Lesson 0 - Getting Started with Mixly and UNO

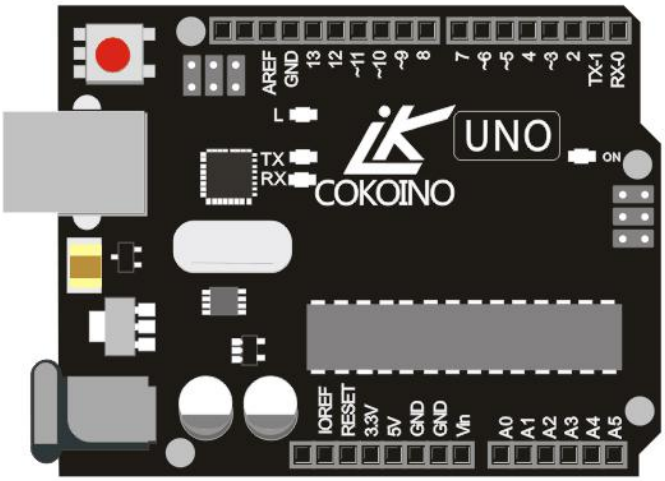
Points of this section

You will learn：

- How to install the Mixly on Windows PCs
- Use your uno on the Mixly and upload your first sketch

Need to prepare:

- A computer with a reliable Internet connection
- A UNO R3 board
- A USB cable



Introduction for Mixly

Mixly is a free open-source graphical Arduino programming software, based on Google's Blockly graphical programming framework, and developed by Mixly Team@ BNU.
It is a free open-source graphical programming tool for creative electronic development; a complete support ecosystem for creative e-education; a stage for maker educators to realize their dreams.
Although there is an Ardublock graphical programming software launched by Arduino official, Ardublock is not perfect enough, and many common functions cannot be realized.

The figure below shows the functional comparison between Ardublock and Mixly.

	If/ else	for / while loop	Math & Boolean	Bluetooth	IR	Interrupt	Serial Communicate
Ardublock	√	√	√	√	×	×	×
Mixly	√	√	√	√	√	√	√

	Lists	Pulse	ShiftOut	Variables Declare	Procedure
Ardublock	×	×	×	only support Integer/ Float	Not return data
Mixly	√	√	√	support Integer/ Float /Char/ Boole	Return data

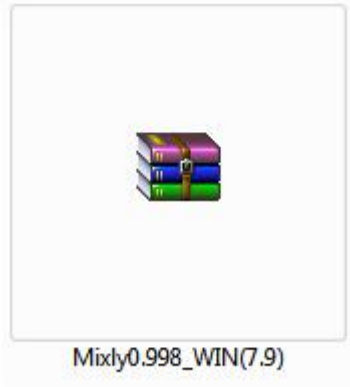
It can be said that Mixly is the most versatile and smoothest Arduino graphical programming software, which can replace the Arduino programming tool IDE.

User Groups
From the above design concept, it can be seen that Mixly is suitable for primary and secondary school students to cultivate programming thinking. It is also available for quick programming when creating a work. Of course, it is good for those lovely friends who don't want to learn text programming, but want to do some small works with intelligent control.

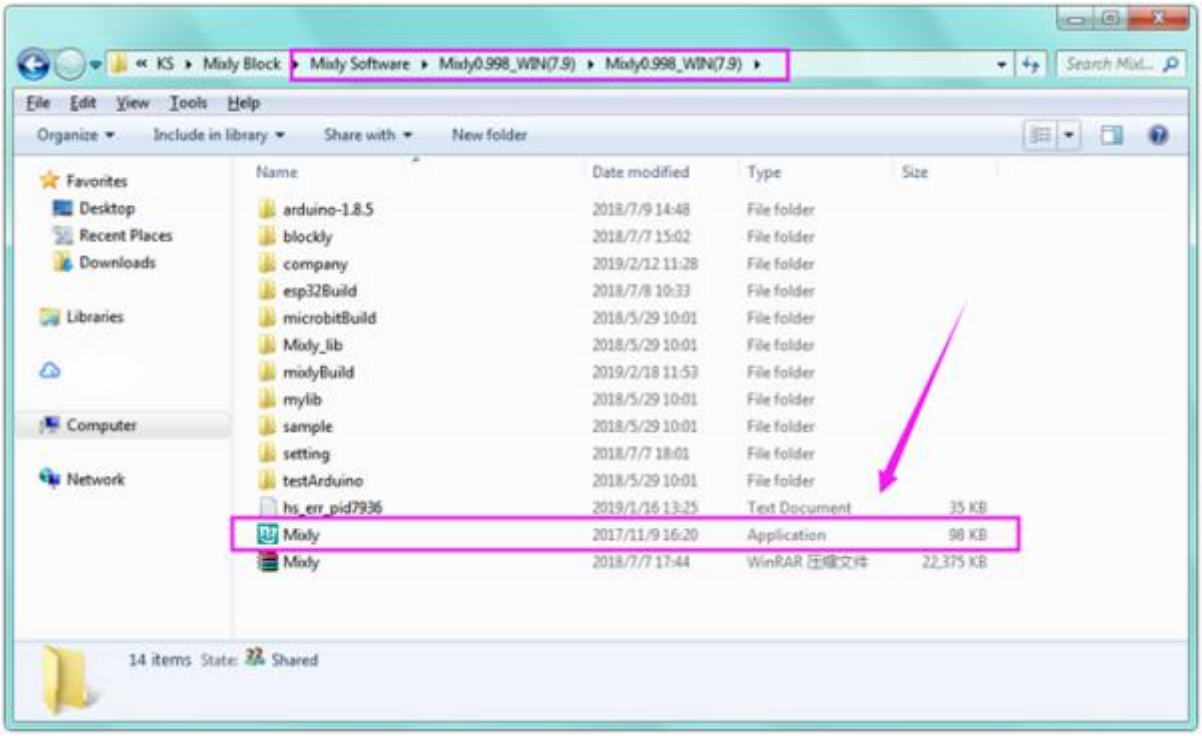
Install the Mixly Software on Windows PCs

Here we provide you with the Mixly0.998 Win(7.9) software. You can download the software from the link below:
https://drive.google.com/folderview?id=10t_ku7uFSLoL9M8RCcBNxoB7RzfslIqp

Downloaded the Mixly software package, you should get it as below:

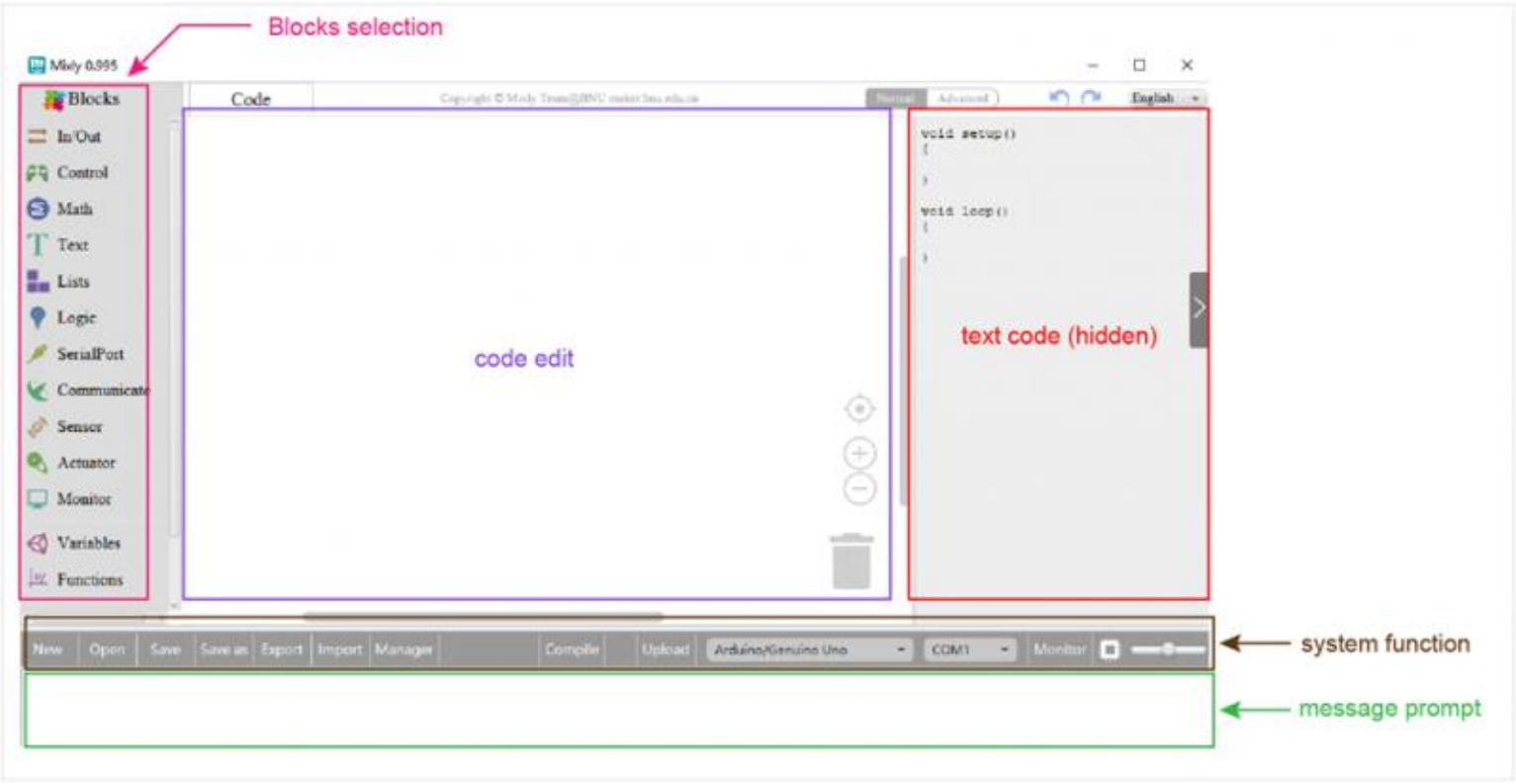


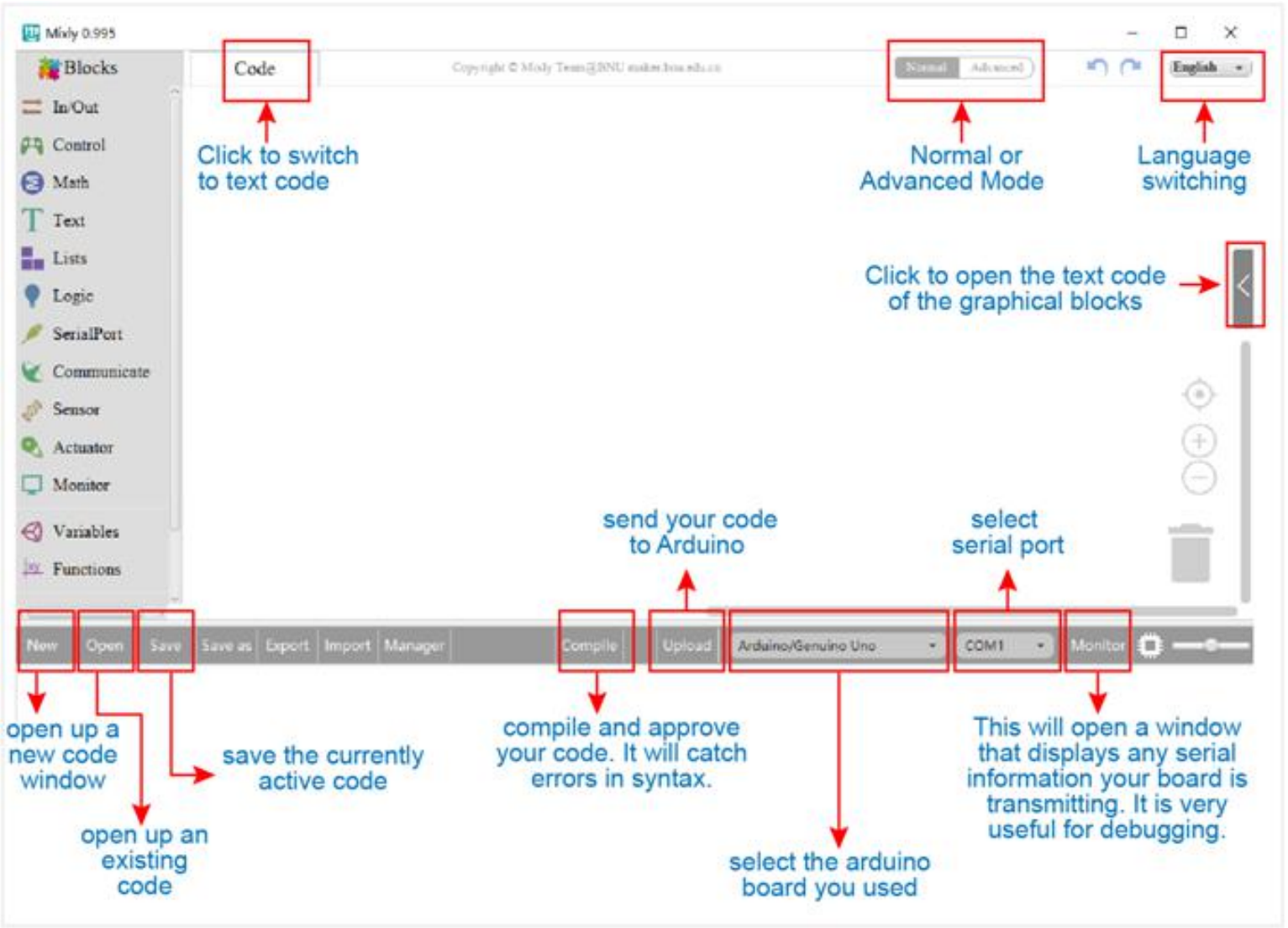
Unzip the package, you can see the Mixly application icon.

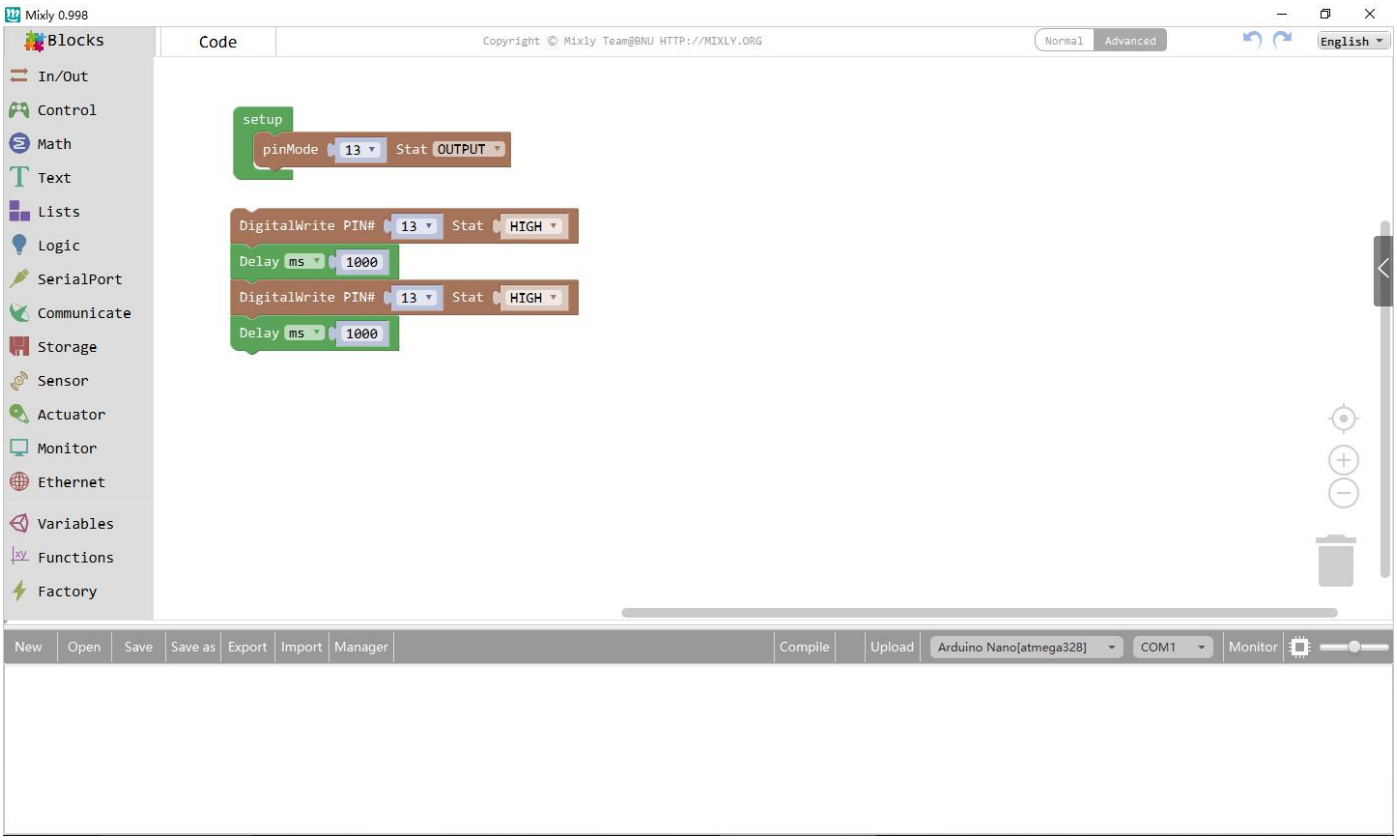


Double click the Mixly icon to open the software; you should get the pop-up interface shown below.

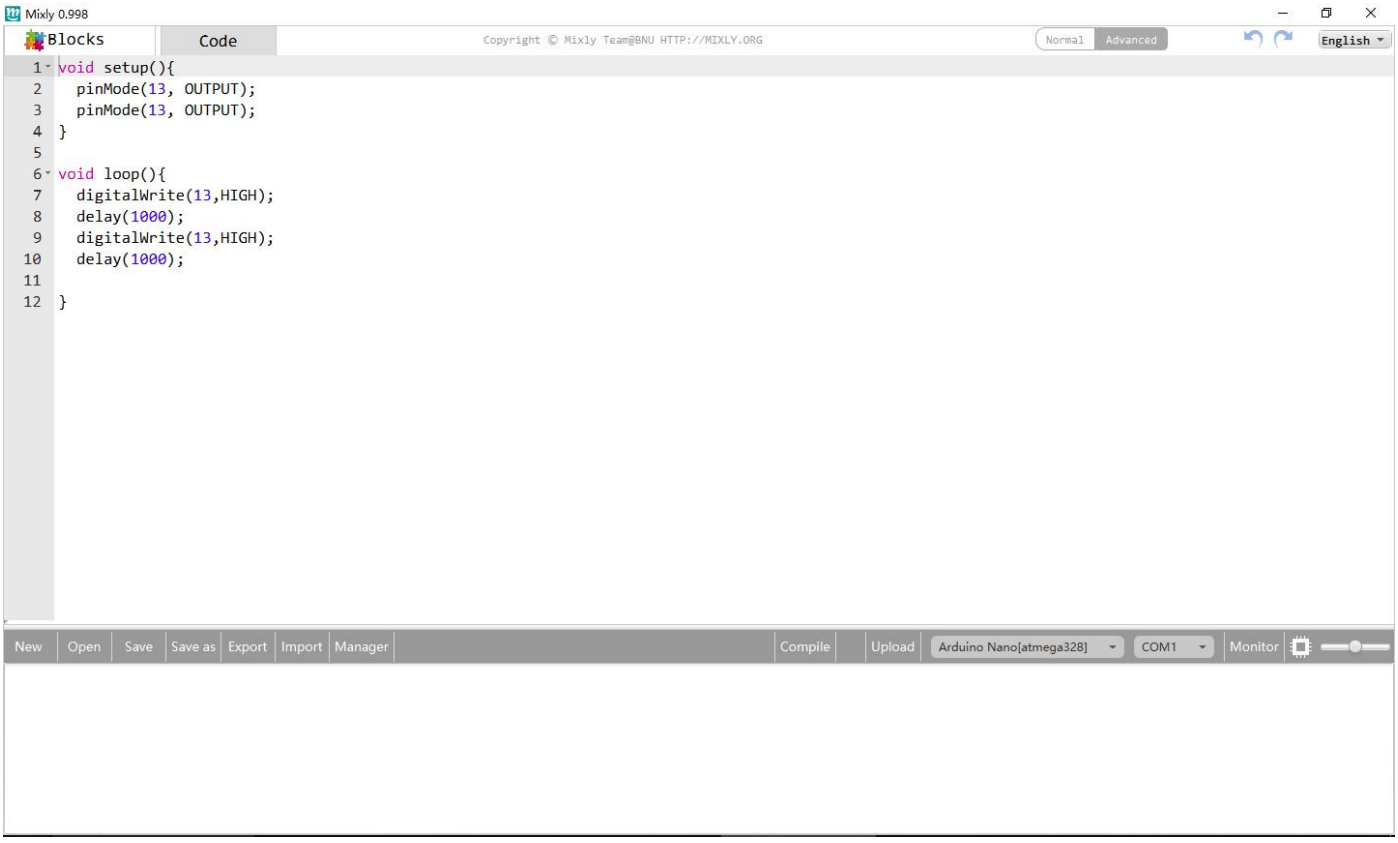
Interface Functions



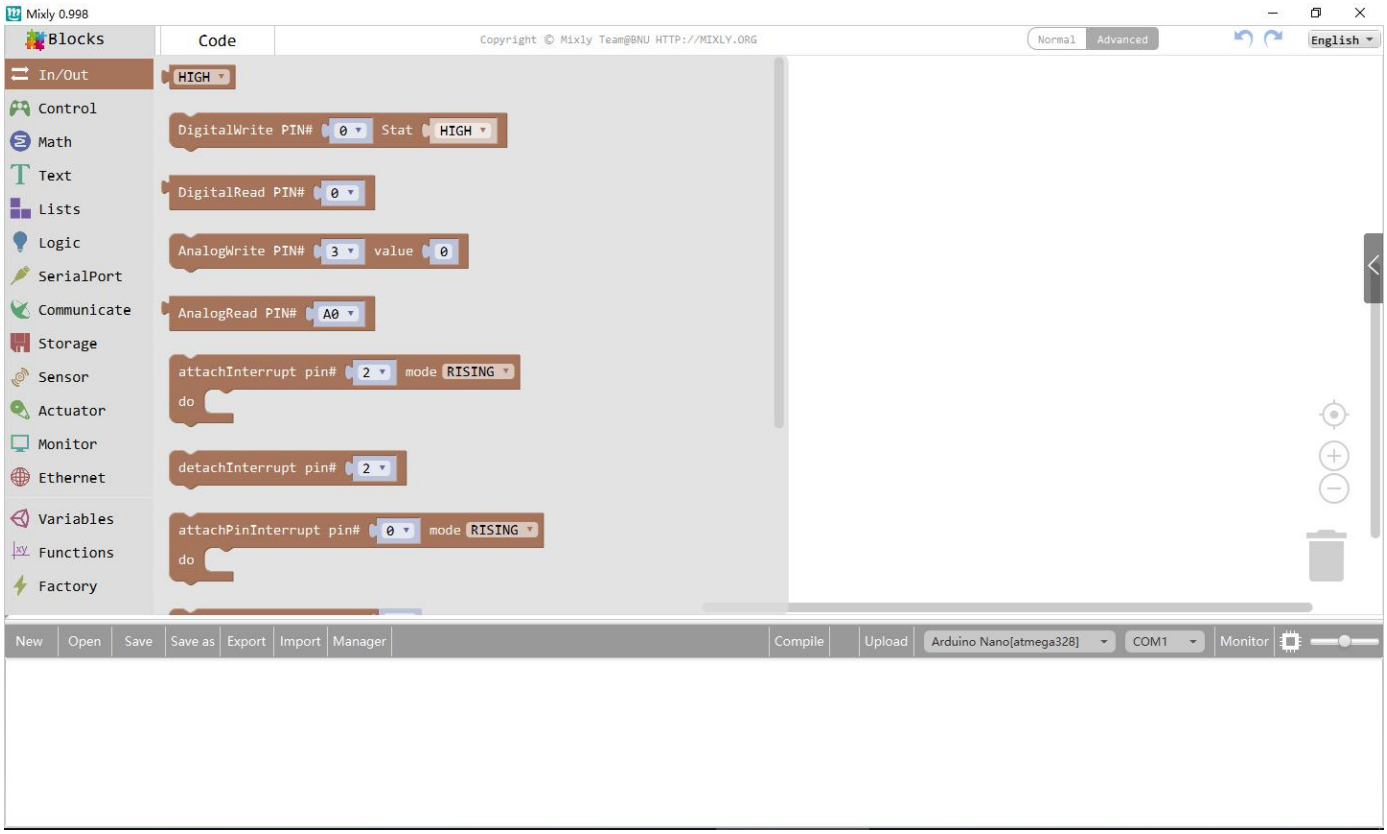




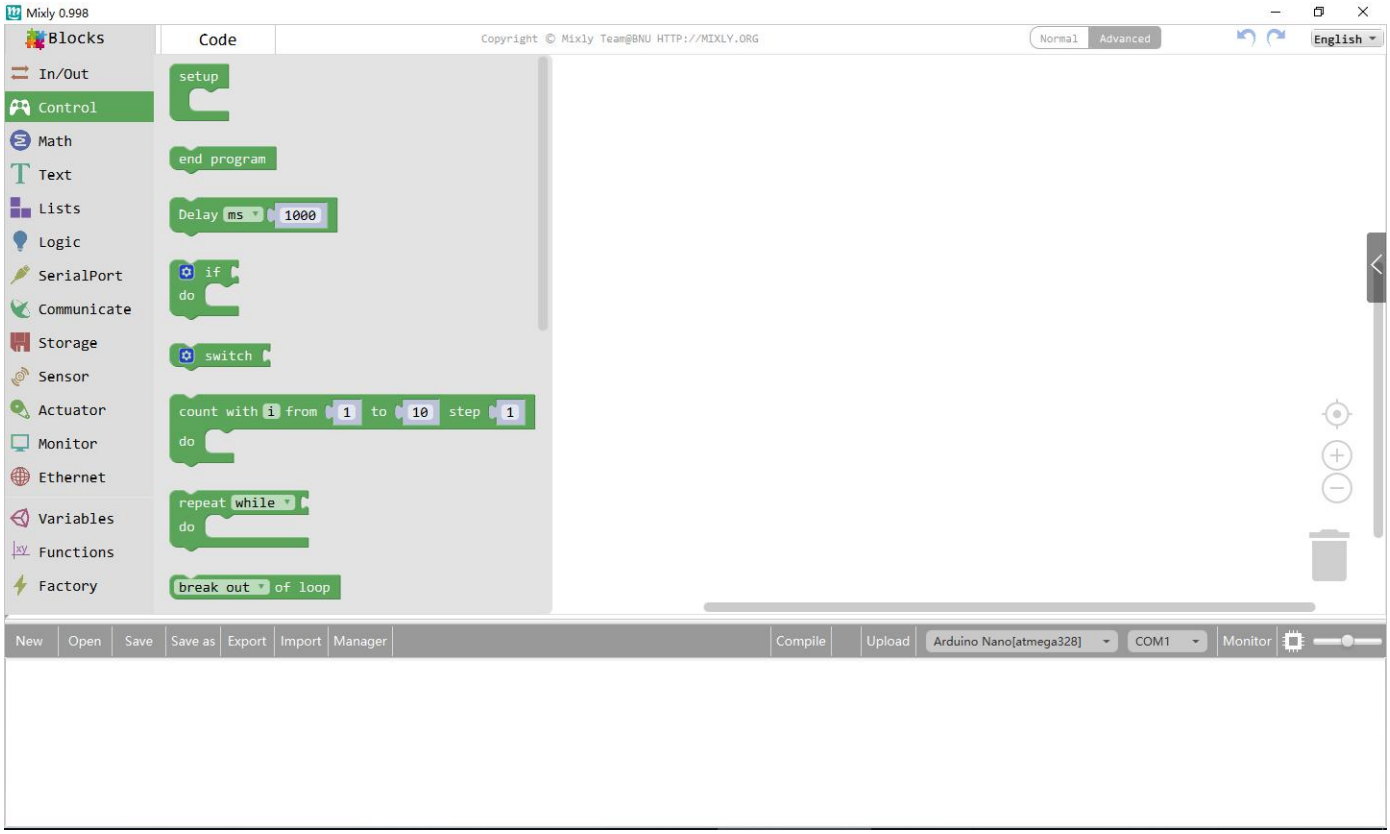
Code: This is the C language code interface. When you are using Blocks graphical programming, you can click on this menu to switch to the C language format interface. To switch back to the graphical interface, click on the Blocks menu.



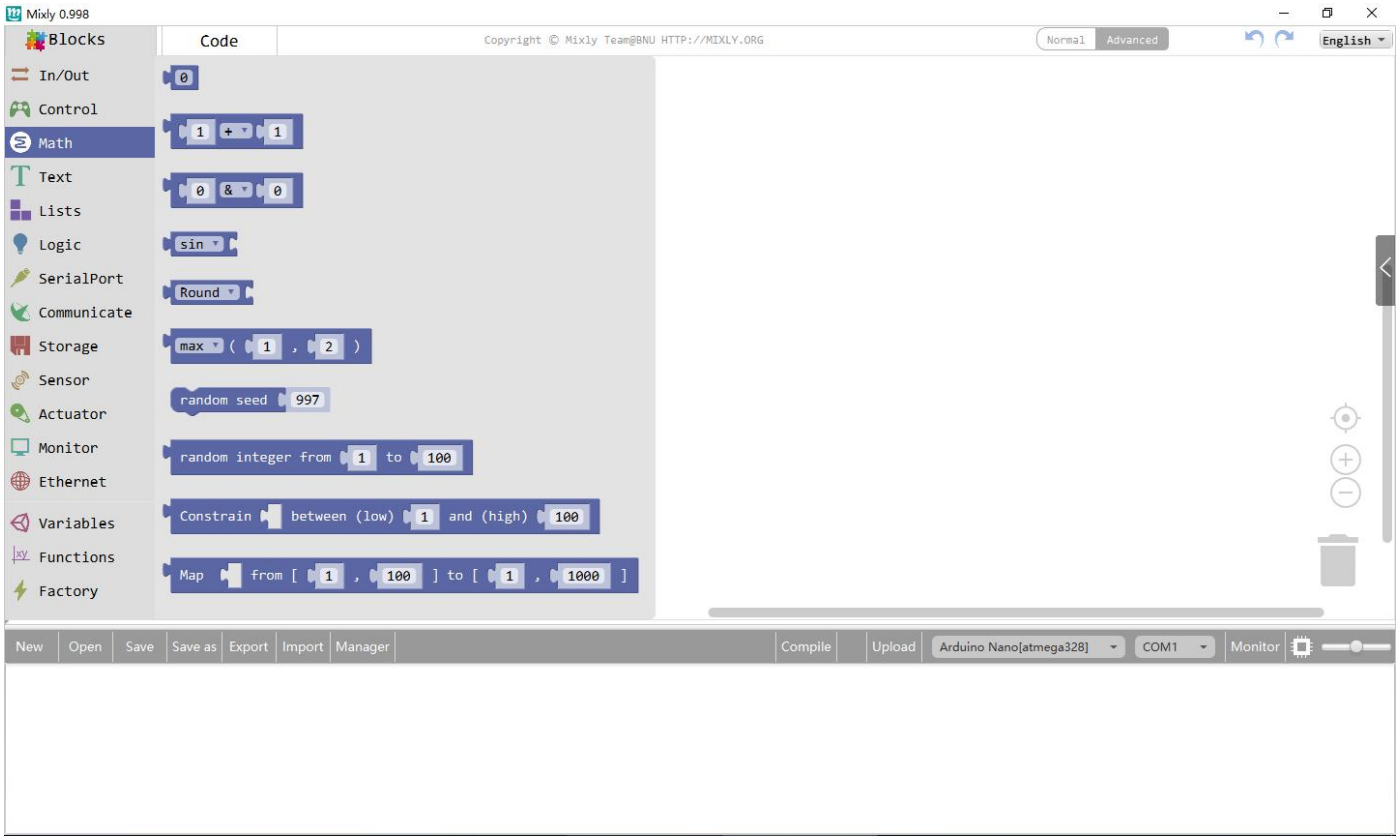
In/Out: IO port function definition, mainly defines input/output mode; reads analog voltage; outputs analog value; external interrupt pin, interrupt mode; IO port shift output.



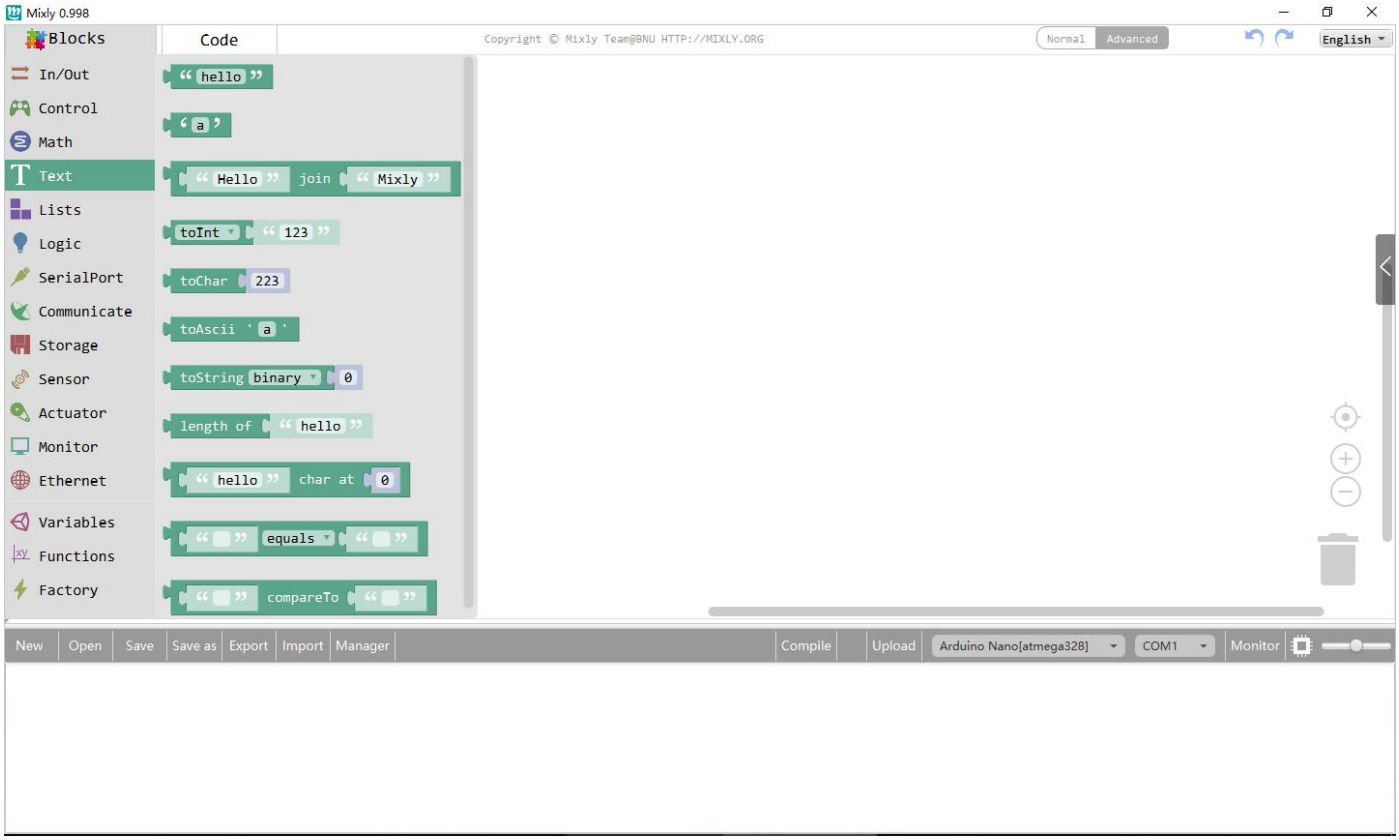
Control: setup function definition, judgment statement, timer setting, program end



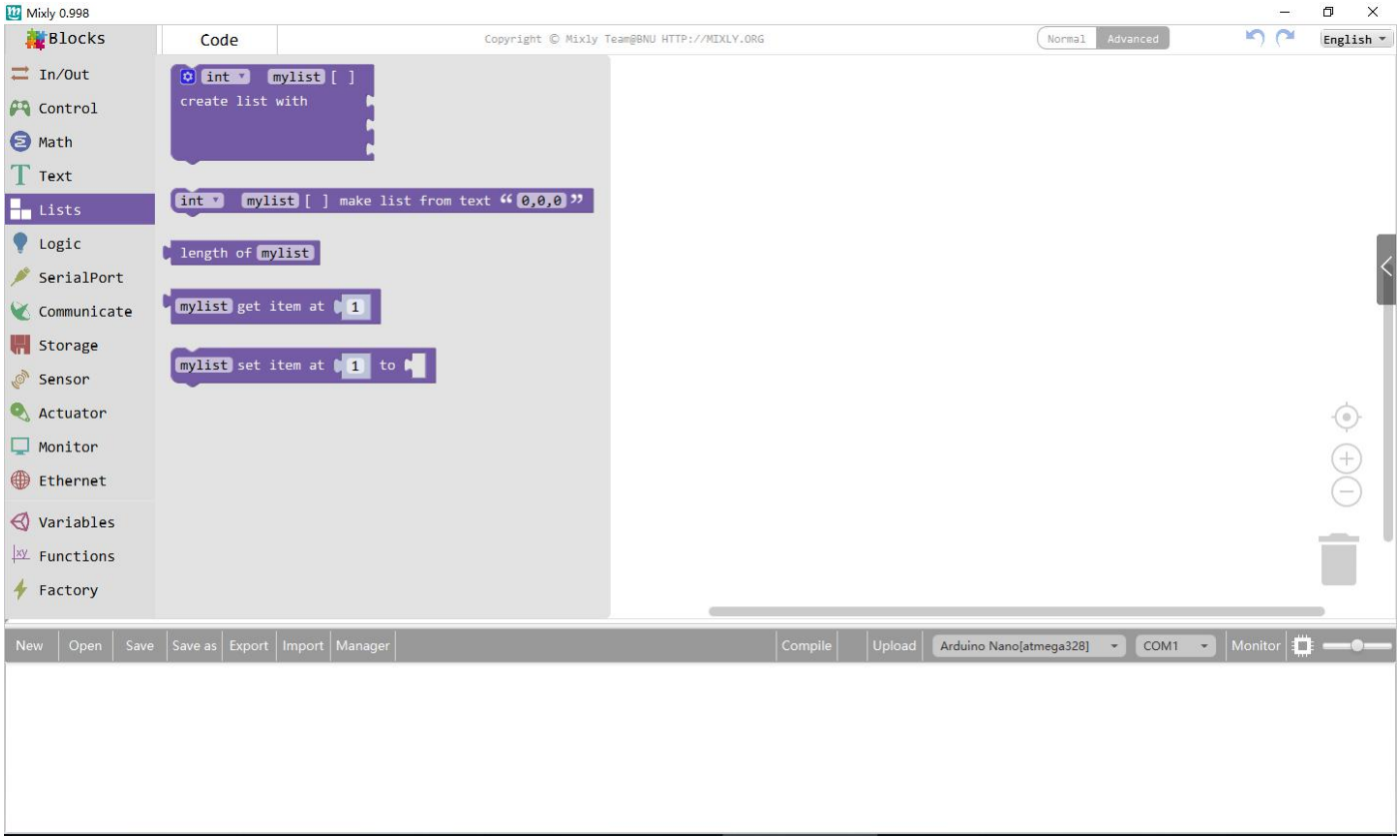
Math:Arithmetic statement



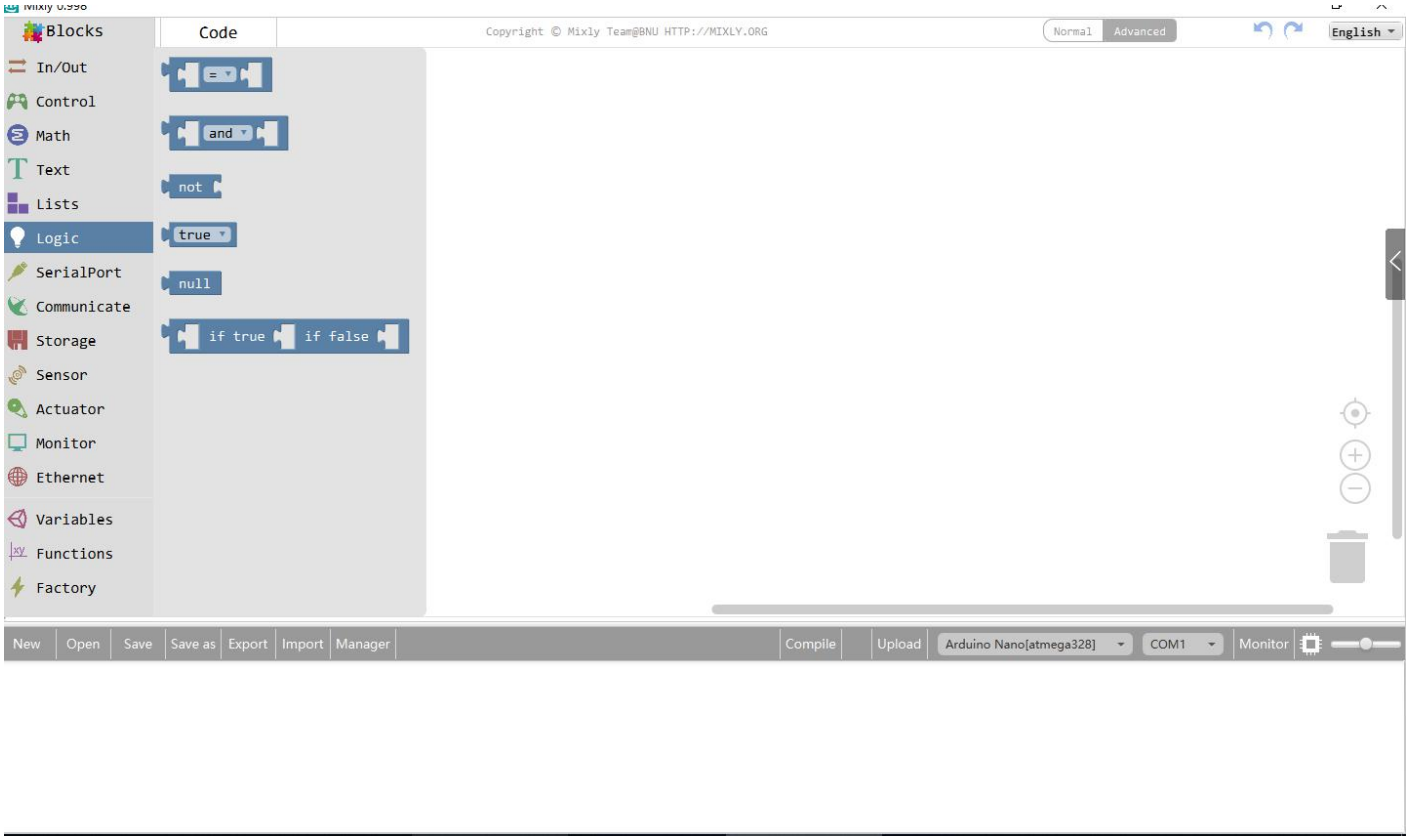
Test： Text statement



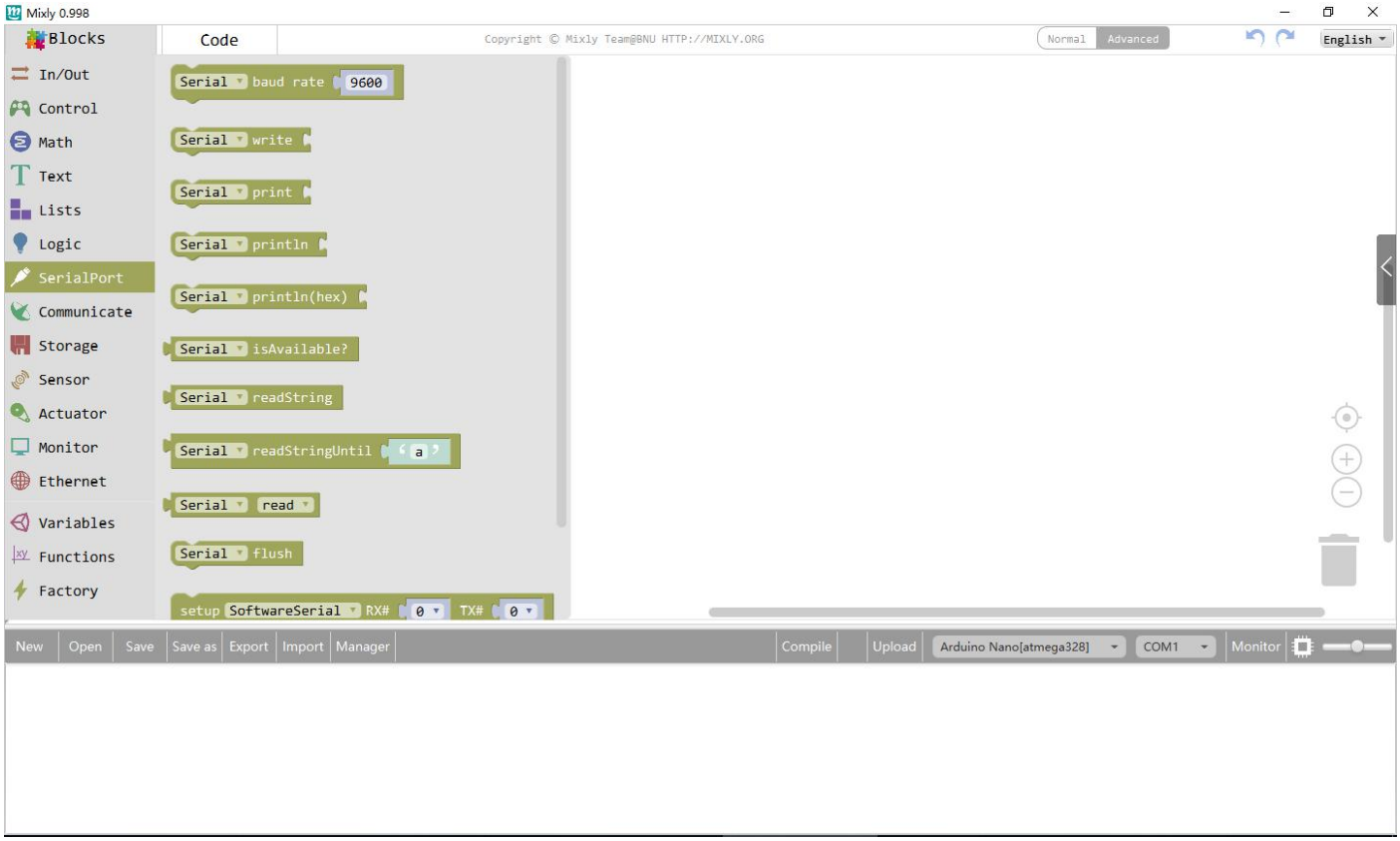
Lists：The creation of an array



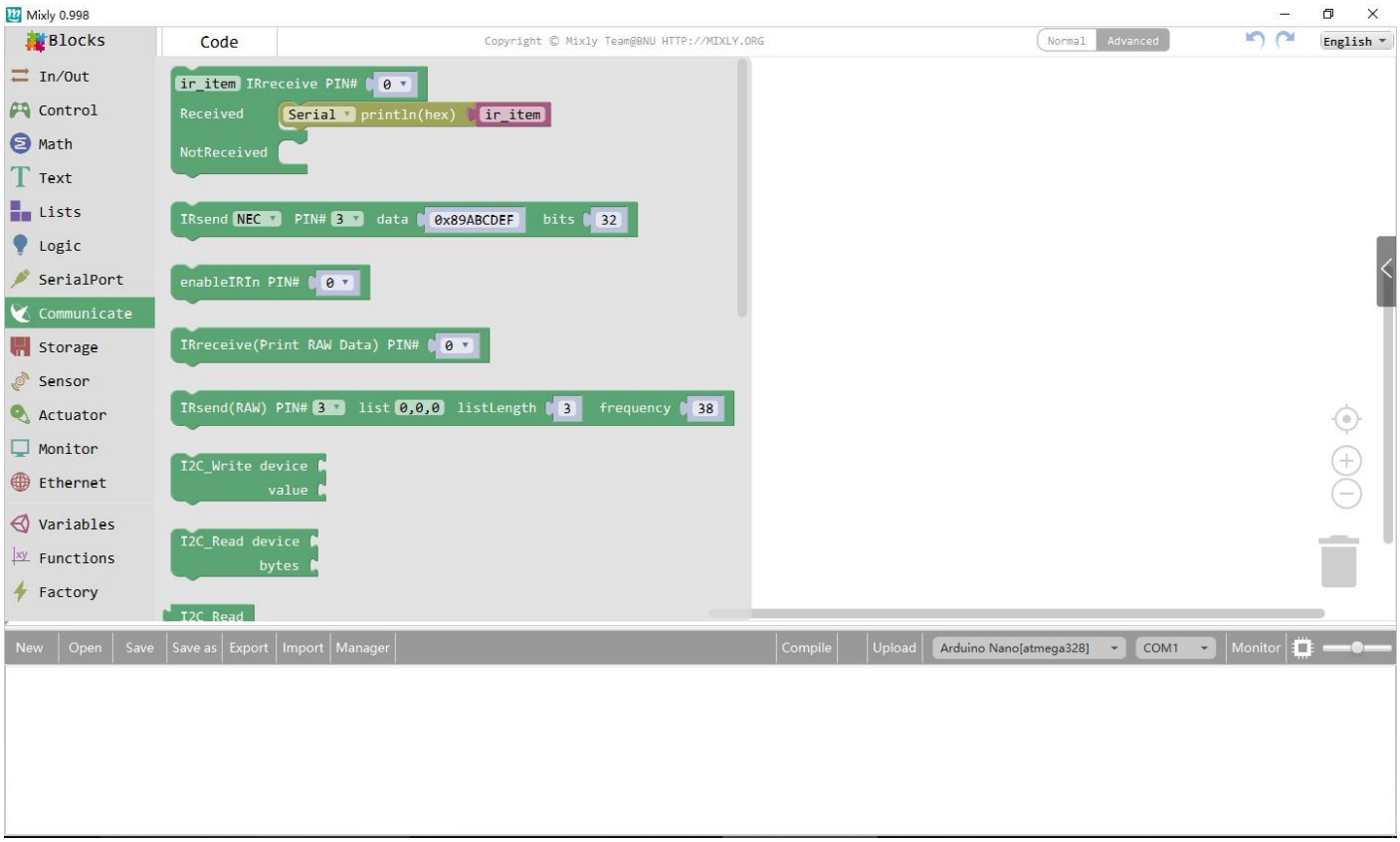
Logic：Logic statement



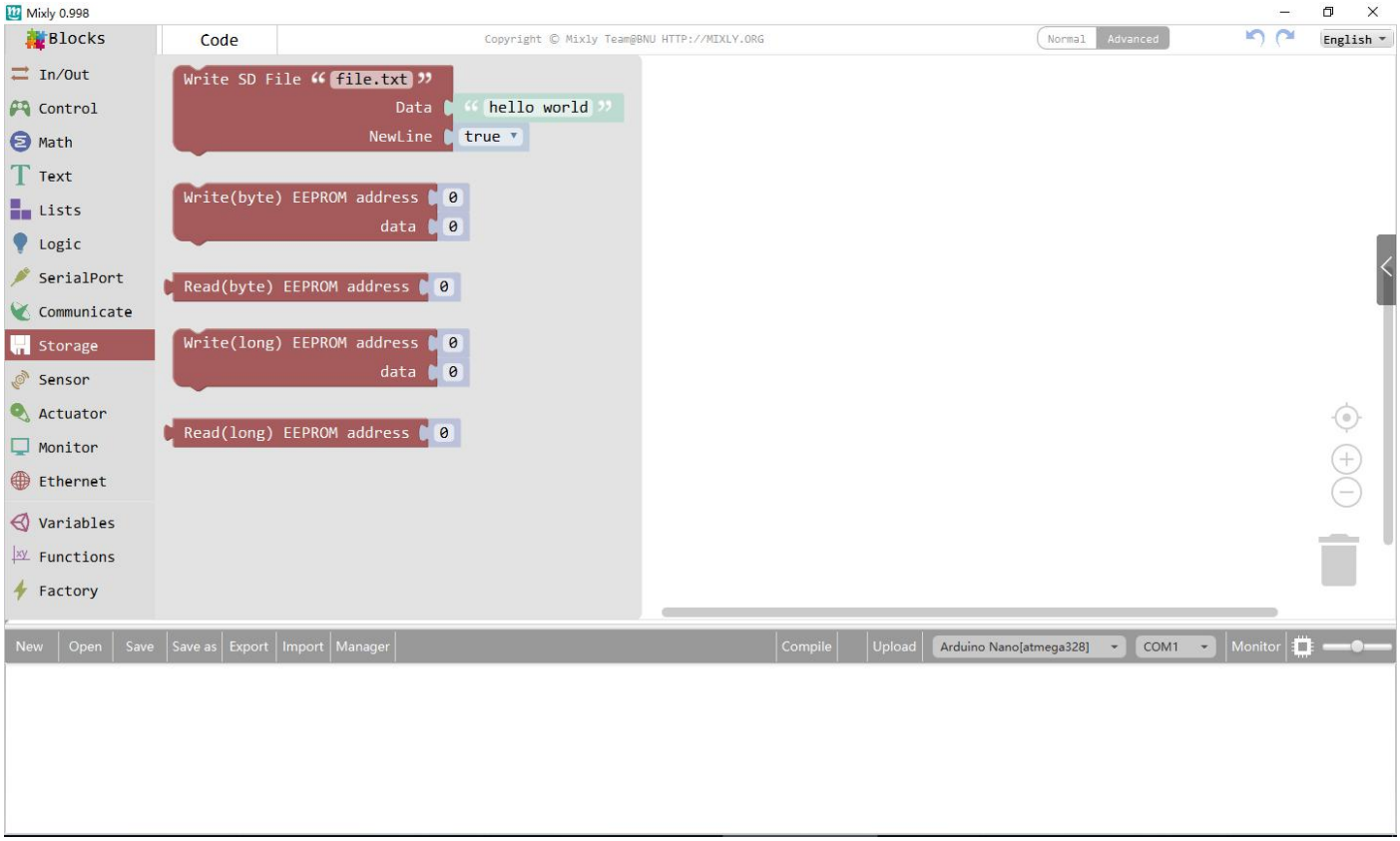
SerialPort：Serial port settings, including setting baud rate, reading/writing data, etc.



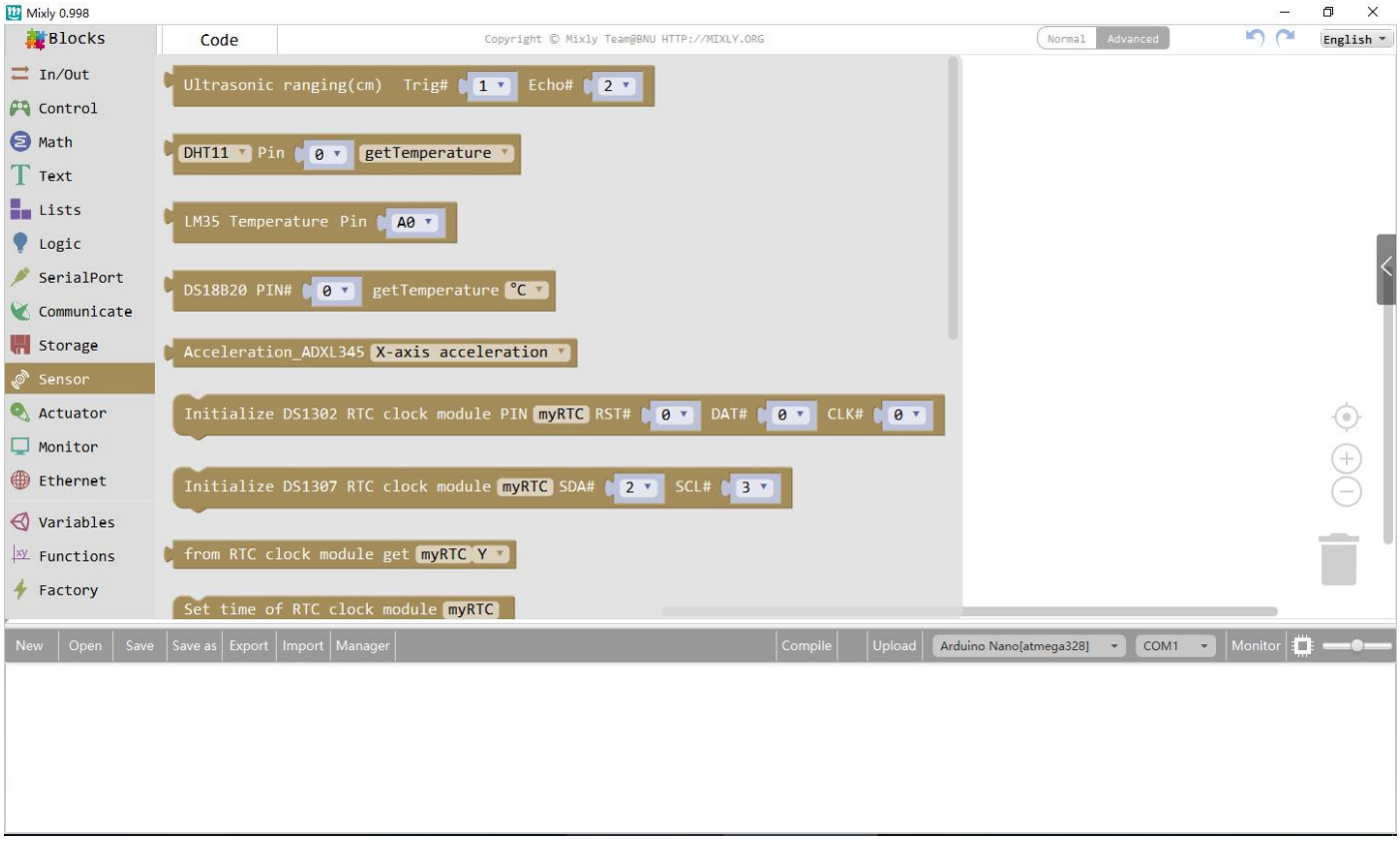
Communicate：Communication interface class functions, such as IIC, SPI, infrared receiving and transmitting, and RFID



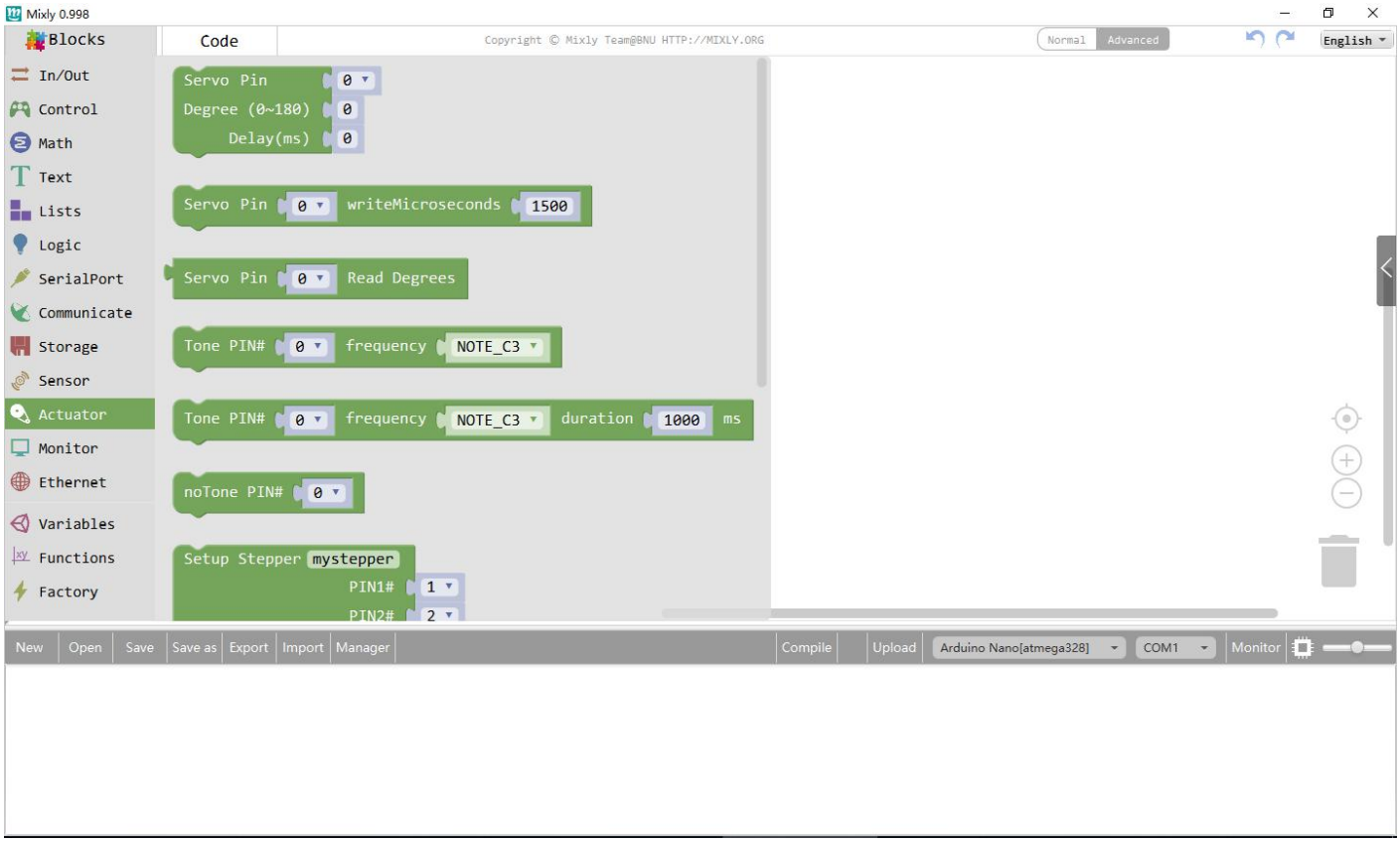
Storage： Read and write SD card functions, read and write EEPROM functions



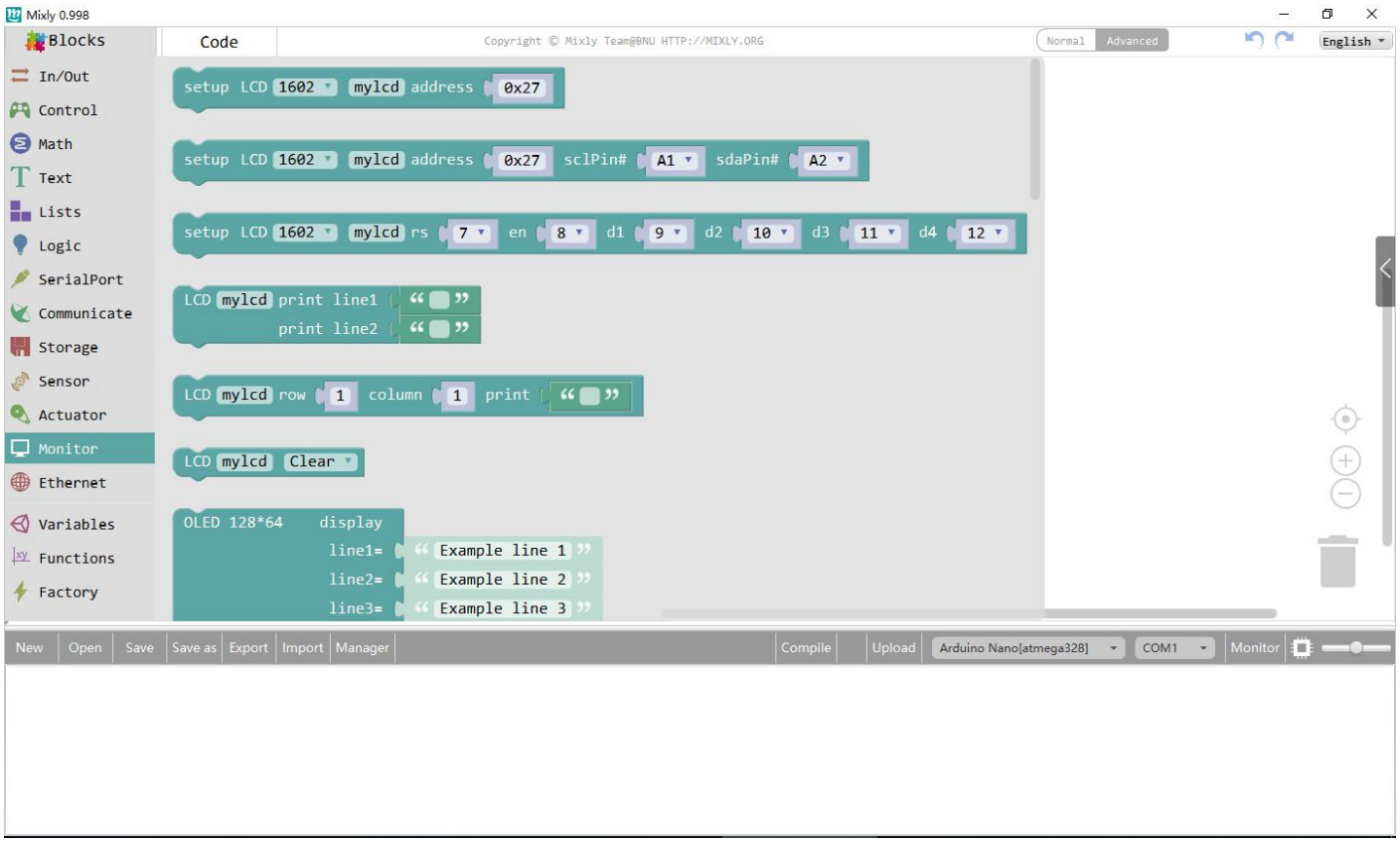
Sensor： Sensor library function, including ultrasound, DHT11, LM35, DS18B20, ADXL345, DS1302, GPS



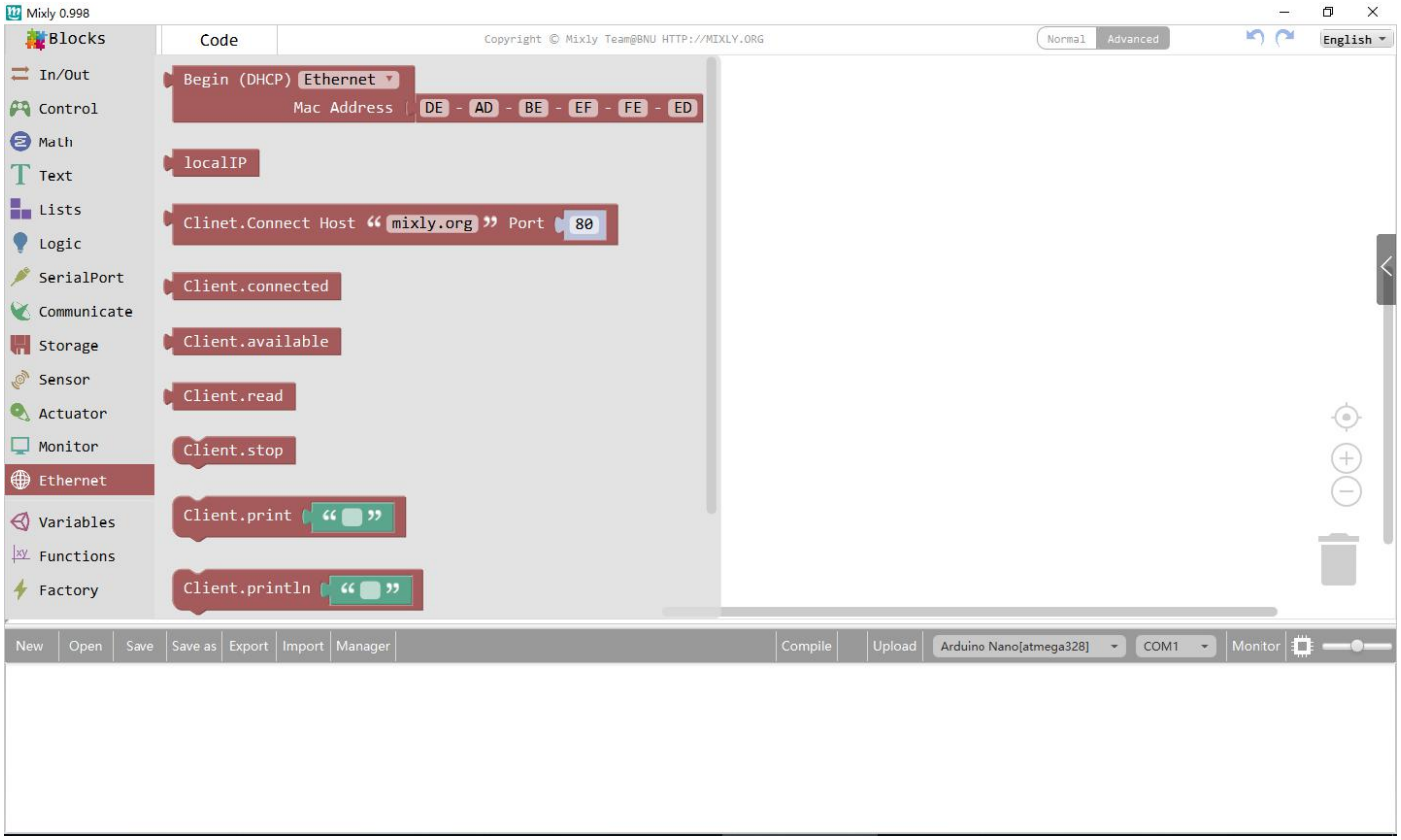
Actuator： Servo motor and stepper motor drive function



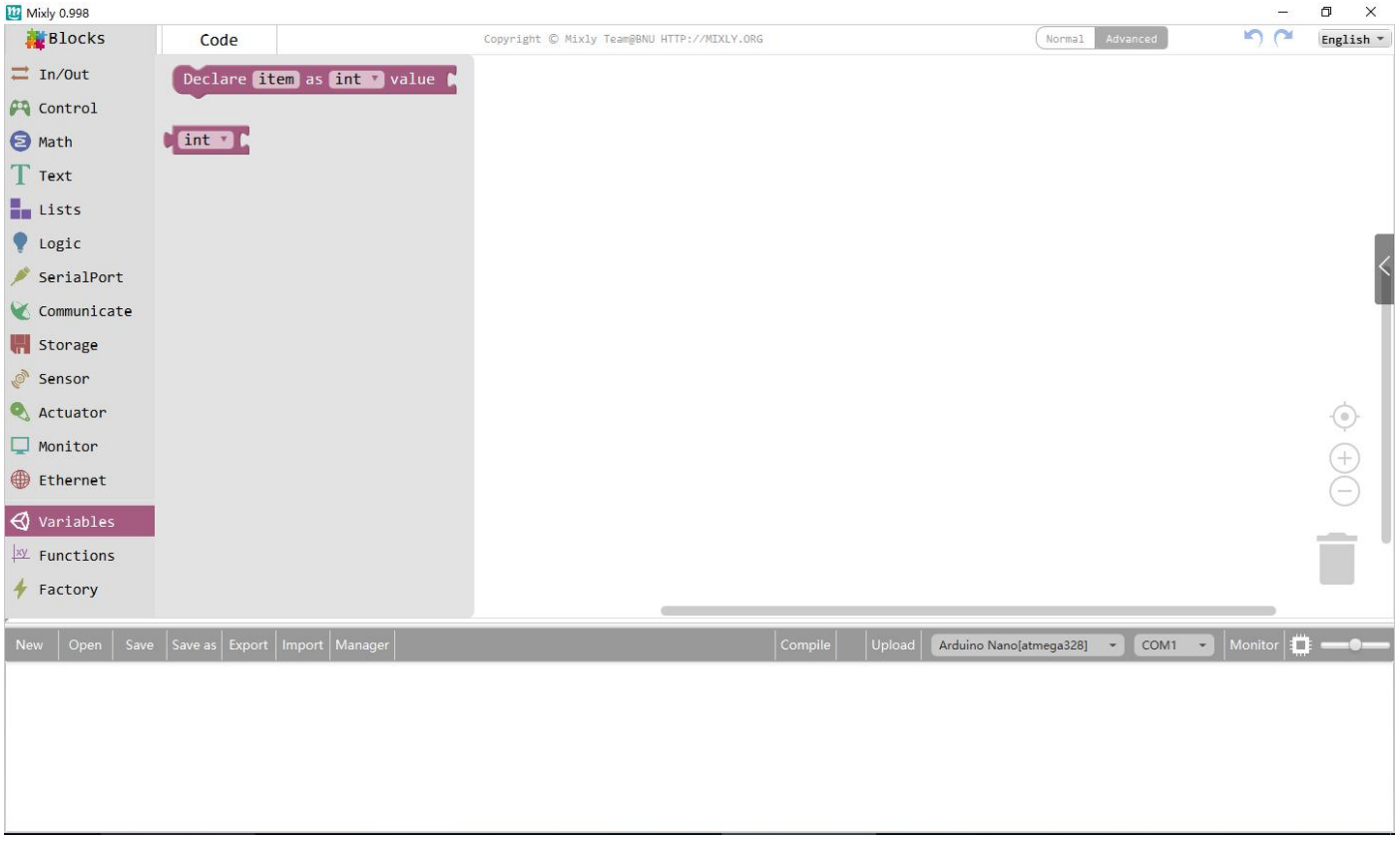
Monitor： Display class output, such as 1602LCD, 2004LCD, OLED, RGB LED, TM1650 based dot matrix, TM1673 based dot matrix, 8*8 dot matrix



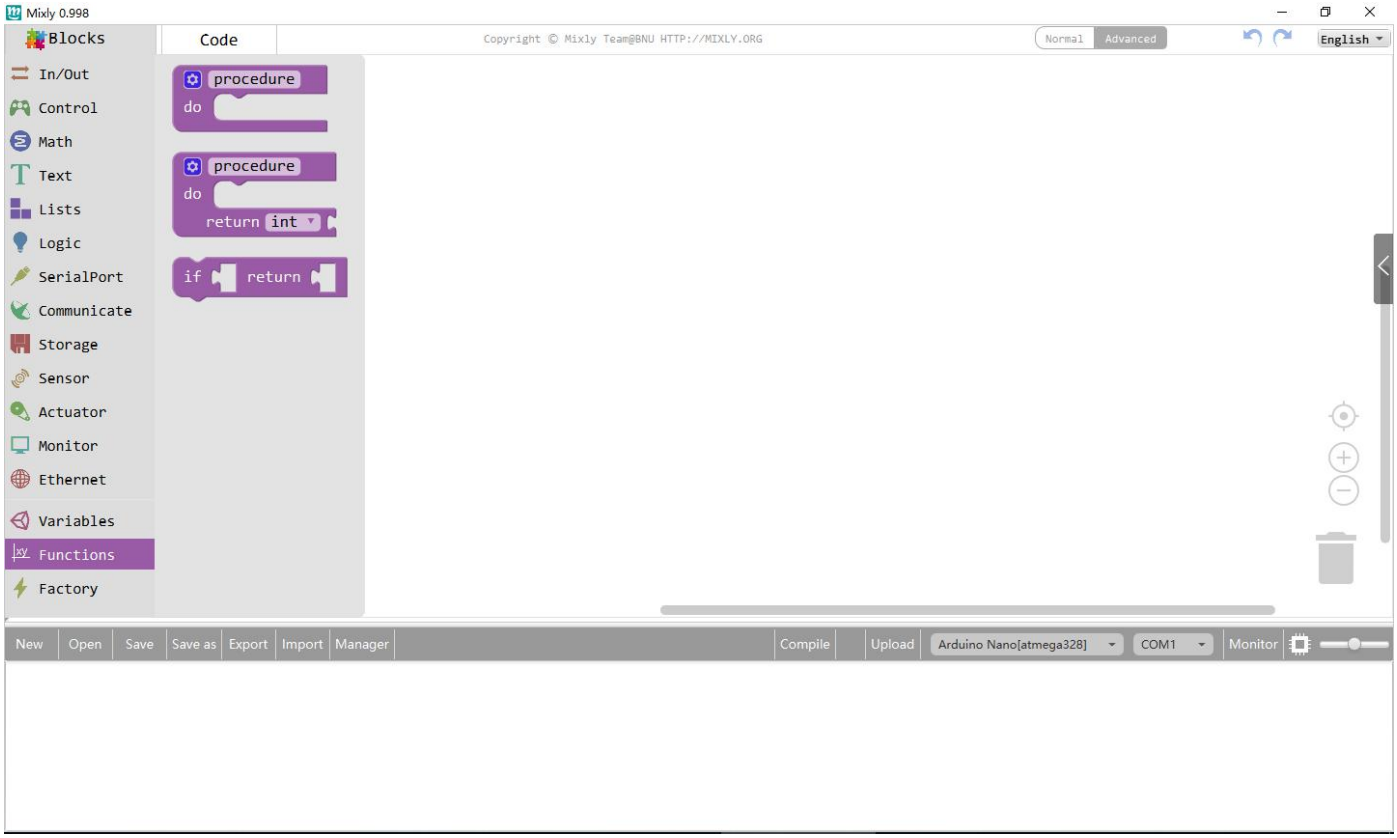
Ethernet： Internet function



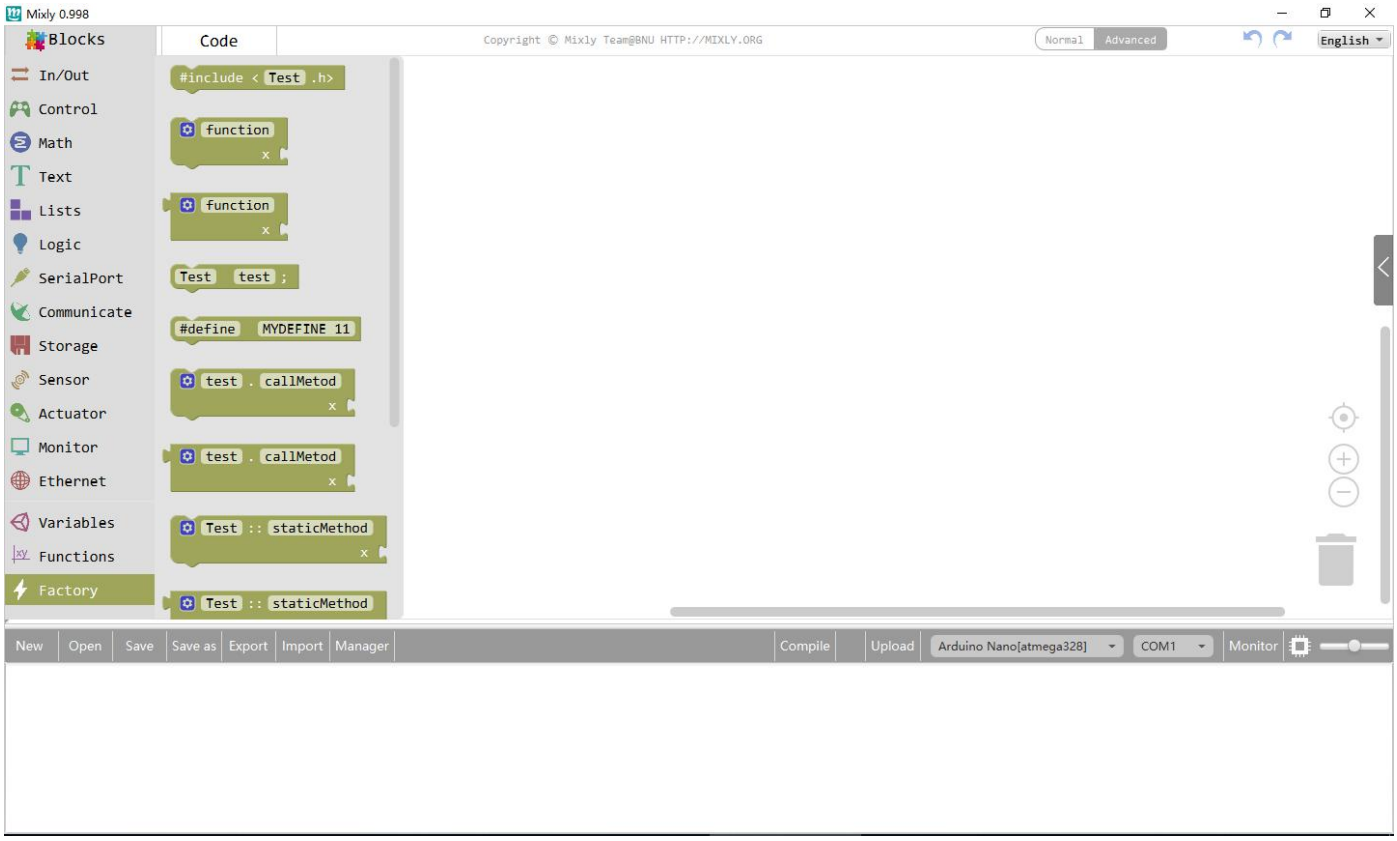
Variables： Definition of variables



Functions：The definition of the function

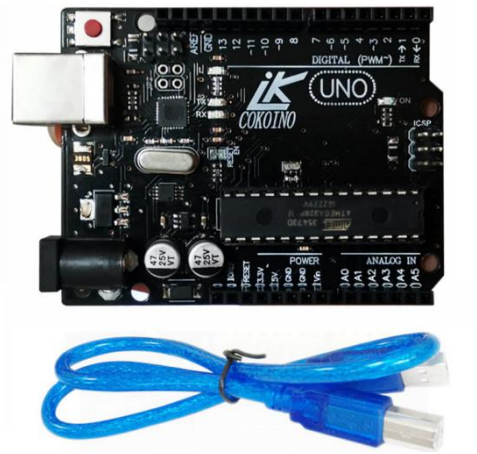


Factory：Library files, macro definitions, serial port printing, class function operations

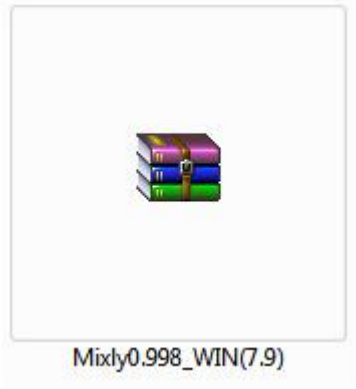


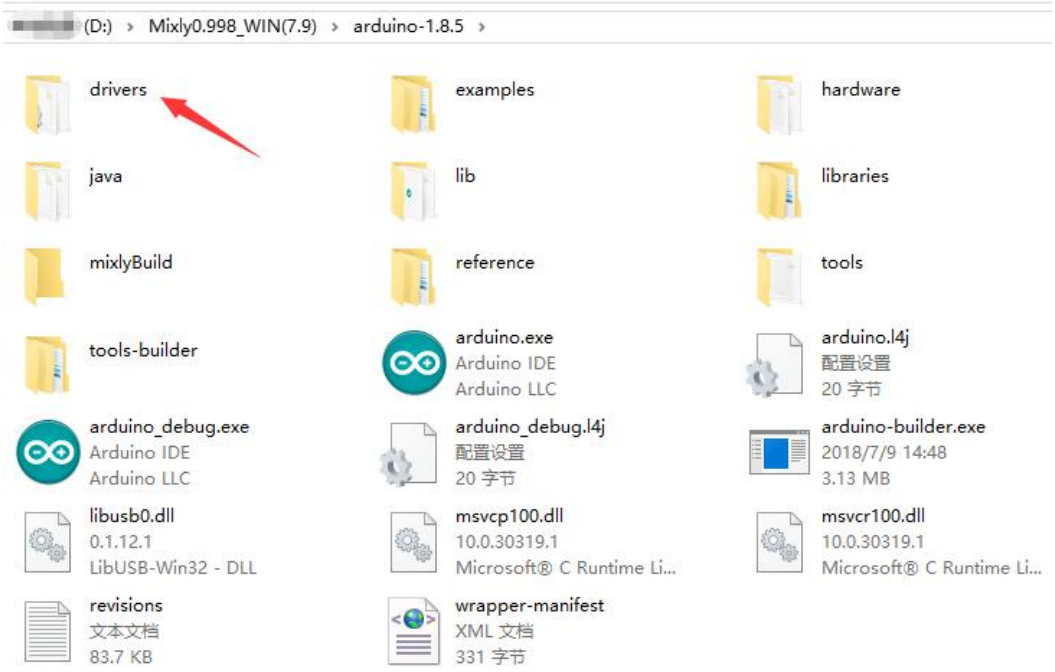
Driver Installation Of Mixly Ide

The USB connection with the PC is necessary to program the board and not just to power it up. The Uno automatically draw power from either the USB or an external power supply. Connect the board to your computer using the USB cable. The green power LED (labelled PWR) should go on.



Downloaded and expanded the Zip package, double click to open arduino-1.8.5 folder, you can see drivers folder in it



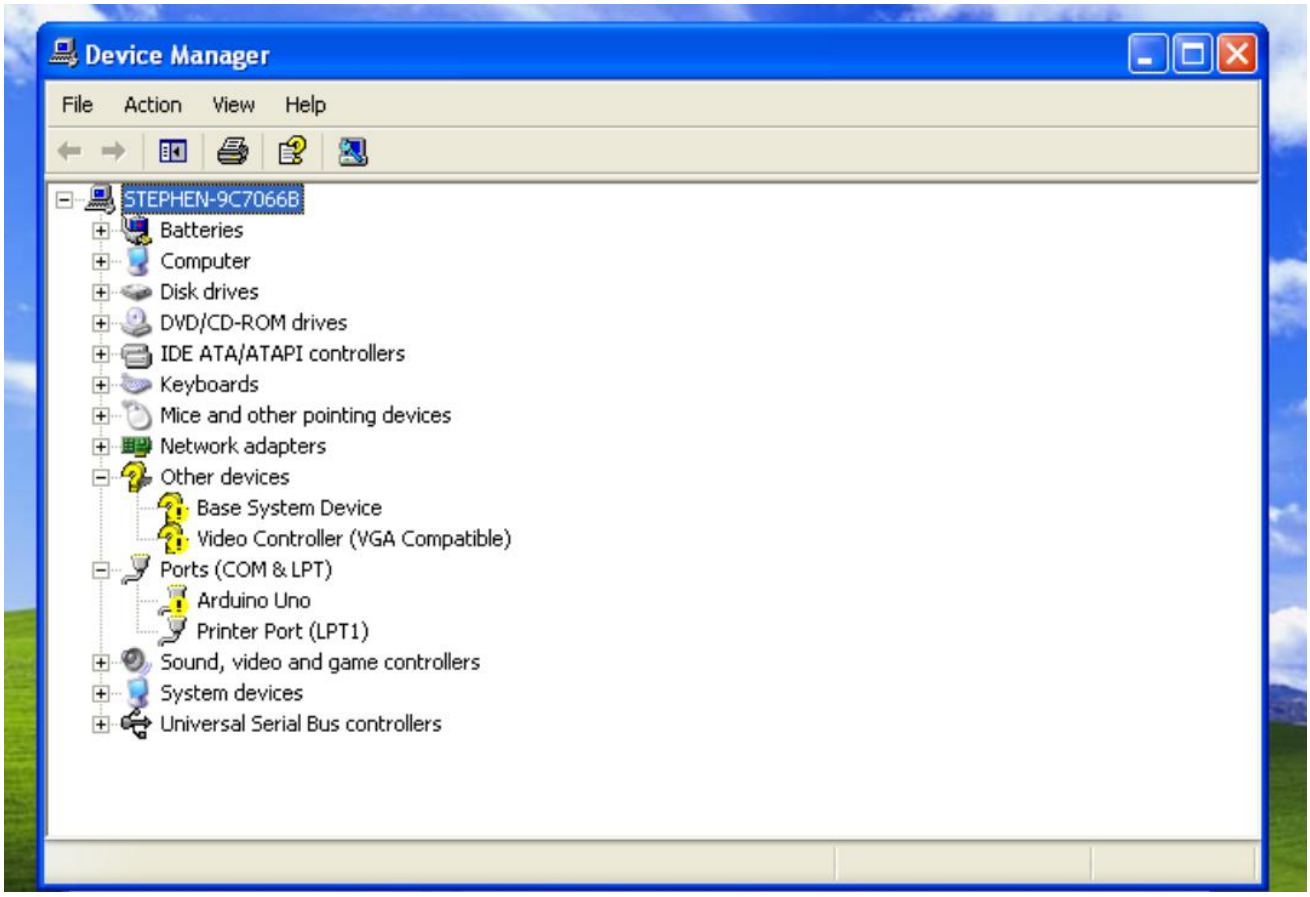


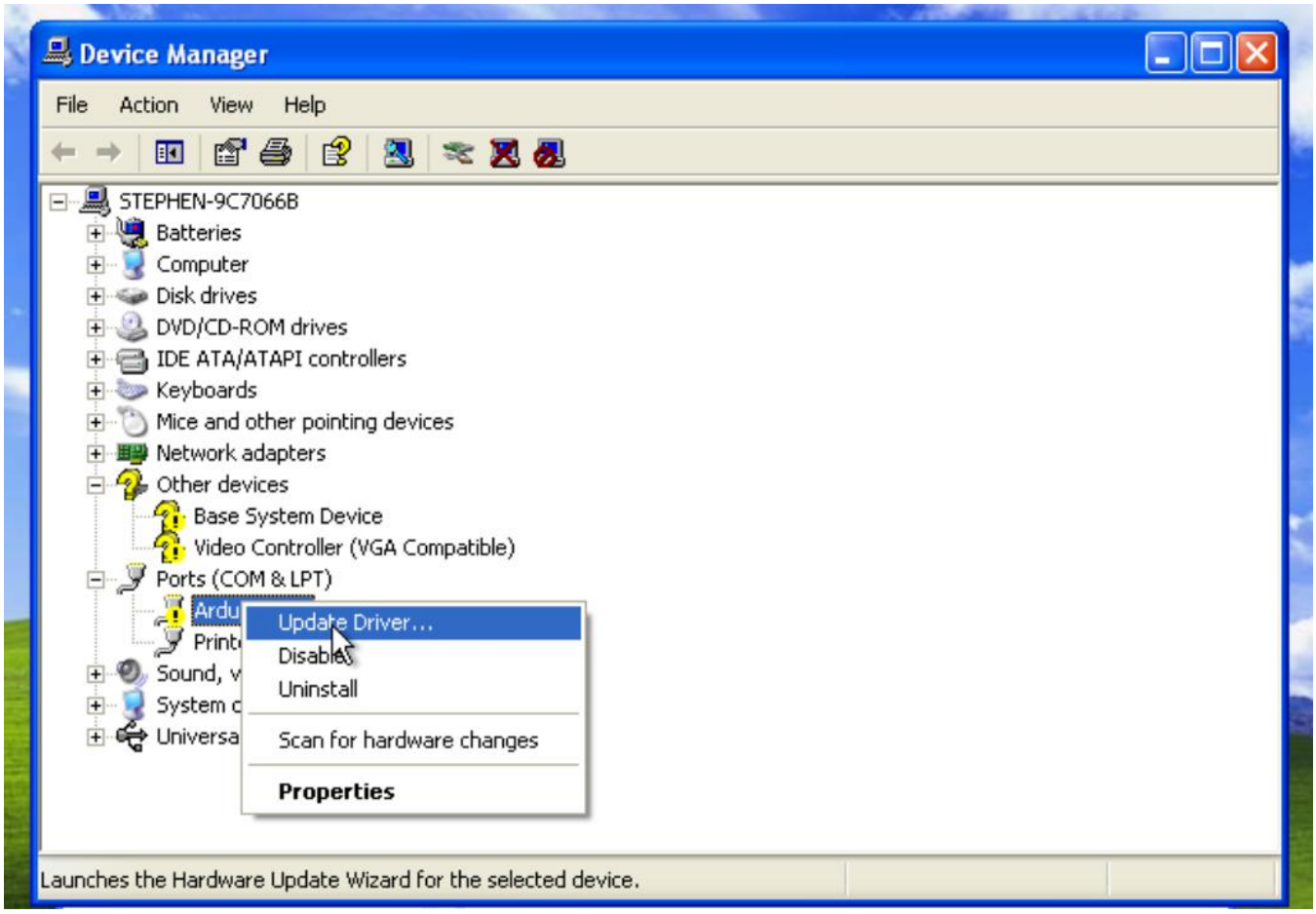
For some reason, the uno board wasn't properly recognized, please follow the procedure below.

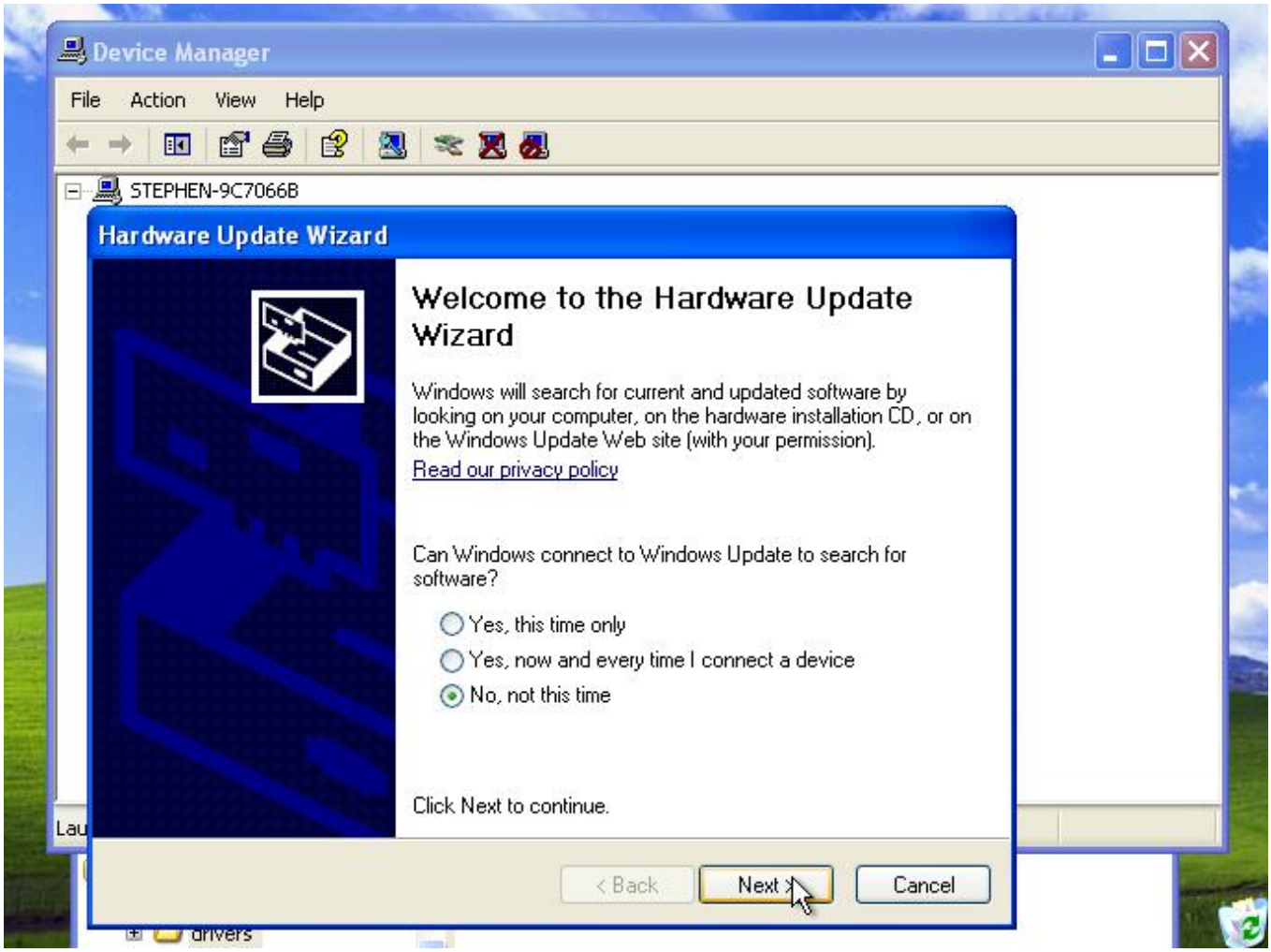
Click on the Start Menu, and open up the Control Panel.
While in the Control Panel, navigate to System and Security. Next, click on System. Once the System window is up, open the Device Manager.
Look under Ports (COM & LPT). You should see an open port named "Arduino UNO (COMxx)". If there is no COM & LPT section, look under "Other Devices" for "Unknown Device".
Right click on the "Arduino UNO (COmxx)" port and choose the "Update Driver Software" option.
Next, choose the "Browse my computer for Driver software" option.
Finally, navigate to and select the driver file named "arduino.inf", located in the "Drivers" folder of the Arduino Software download (not the "FTDI USB Drivers" sub-directory). If you are using an old version of the IDE (1.0.3 or older), choose the Uno driver file named "Arduino UNO.inf"
Windows will finish up the driver installation from there.

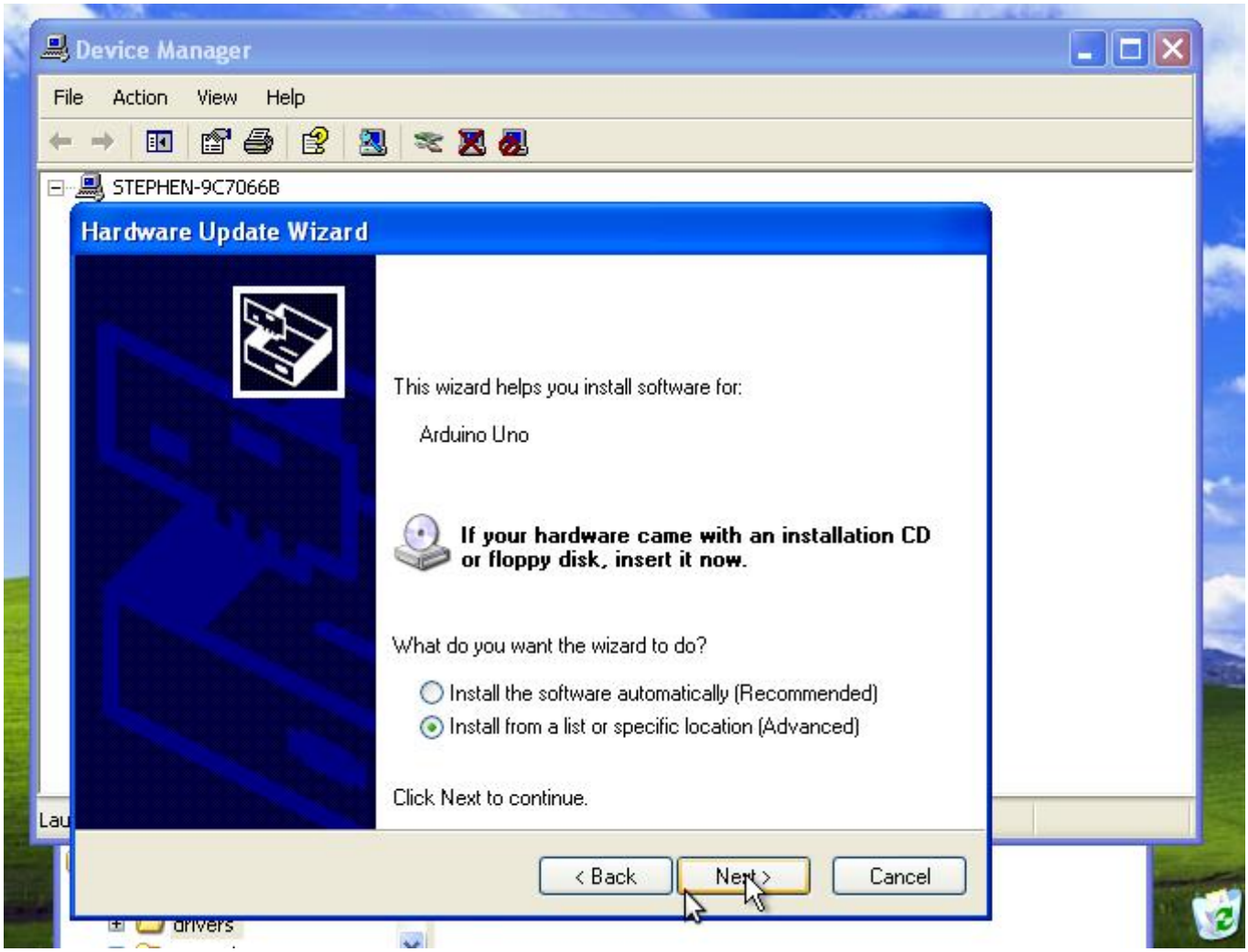
Installing the Arduino drivers under Windows XP

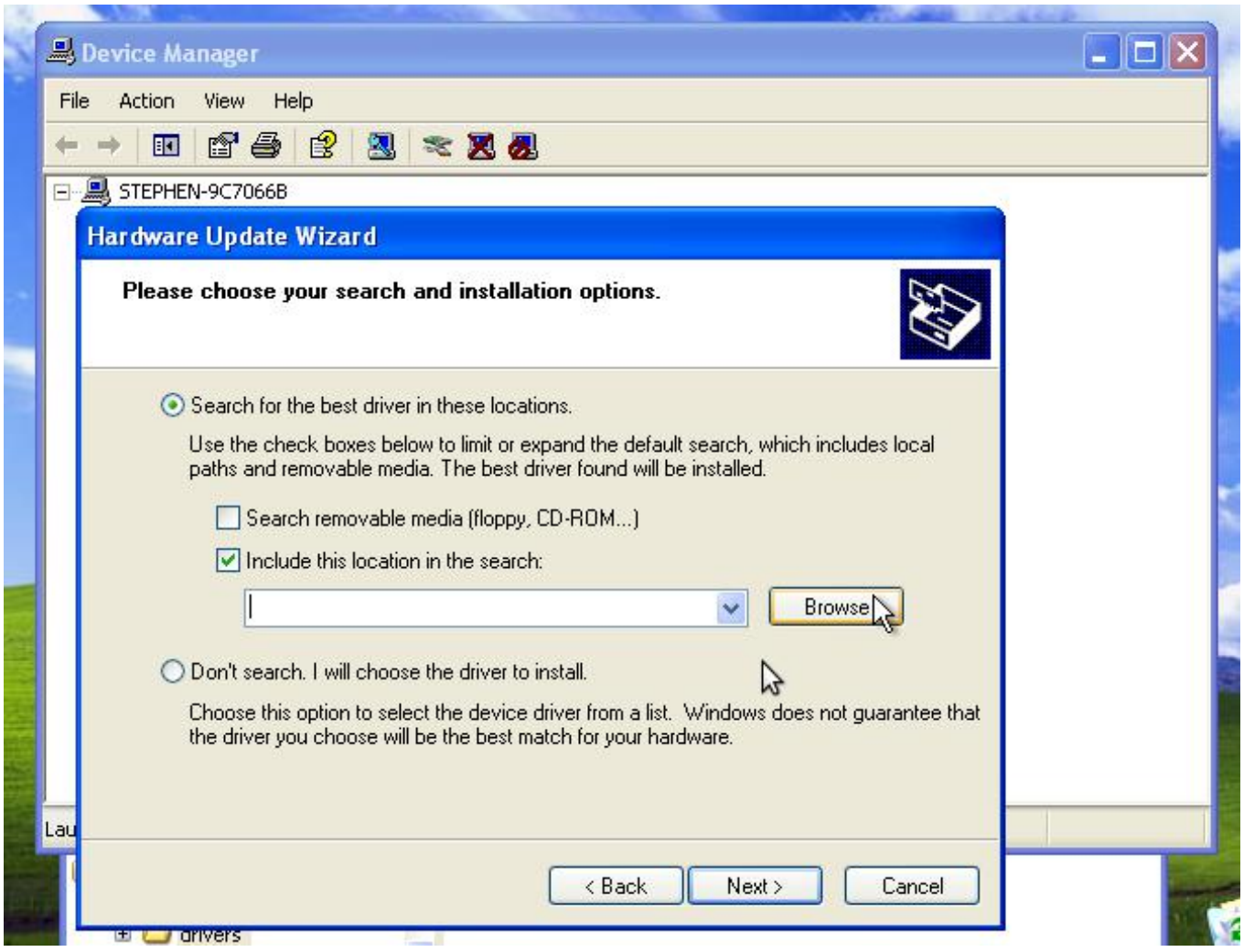
This is a guide to getting the Uno working under Windows XP after the operating system has tried but failed to install the drivers.

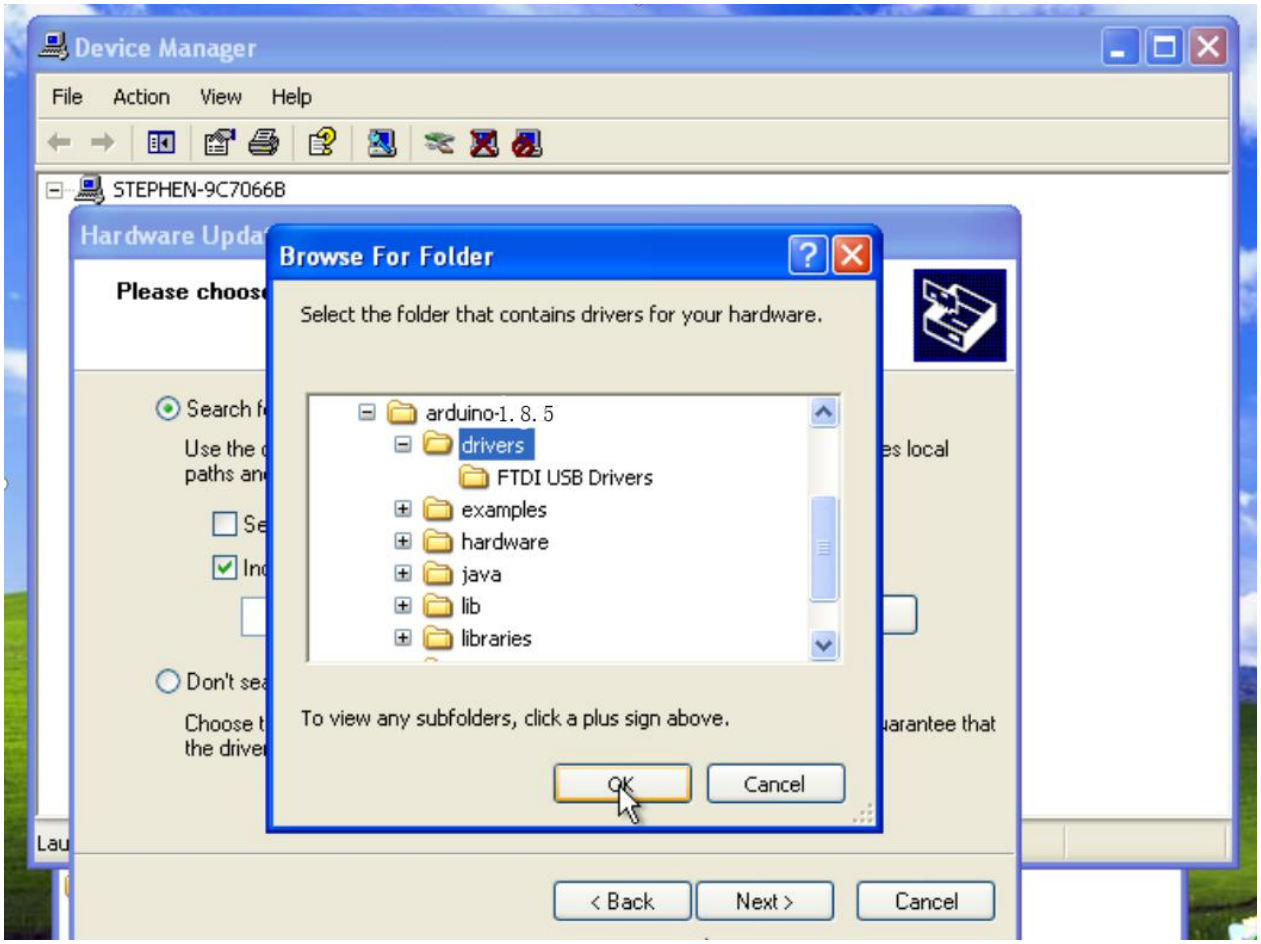


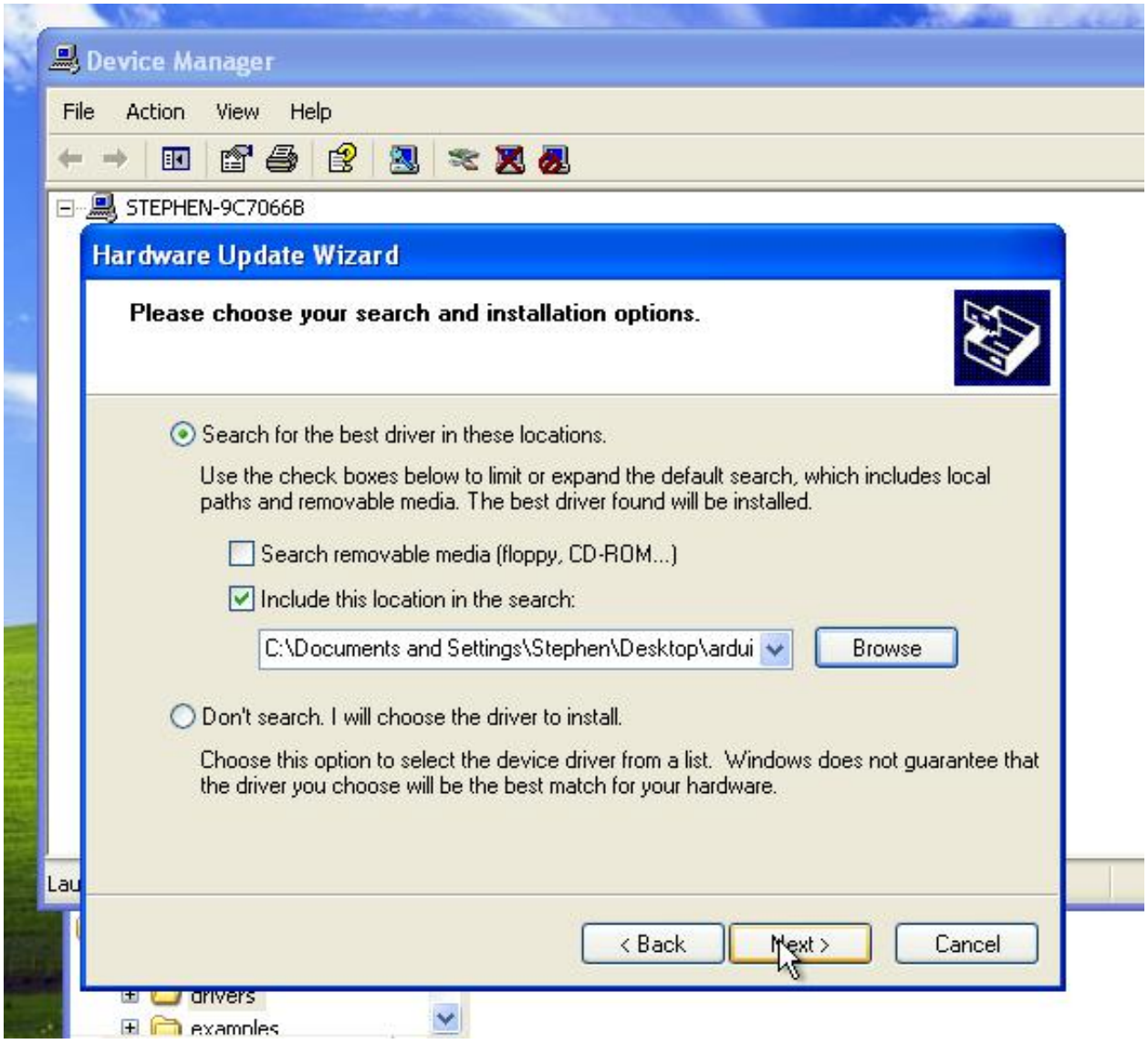

Device Manager
File Action View Help
STEPHEN-9C7066B
Batteries
Computer
Disk drives
DVD/CD-ROM drives
IDE ATA/ATAPI controllers
Keyboards
Mice and other pointing devices
Network adapters
Other devices
Base System Device
Video Controller (VGA Compatible)
Ports (COM & LPT)
Update Driver...
Disable
Uninstall
Scan for hardware changes
Properties
Launches the Hardware Update Wizard for the selected device.

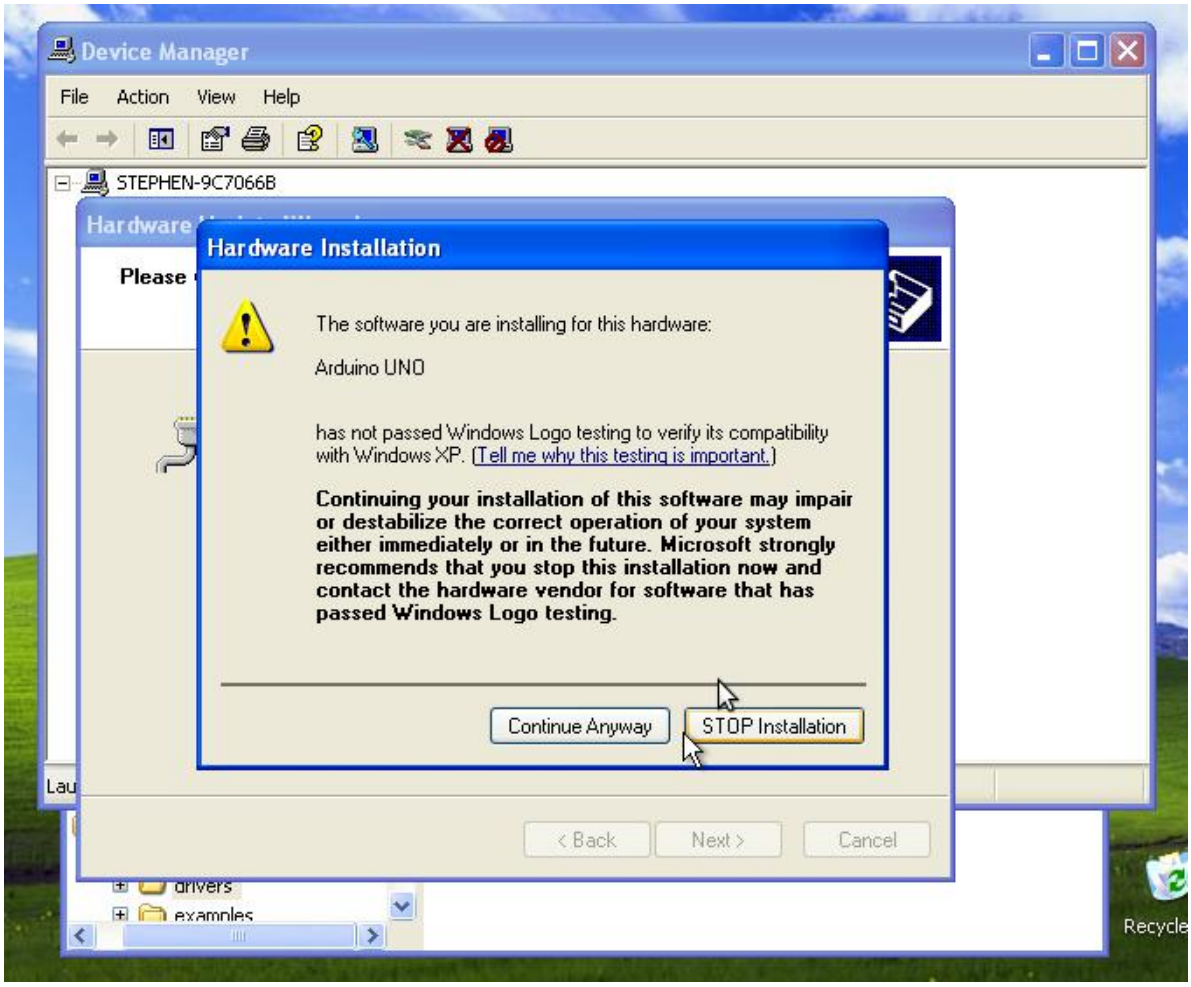

Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Update Wizard
Welcome to the Hardware Update Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

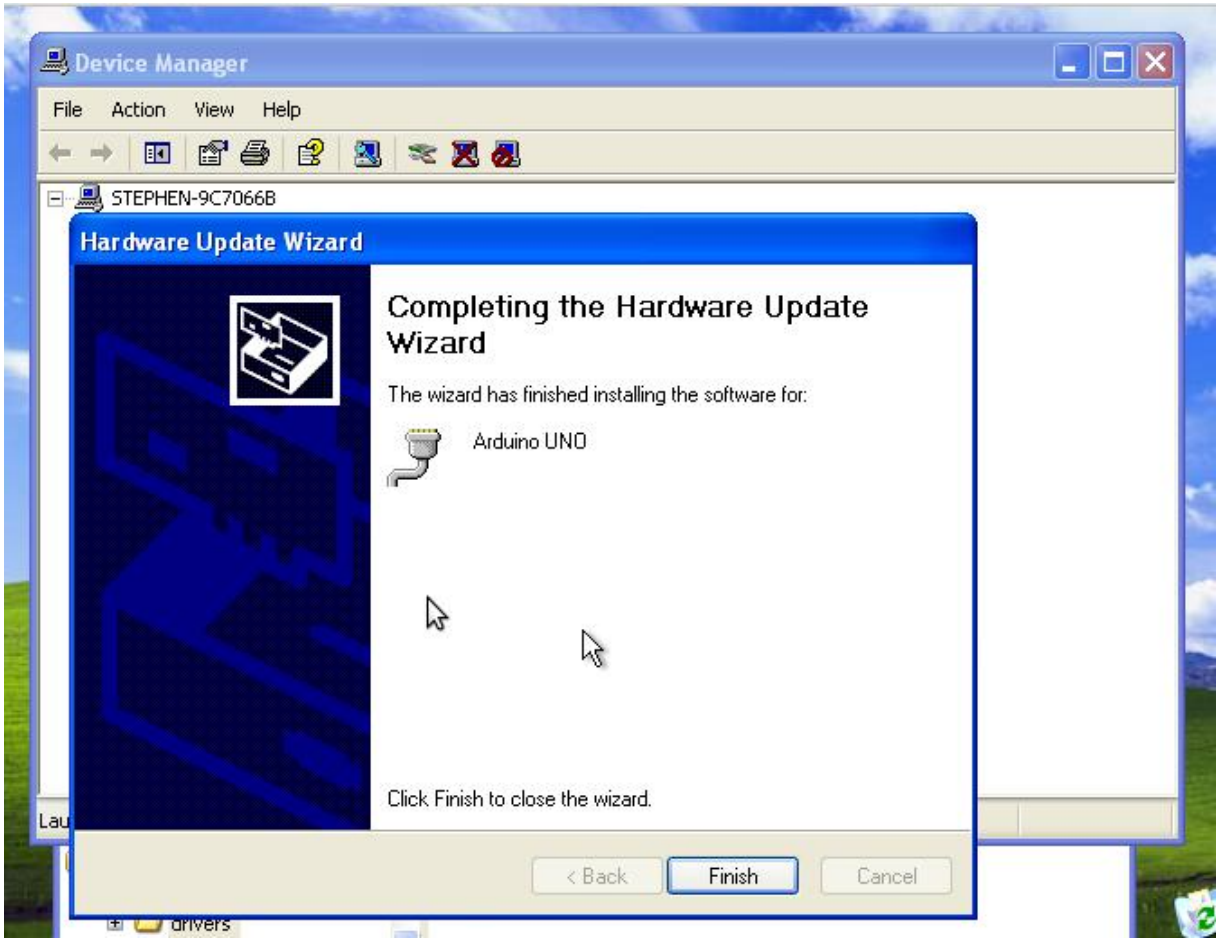

Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Update Wizard
This wizard helps you install software for:
Arduino Uno
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel


Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

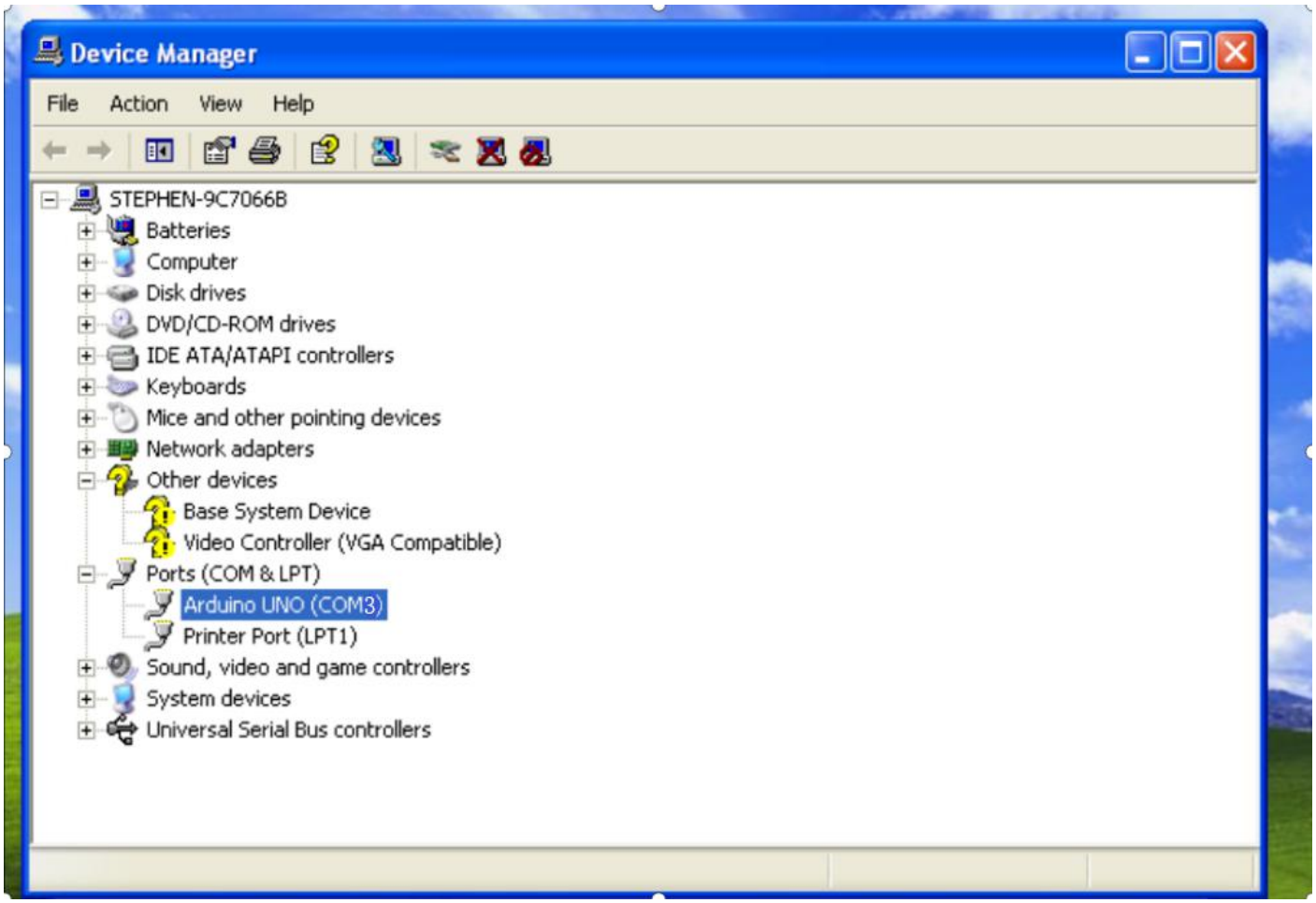

Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Upda
Please choos
Search f
Use the
paths an
Se
Inc
Don't se
Choose t
the drive
Browse For Folder
Select the folder that contains drivers for your hardware.
arduino-1. 8. 5
drivers
FTDI USB Drivers
examples
hardware
java
lib
libraries
To view any subfolders, click a plus sign above.
OK
Cancel
es local
arantee that
< Back
Next >
Cancel


Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Update Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\Documents and Settings\Stephen\Desktop\ardui
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel
drivers
examples


Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Installation
The software you are installing for this hardware:
Arduino UNO
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation
< Back
Next >
Cancel
drivers
examples
Recycle


Device Manager
File Action View Help
STEPHEN-9C7066B
Hardware Update Wizard
Completing the Hardware Update Wizard
The wizard has finished installing the software for:
Arduino UNO
Click Finish to close the wizard.
< Back
Finish
Cancel
drivers

The driver is installed. Click on Computer--Properties--Device Manager again and we can see that the driver is installed.

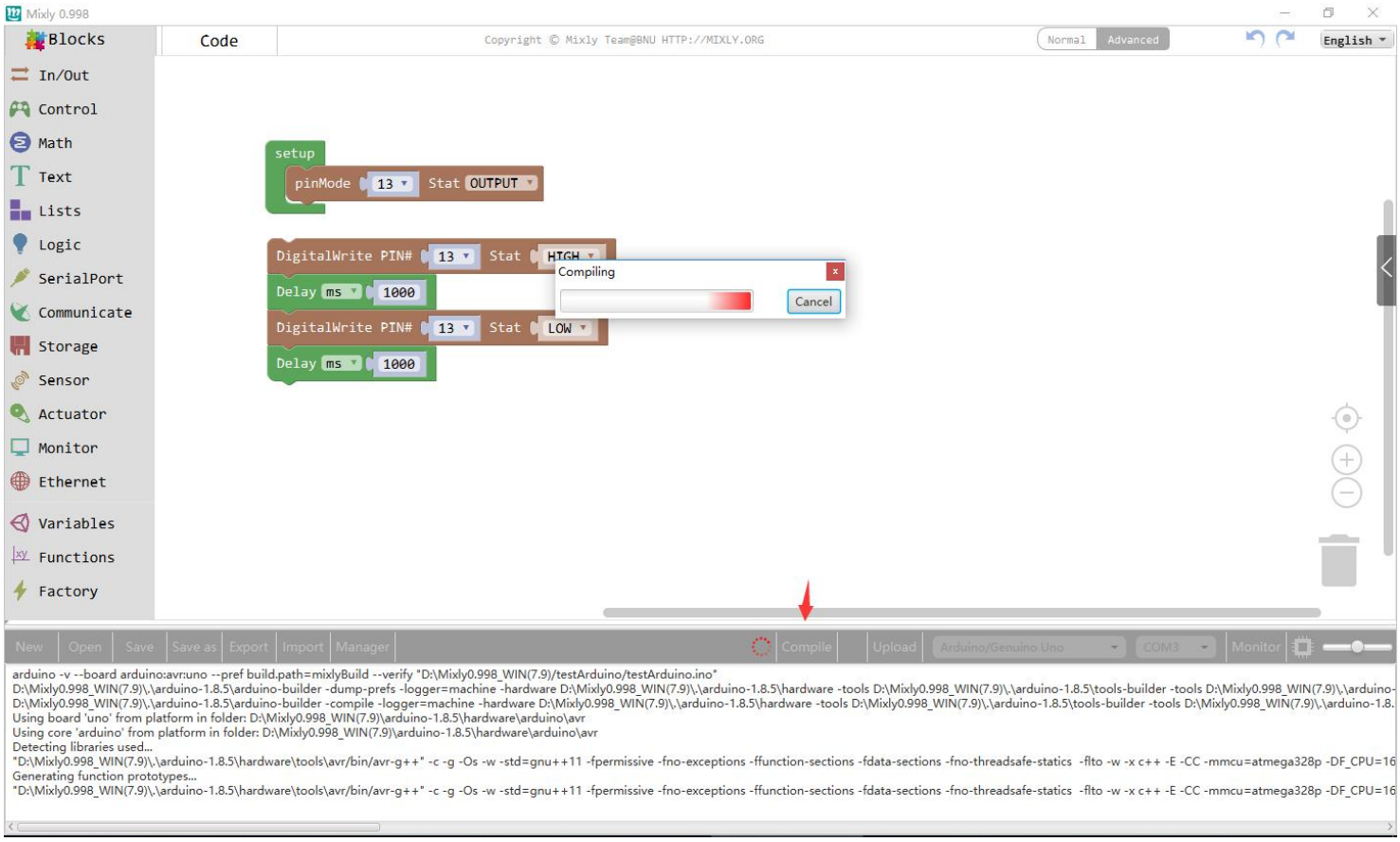


Use your uno on the Mixly and upload your first sketch

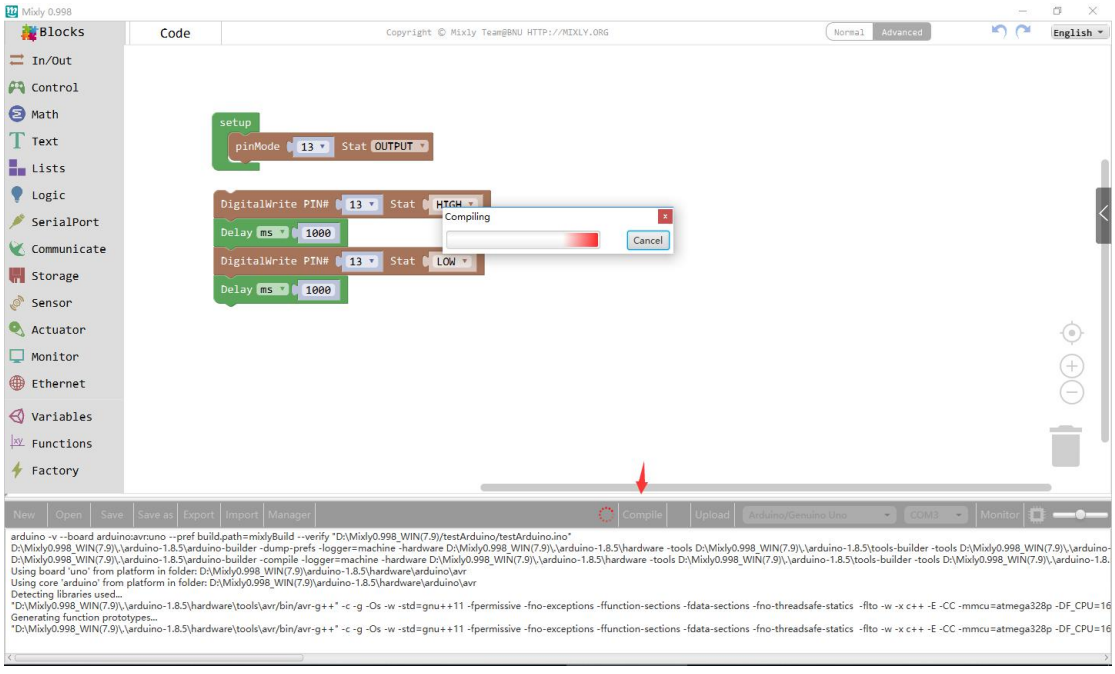
1. The USB driver of the UNO R3 development board is successfully. We can find the corresponding serial port in the mixly IDE interface.

Before programming, corresponding select motherboard type and COM port for the mixly IDE, as shown below:

2、programming in the mixly programming box, Click the Compile menu to verify that the program is correct, as shown below



3、Upload the code to the UNO R3 motherboard as shown below：



6、As a result, the L LED on the uno r3 board flashes once every 1 second.