SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC
with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna
University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

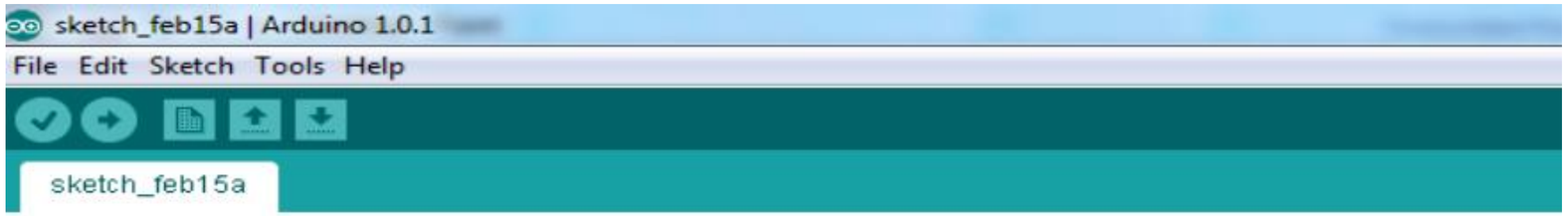
19ECT213-IoT SYSTEM ARCHITECTURE

II YEAR/ IV SEMESTER

UNIT 2 – MICROCONTROLLER AND INTERFACING TECHNIQUES FOR IoT DEVICES

TOPIC 1 – ARDUINO LIBRARIES: LIBRARY ADDING AND REMOVING

ARDUINO IDE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File Edit Sketch Tools Help
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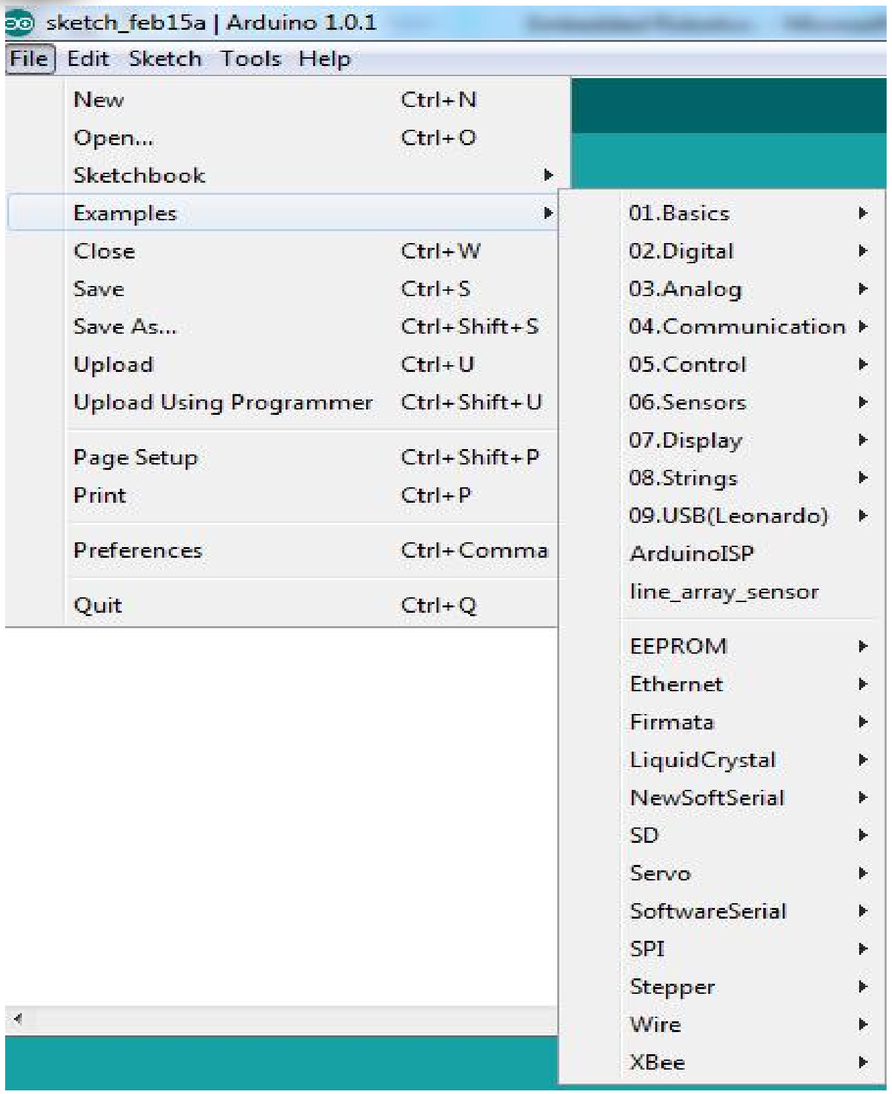
ARDUINO IDE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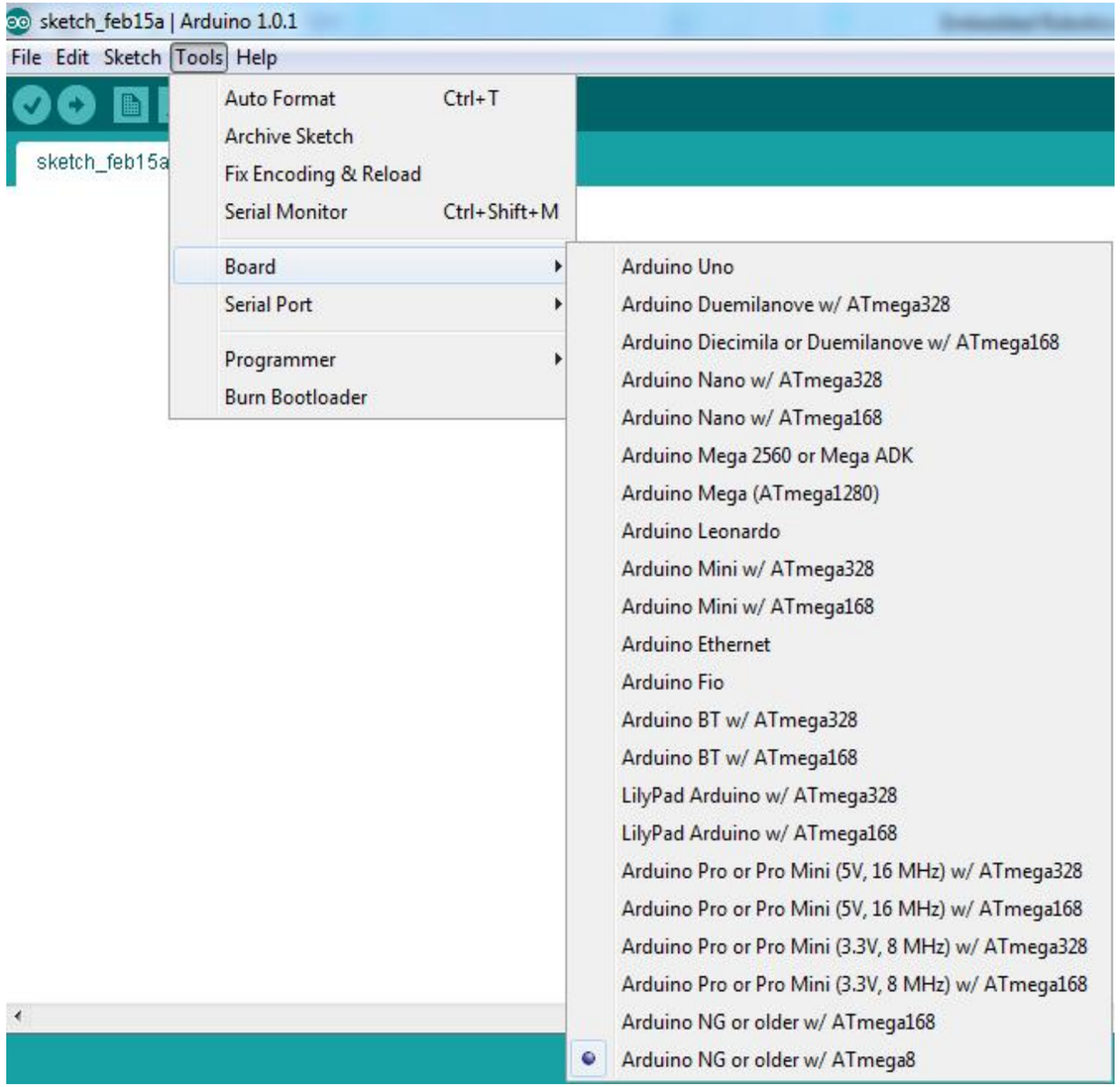
File Edit Sketch Tools Help
New Ctrl+N
Open... Ctrl+O
Sketchbook
Examples
Close Ctrl+W
Save Ctrl+S
Save As... Ctrl+Shift+S
Upload Ctrl+U
Upload Using Programmer Ctrl+Shift+U
Page Setup Ctrl+Shift+P
Print Ctrl+P
Preferences Ctrl+Comma
Quit Ctrl+Q
01.Basics
02.Digital
03.Analog
04.Communication
05.Control
06.Sensors
07.Display
08.Strings
09.USB(Leonardo)
ArduinoISP
line_array_sensor
EEPROM
Ethernet
Firmata
LiquidCrystal
NewSoftSerial
SD
Servo
SoftwareSerial
SPI
Stepper
Wire
XBee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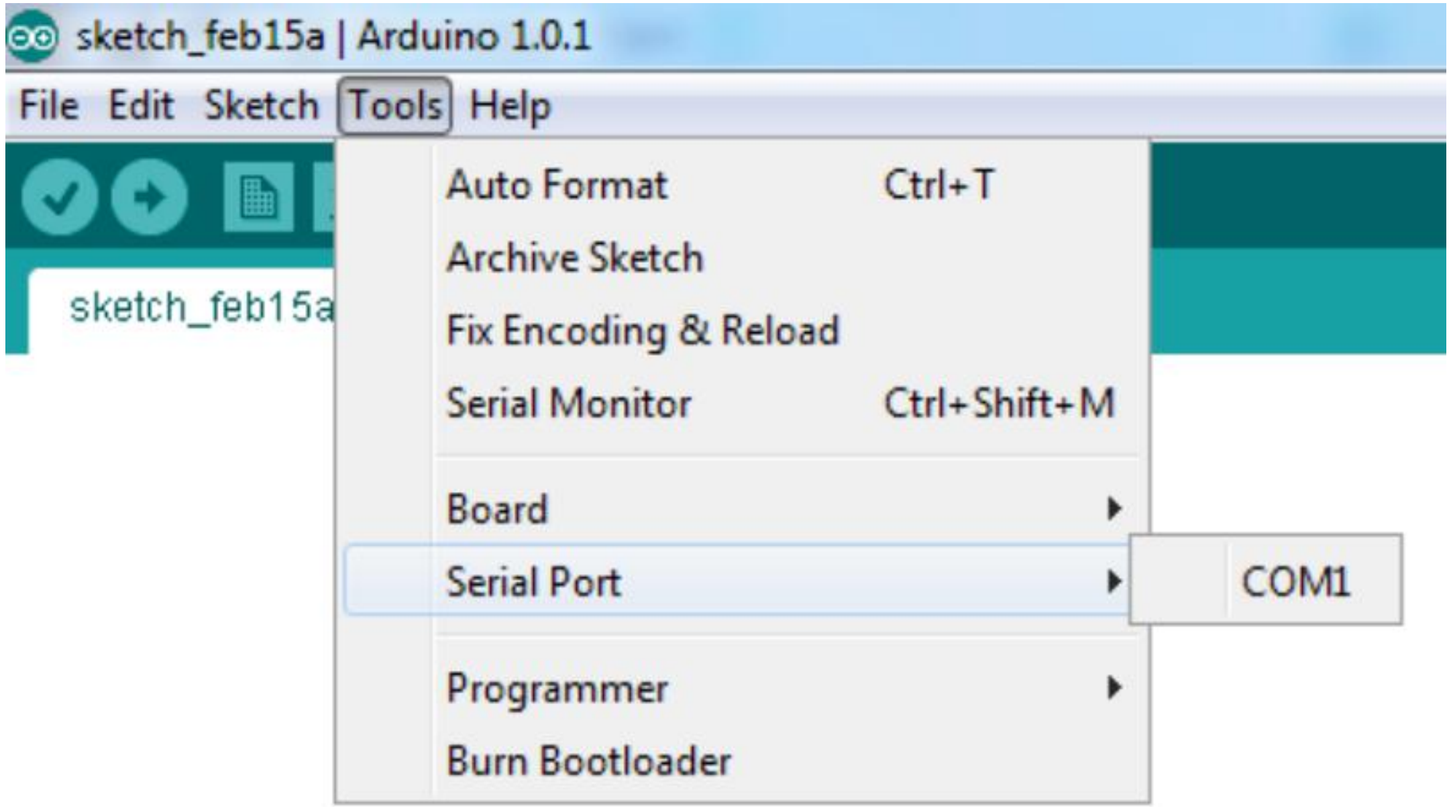
File Edit Sketch Tools Help
sketch_feb15a
Auto Format Ctrl+T
Archive Sketch
Fix Encoding & Reload
Serial Monitor Ctrl+Shift+M
Board
Serial Port
Programmer
Burn Bootloader
Arduino Uno
Arduino Duemilanove w/ ATmega328
Arduino Diecimila or Duemilanove w/ ATmega168
Arduino Nano w/ ATmega328
Arduino Nano w/ ATmega168
Arduino Mega 2560 or Mega ADK
Arduino Mega (ATmega1280)
Arduino Leonardo
Arduino Mini w/ ATmega328
Arduino Mini w/ ATmega168
Arduino Ethernet
Arduino Fio
Arduino BT w/ ATmega328
Arduino BT w/ ATmega168
LilyPad Arduino w/ ATmega328
LilyPad Arduino w/ ATmega168
Arduino Pro or Pro Mini (5V, 16 MHz) w/ ATmega328
Arduino Pro or Pro Mini (5V, 16 MHz) w/ ATmega168
Arduino Pro or Pro Mini (3.3V, 8 MHz) w/ ATmega328
Arduino Pro or Pro Mini (3.3V, 8 MHz) w/ ATmega168
Arduino NG or older w/ ATmega168
Arduino NG or older w/ ATmega8

ARDUINO IDE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Board
Serial Port
COM1
Programmer
Burn Bootloader

FEATURES OF ARDUINO IDE

- Open-source
  - makes it easy - write code and upload it to the board.
- Runs on
  - Windows
  - Mac OS X
  - Linux
- C++ Based codes
- RTOS - Hard Task – Super Loop based approach

ARDUINO GETTING STARTED

- Get an Arduino board and USB cable
- Download the Arduino environment
- Connect the board
- Install the drivers
- Launch the Arduino application
- Code Program for the application
- Select your board
- Select your serial port
- Upload the program

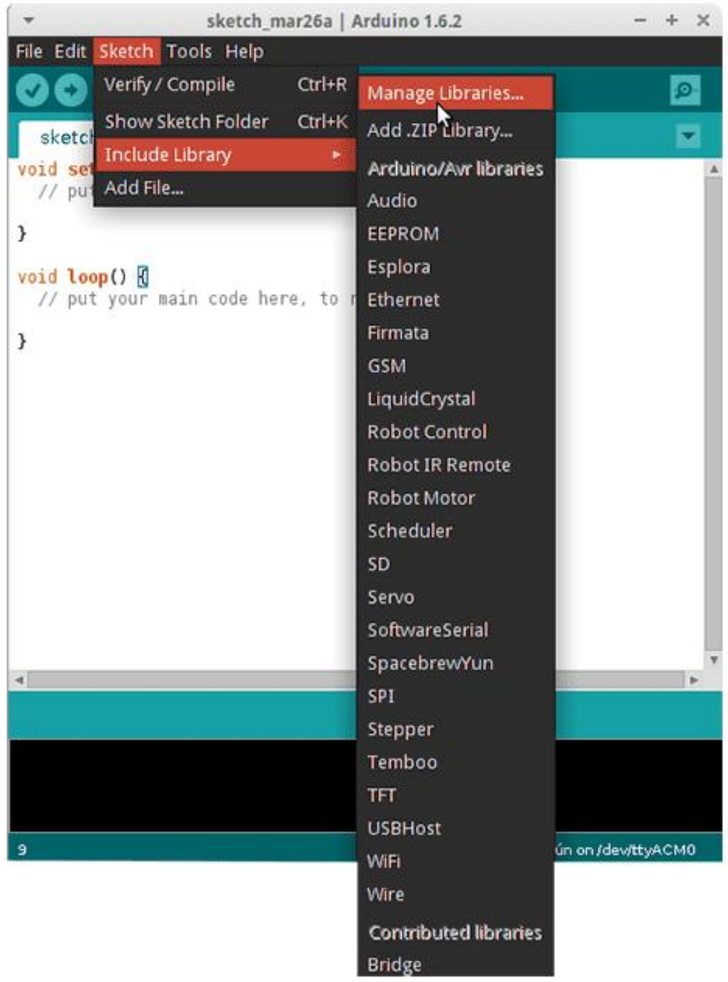
ARDUINO LIBRARIES

- The Arduino environment can be extended through the use of libraries, just like most programming platforms. Libraries provide extra functionality for use in sketches, e.g. working with hardware or manipulating data.

- To use a library in a sketch, select it from Sketch > Import Library.

- A number of libraries come installed with the IDE, but you can also download or create your own

INSTALLING/ADDING ARDUINO LIBRARY



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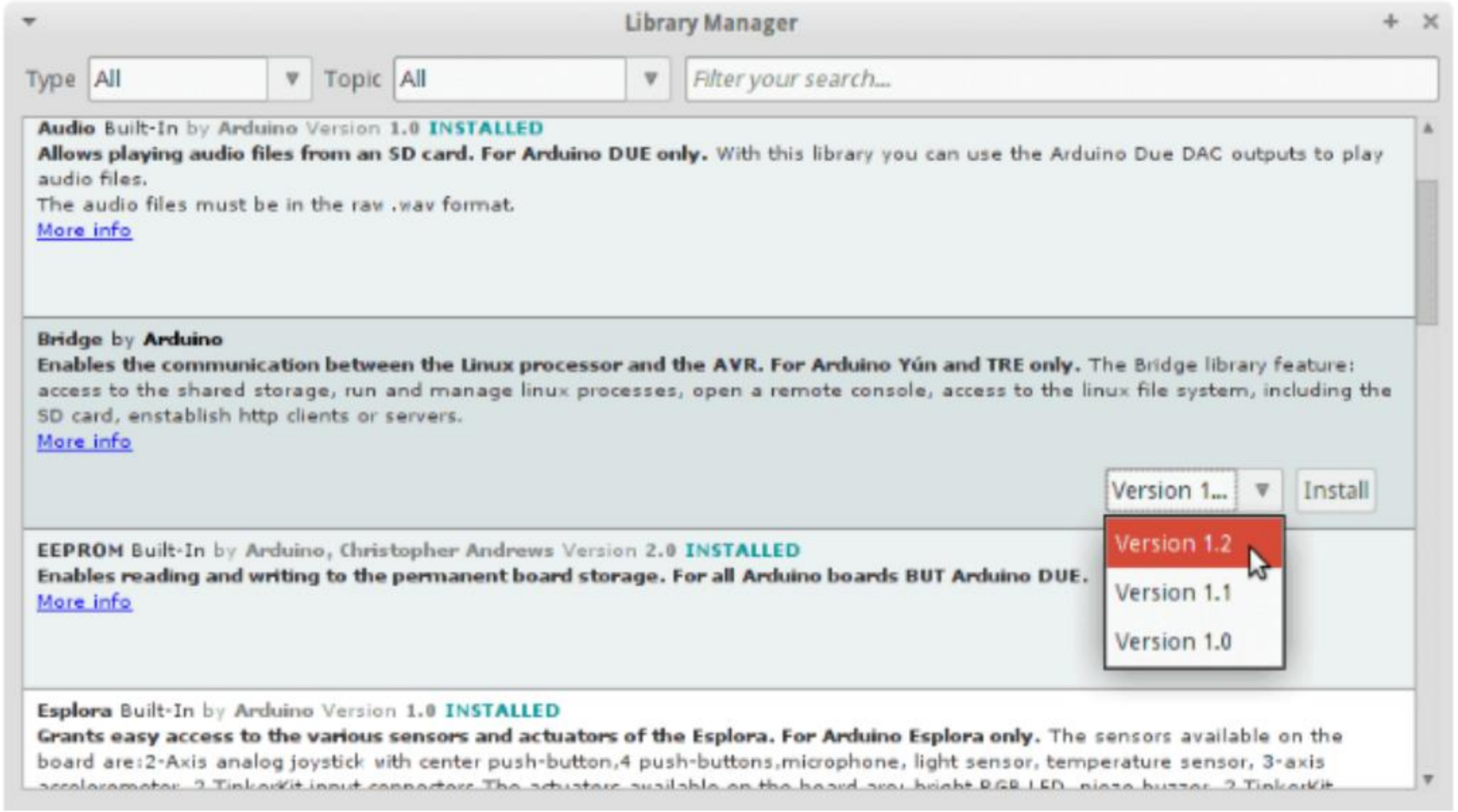

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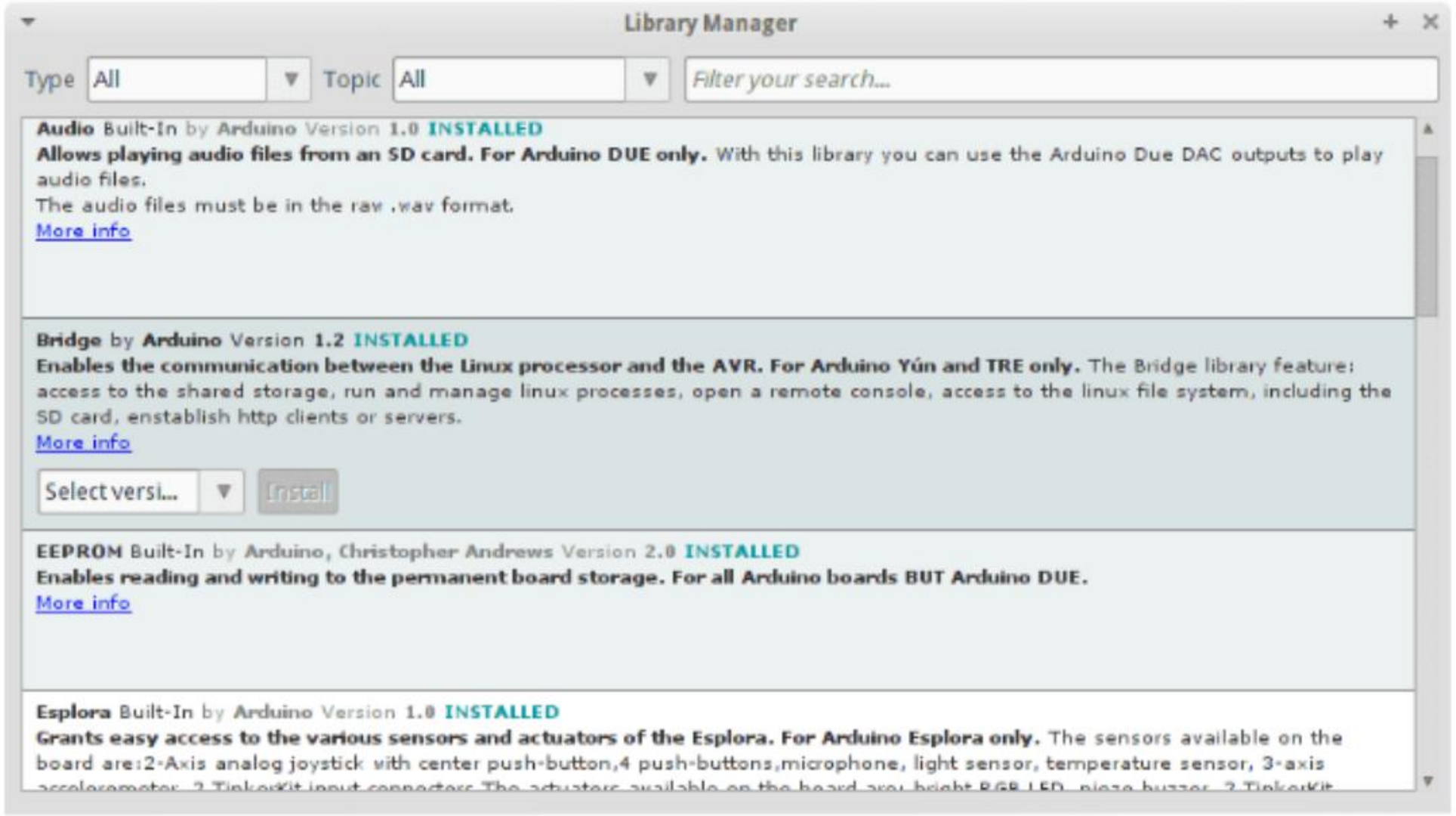
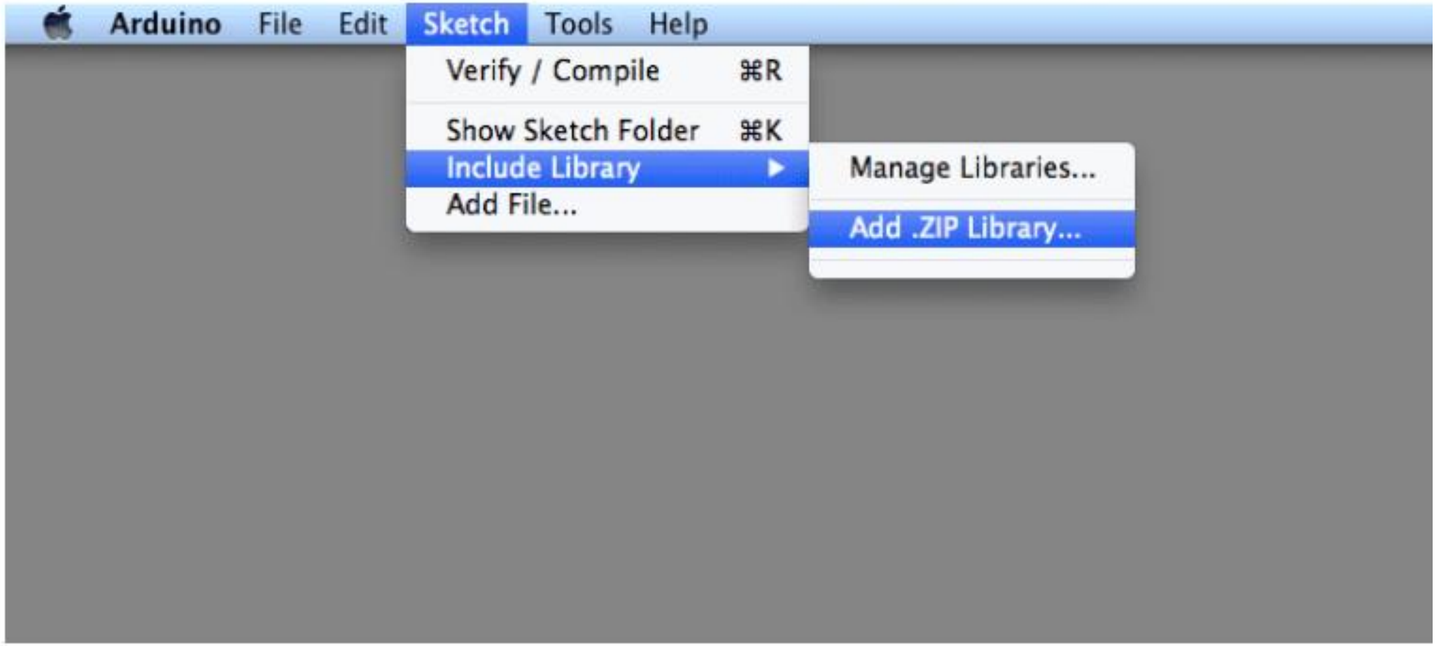


INSTALLING/ADDING ARDUINO LIBRARY BY ZIP

Libraries are often distributed as a ZIP file or folder. The name of the folder is the name of the library. Inside the folder will be a .cpp file, a .h file and often a keywords.txt file, examples folder, and other files required by the library. Starting with version 1.0.5, you can install 3rd party libraries in the IDE. Do not unzip the downloaded library, leave it as is.

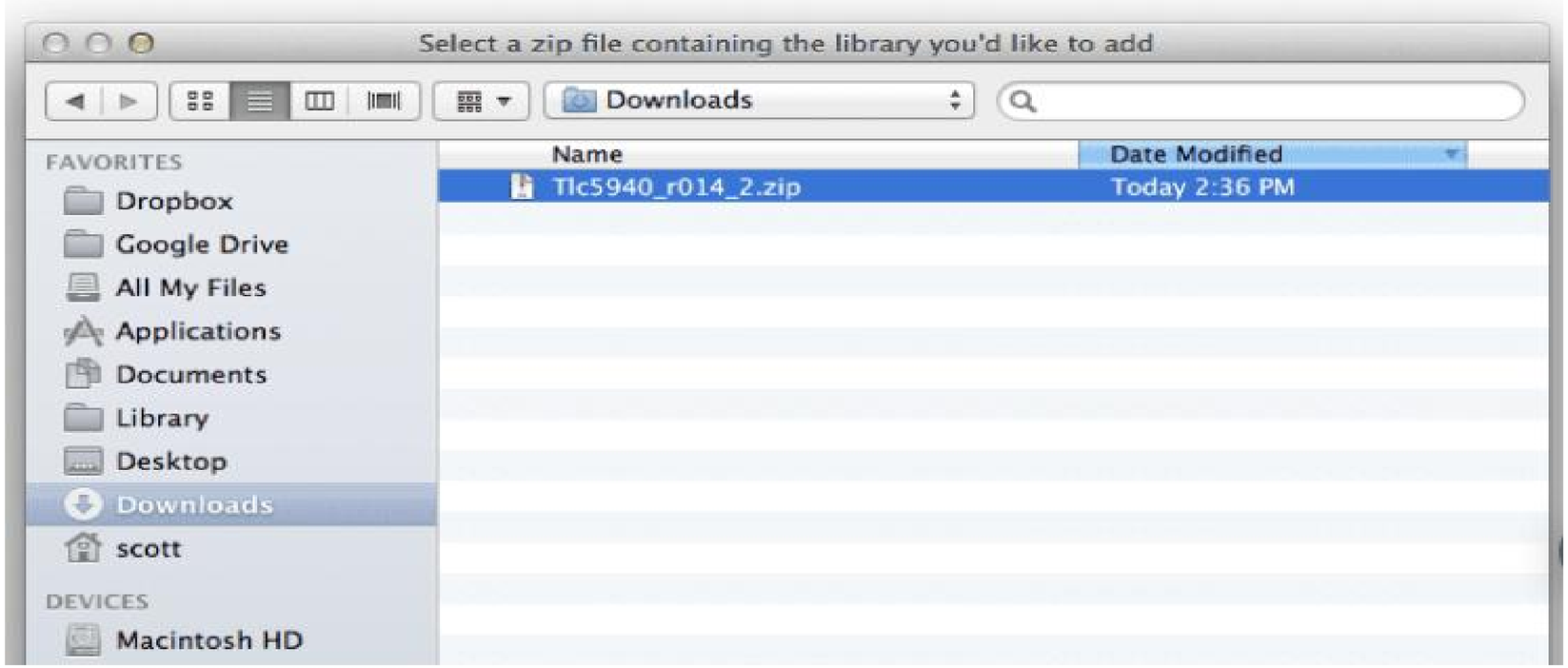


In the Arduino IDE, navigate to Sketch > Include Library > Add .ZIP Library. At the top of the drop down list, select the option to "Add .ZIP Library".

INSTALLING/ADDING ARDUINO LIBRARY

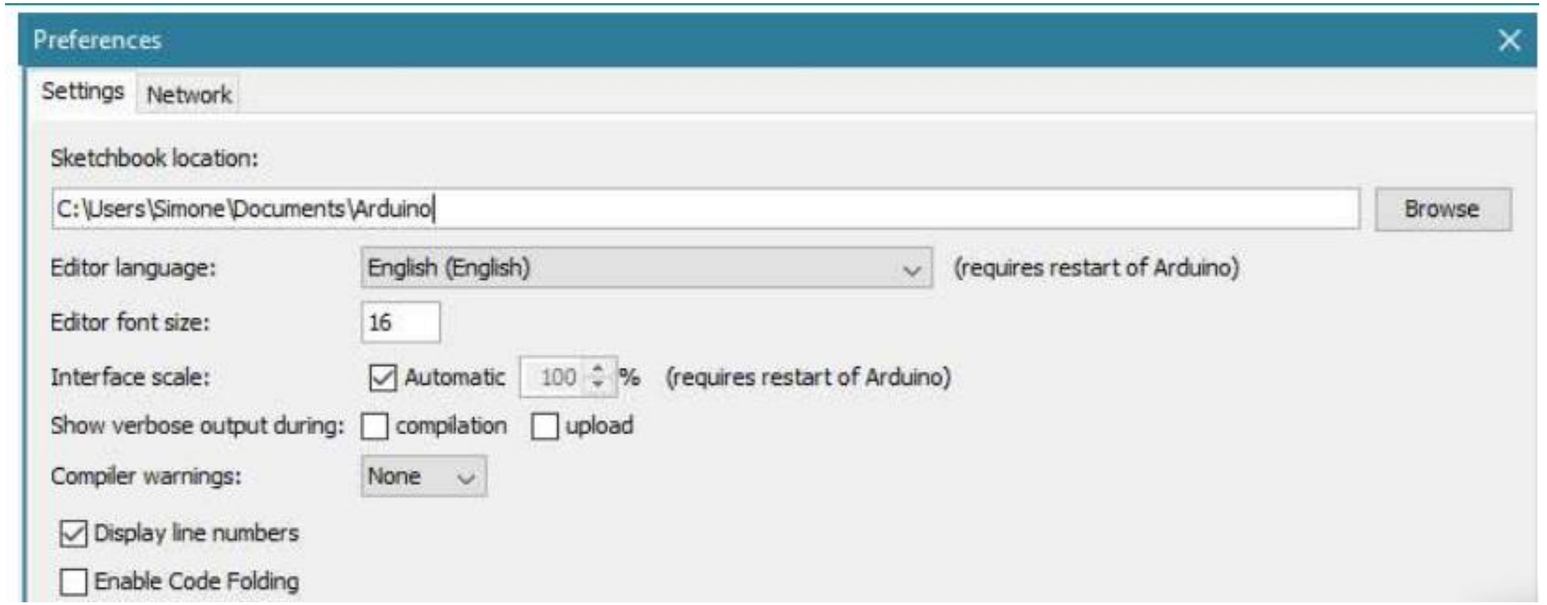
Return to the *Sketch > Include Library menu.* menu. You should now see the library at the bottom of the drop-down menu. It is ready to be used in your sketch. The zip file will have been expanded in the *libraries* folder in your Arduino sketches directory.

NB: the Library will be available to use in sketches, but with older IDE versions examples for the library will not be exposed in the *File > Examples* until after the IDE has restarted.



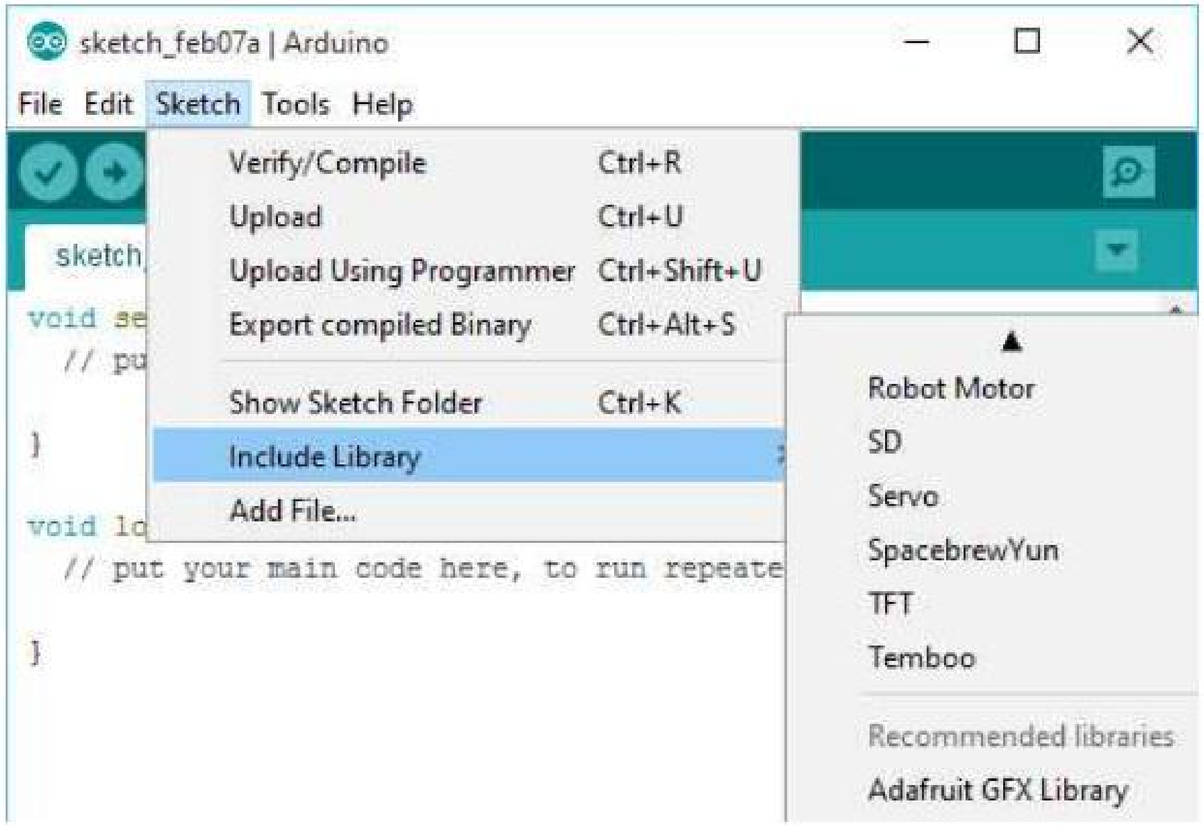
MANUAL INSTALLING/ADDING ARDUINO LIBRARY

- When you want to add a library manually, you need to download it as a ZIP file, expand it and put in the proper directory.
- The ZIP file contains all you need, including usage examples if the author has provided them.
- The library manager is designed to install this ZIP file automatically as explained in the former chapter, but there are cases where you may want to perform the installation process manually and put the library in the *libraries* folder of your sketchbook by yourself.



INSTALLING/ADDING ARDUINO LIBRARY

Start the Arduino Software (IDE), go to *Sketch > Include Library*. Verify that the library you just added is available in the list.



Thank
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