 11,564 bytes (4%) of program storage space. Maximum is 253,952 bytes.
Global variables use 1,313 bytes (16%) of dynamic memory, leaving 6,879 bytes for local variables. Maximum is 8,192 bytes.

The Code is now on the Arduino. Good you doing well! keep up going!

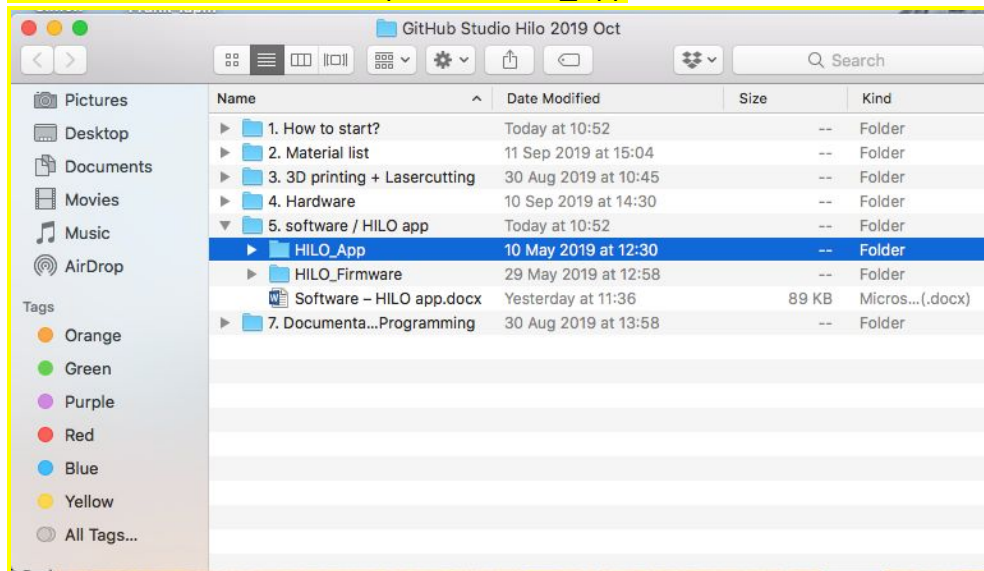
<https://www.arduino.cc/>

How to activate Processing?

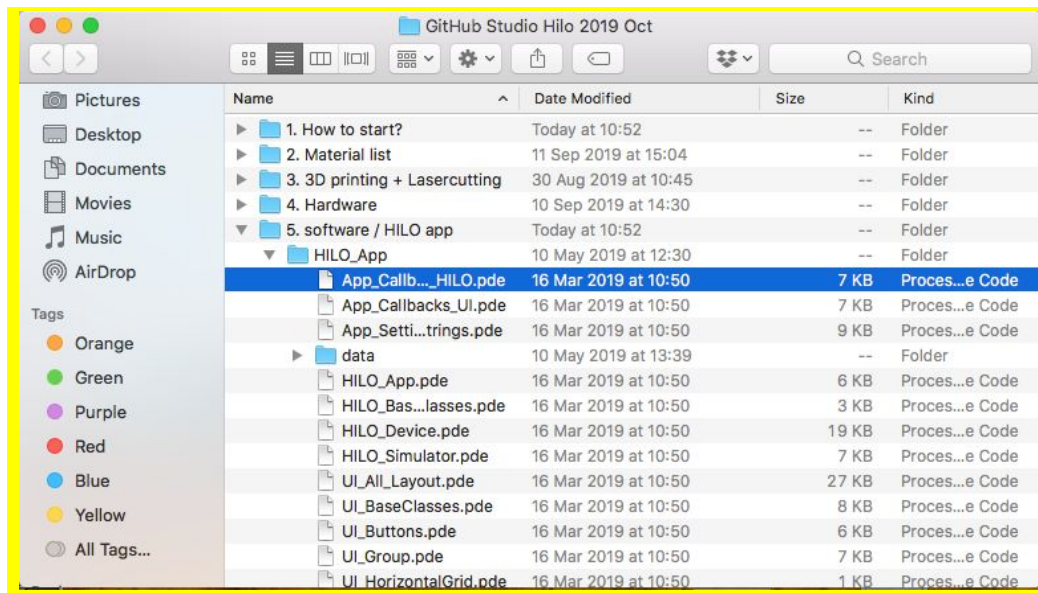
To activate the Processing app follow the next steps →

Leave the USB with the Arduino mega in the computer in don't click the Arduino program away!! We are going now to connect the arduino program to Processing program and this is pretty easy to do! :)

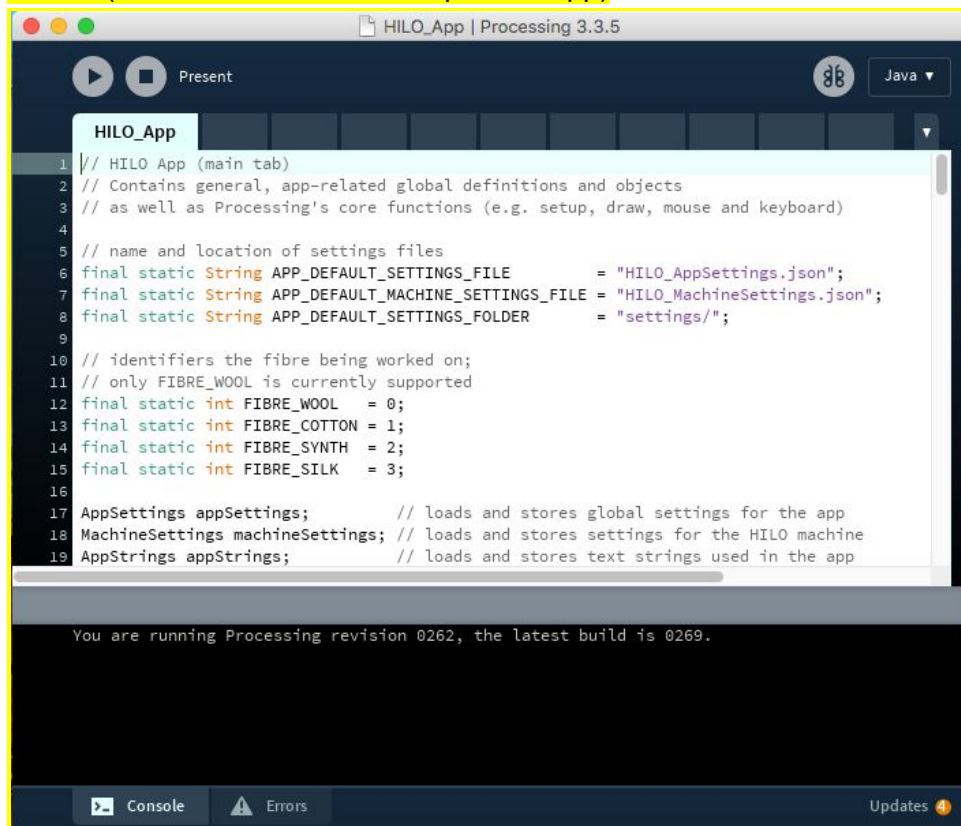
Go to the Github folder and open the HILO_App



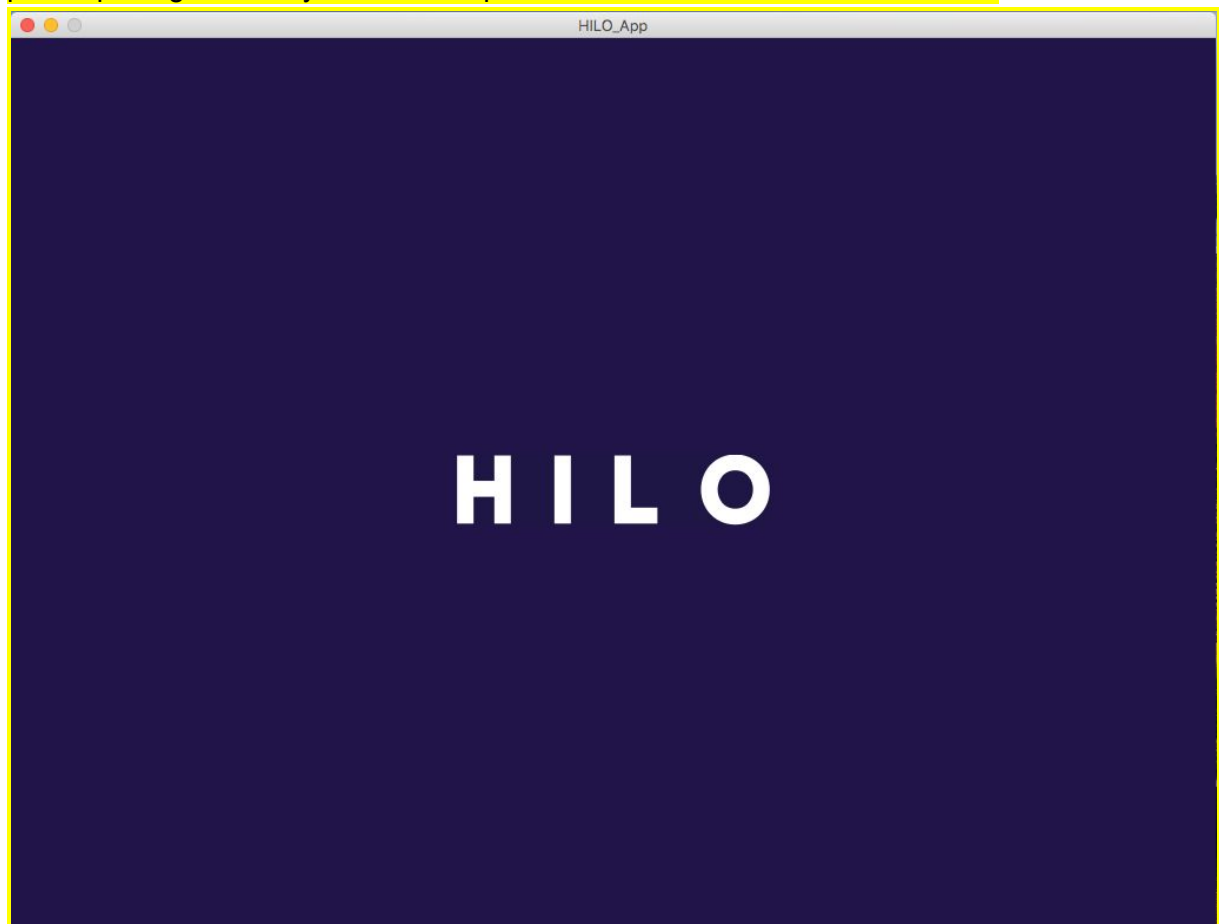
Now double click on



Now you are in the processing but still not yet in the app → please click on the run/play button. (take's a few seconds to open the app)



Welcome in the HILO app we glad you made it!! :) now we can dive into the most exciting part exploring with the yarn! But first please read how to start for a nice start!



<https://processing.org/>

For digging deeper into the HILO App code please check the folder 8_Documentation_HILO Software.