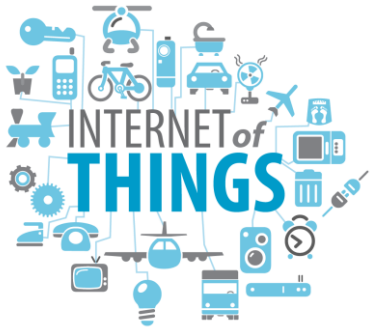
UNIVERSITY OF SCIENCE - VNUHCM
Faculty of Information Technology

INTERNET OF THINGS

1.1

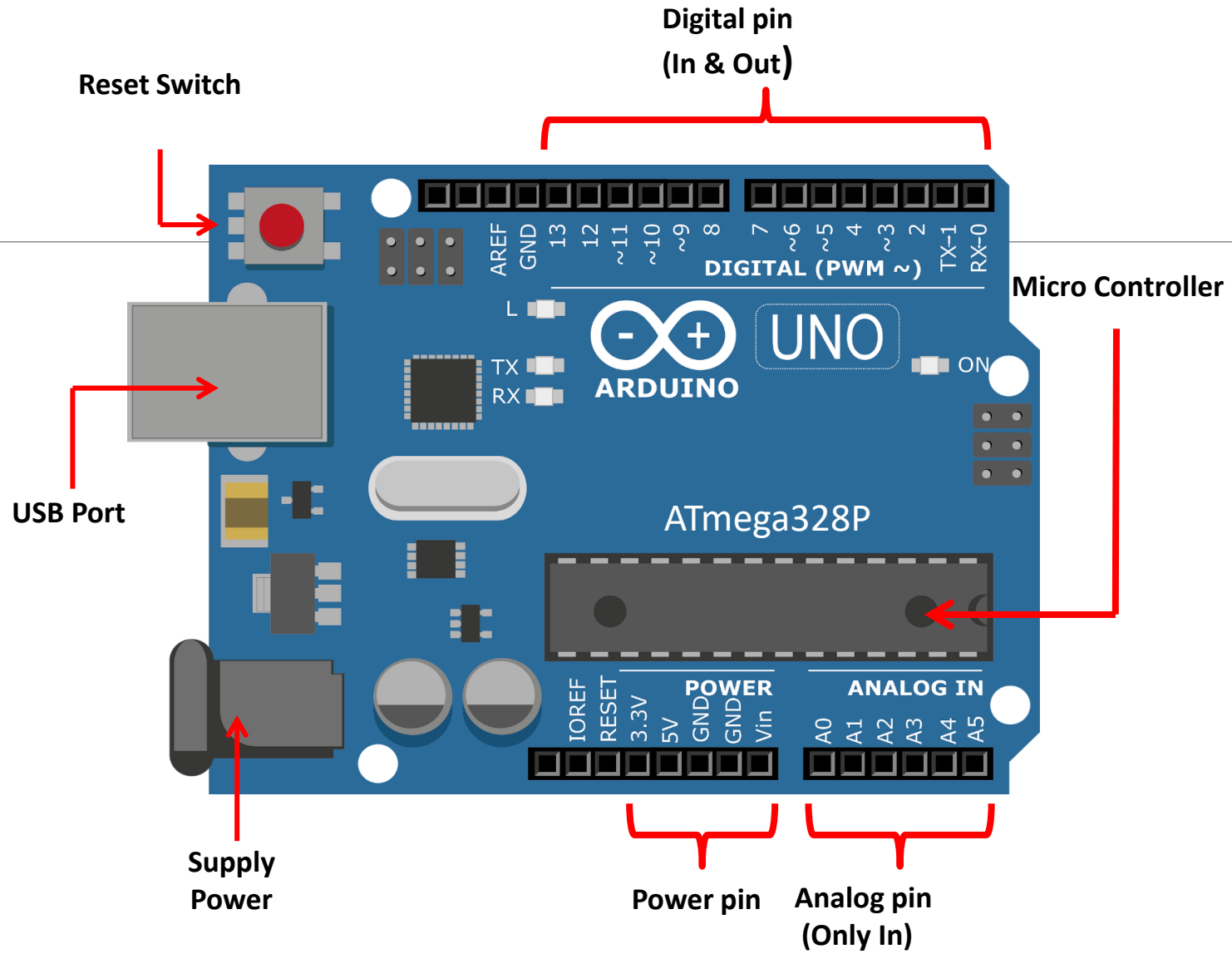
INTRODUCE TO THE ARDUINO



Content

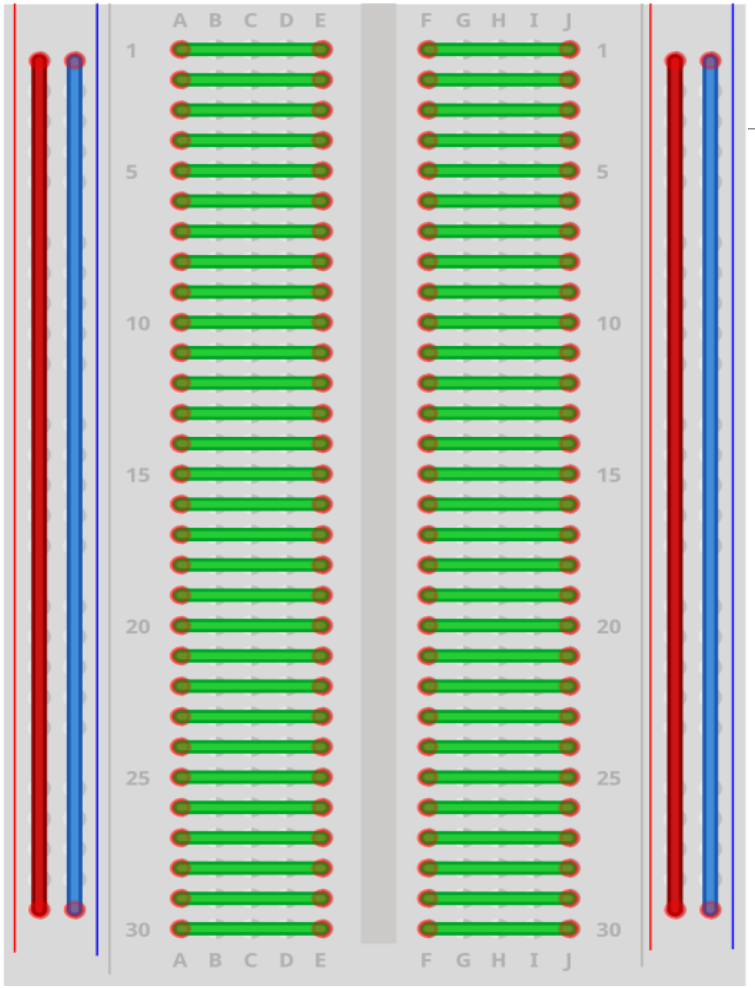
1. Arduino board
2. Basic electronic devices
3. Arduino IDE
4. The first program “Hello World”

Arduino board


Digital pin
(In & Out)
Reset Switch
Micro Controller
USB Port
Supply
Power
Power pin
Analog pin
(Only In)
DIGITAL (PWM ~)
POWER
ANALOG IN
ARDUINO
UNO
ATmega328P

Electronic devices

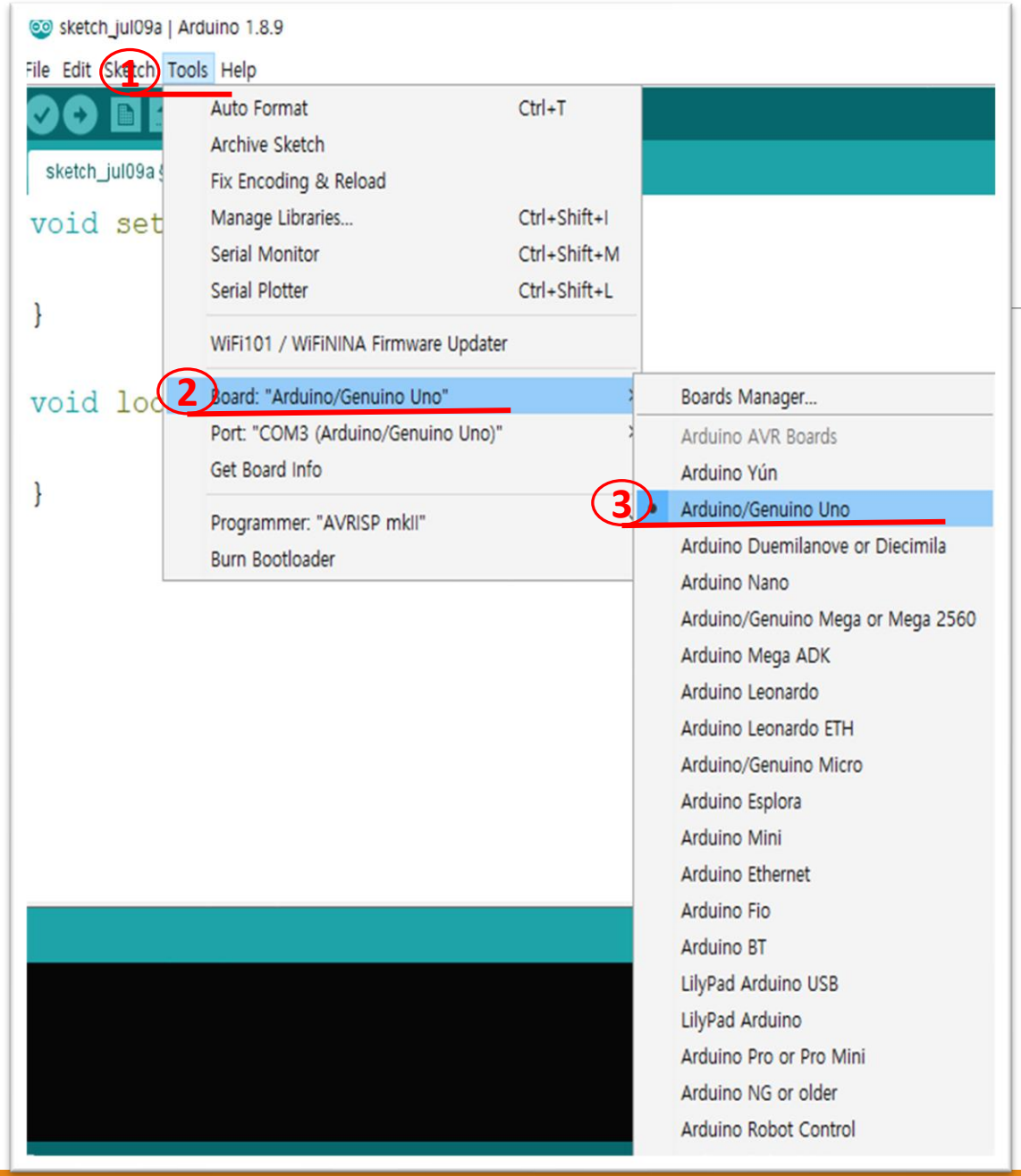
Test board – Bread board

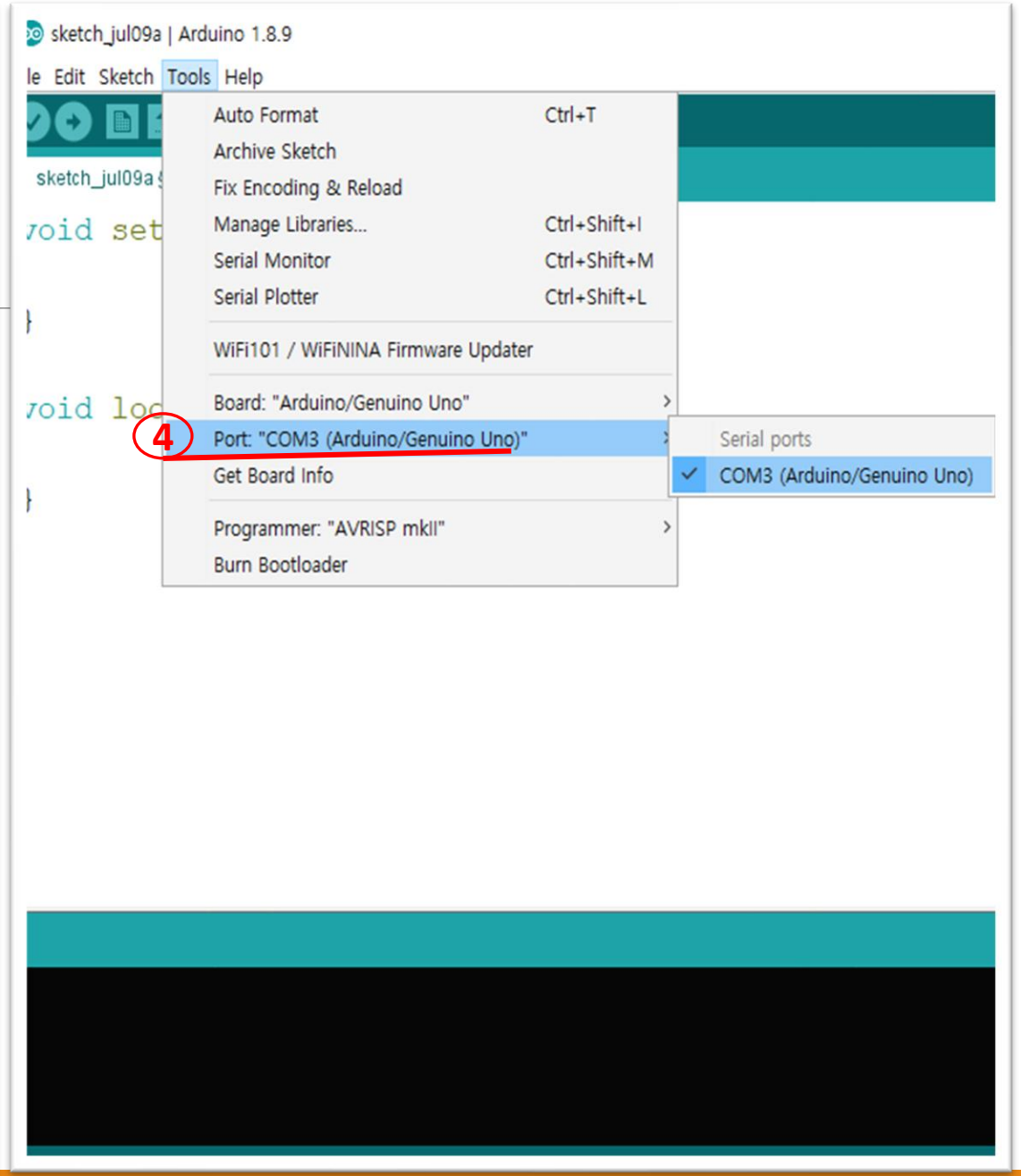


< Bread Board >

< Inside of Bread Board >

Arduino IDE


sketch_jul09a | Arduino 1.8.9
File Edit Sketch Tools Help
1
Auto Format Ctrl+T
Archive Sketch
Fix Encoding & Reload
Manage Libraries... Ctrl+Shift+I
Serial Monitor Ctrl+Shift+M
Serial Plotter Ctrl+Shift+L
WiFi101 / WiFiNINA Firmware Updater
2
Board: "Arduino/Genuino Uno"
Port: "COM3 (Arduino/Genuino Uno)"
Get Board Info
Programmer: "AVRISP mkII"
Burn Bootloader
Boards Manager...
Arduino AVR Boards
Arduino Yún
3
Arduino/Genuino Uno
Arduino Duemilanove or Diecimila
Arduino Nano
Arduino/Genuino Mega or Mega 2560
Arduino Mega ADK
Arduino Leonardo
Arduino Leonardo ETH
Arduino/Genuino Micro
Arduino Esplora
Arduino Mini
Arduino Ethernet
Arduino Fio
Arduino BT
LilyPad Arduino USB
LilyPad Arduino
Arduino Pro or Pro Mini
Arduino NG or older
Arduino Robot Control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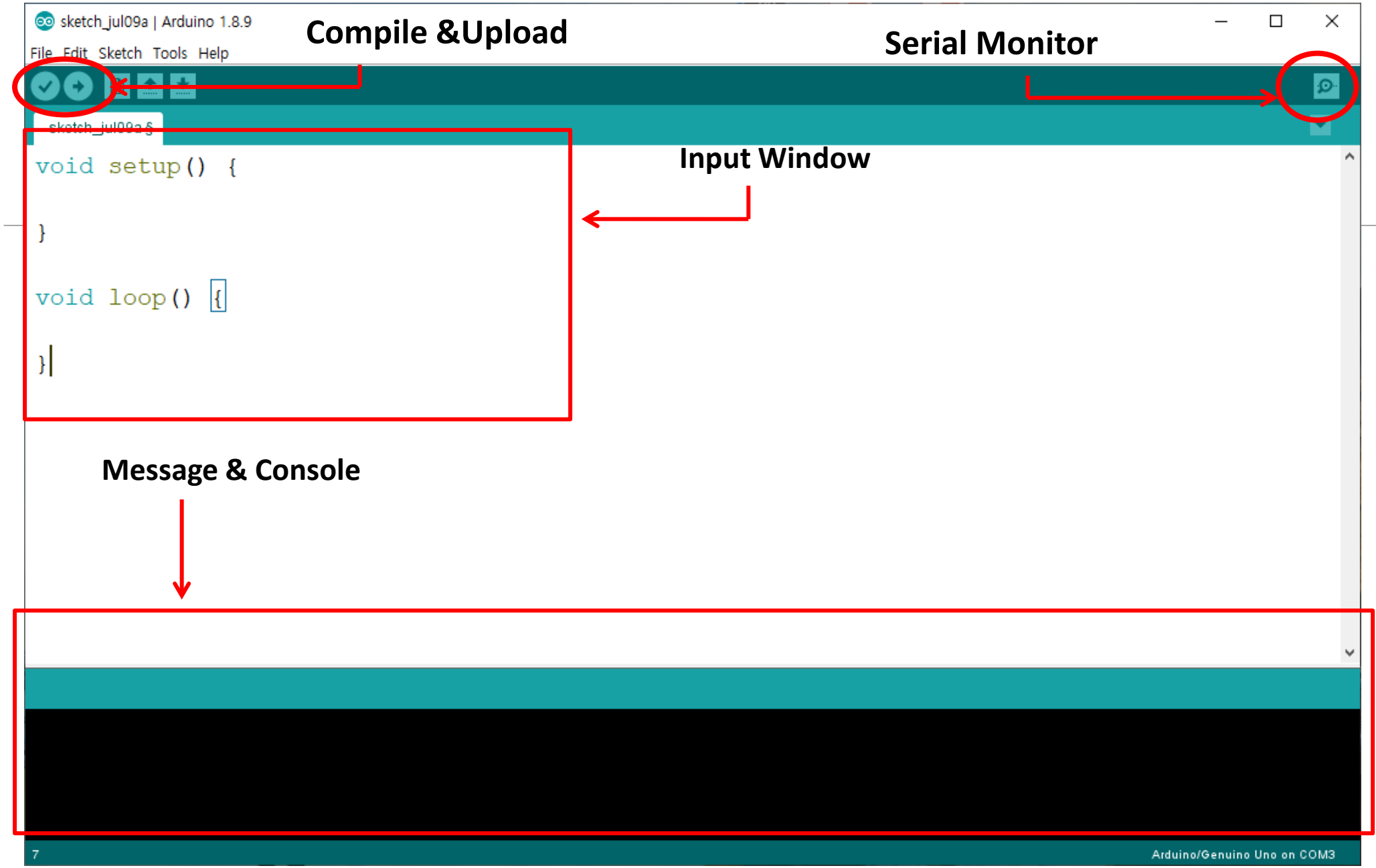
Board: "Arduino/Genuino Uno"
4
Port: "COM3 (Arduino/Genuino Uno)"
Get Board Info
Programmer: "AVRISP mkII"
Burn Bootloader
Serial ports
COM3 (Arduino/Genuino Uno)


sketch_jul09a | Arduino 1.8.9
File Edit Sketch Tools Help
Compile &Upload
Serial Monitor
sketch_jul09a §
void setup() {
}
void loop() {
}
Input Window
Message & Console
7
Arduino/Genuino Uno on COM3

The First Program

```
int a = 30;

void setup() {
  Serial.begin(9600);              //start Serial communication, Transmission speed is 9600
}

void loop() {
  // put your main code here, to run repeatedly:
  Serial.println(a);               //print out the value of variable a
  Serial.println("Hello World");  //print out Hello World
  delay(1000);
}
```