Ivrea Interaction Design Institute as an easy toof for fast prototyping.

Arduino community aims at designing and utilizing microcontroller - based development boards, known as Arduiono modules, which are open-source prototyping platforms.

9t offers from 8 bit boards to products for IoT, wearable, 3D printing & embedded environments.

Arduino boards are able to lead inputs like, -> light on a Sensor

A finger on a button

twitter message - 4 turn it into an output.

activating a motor

turning on a LED.

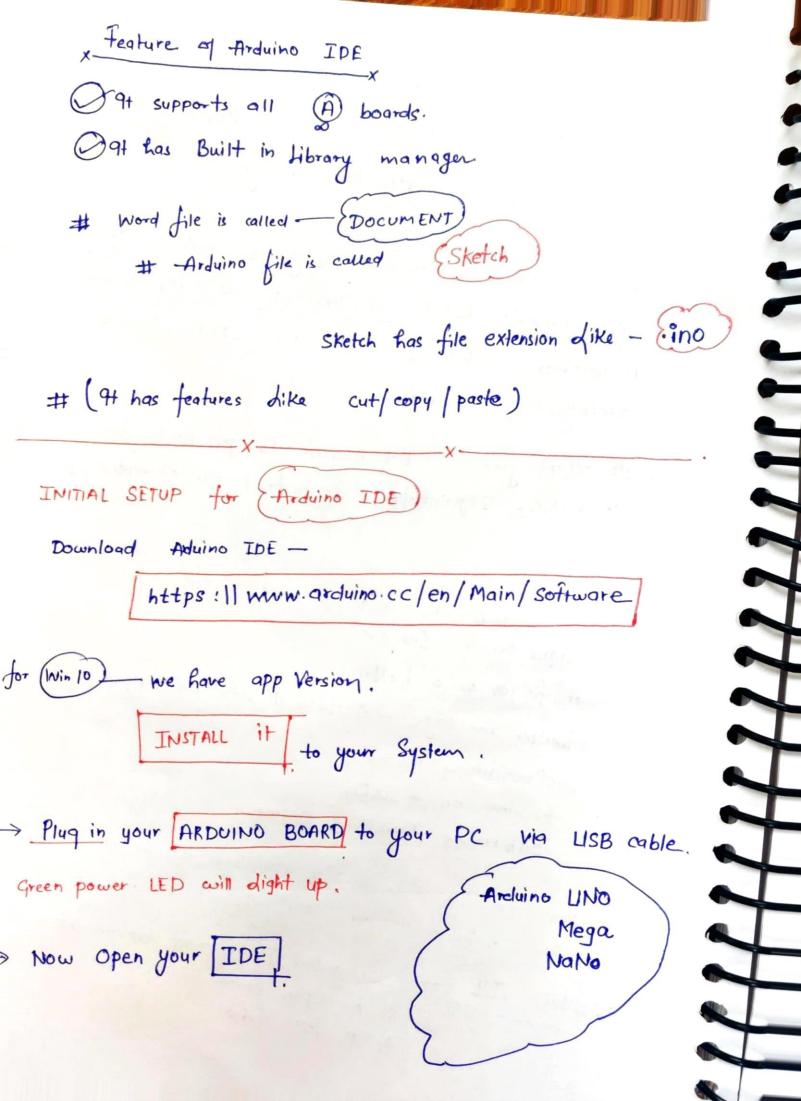
publishing bomething Online.

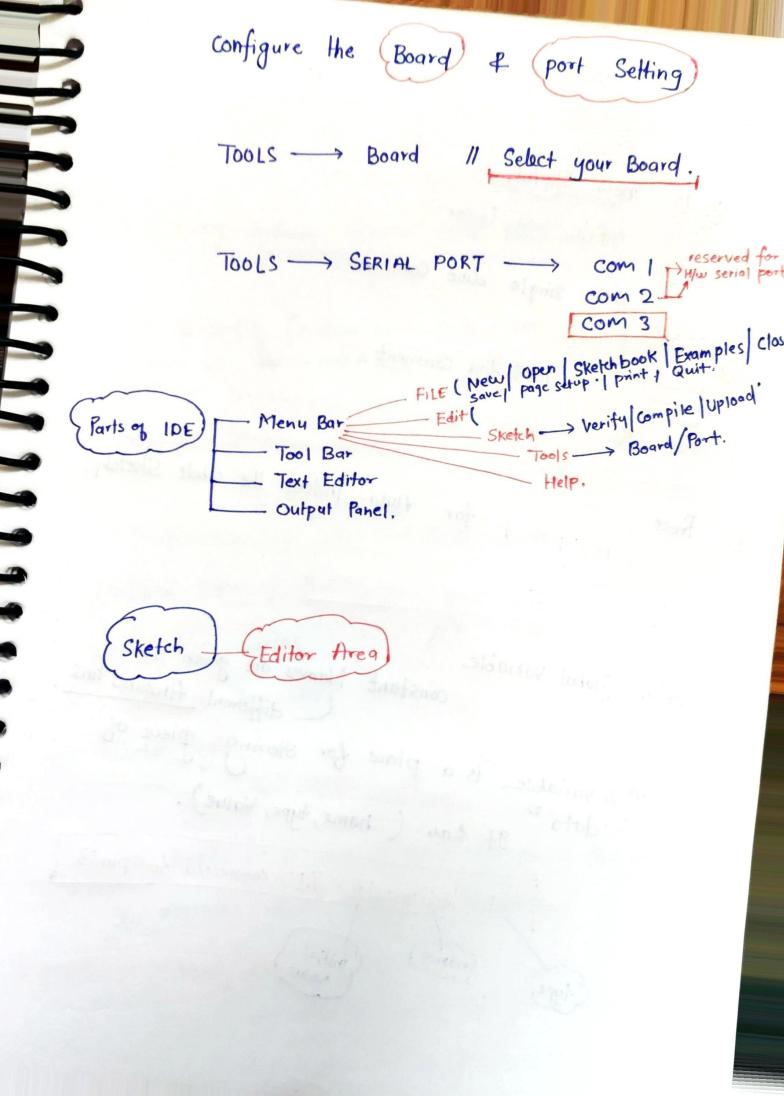
tell your Board what to do by sending a set of instructions to the microcontroller on the board.

ARDLINO IDE - Integrated Development Enviorment.

9t is open Source Stu.

9t is text Edior.





Steps to Write Arduino Program new Sketch create File ---> New 11 Single dine Comment. multi dine comment. O Press for Auto- Indent the whole Sketch. O define Global variable constant Names are given to different Arduino Pins 66 A variable is a place for Storing piece of dato 9+ Lan (hame, type, Value). int ledfin = 13 //IED connected to pin 13

```
setup -
             Arduino Segins Setup function
           The setup() functions (starts) is called when the
            Sketch Starts.
            Every Arduino sketch must have a Setup function
       The Setup() function will only run once, after each
        power up or reset of the Ardvino board.
        The Serial communication is initiated under Setup()
   -> Pin functionality using (pinMode) function
    -> Initial State of Pins
   -> Initialize classes
   -> Initialize Variables.
   → Code logic
         The loop() f" is also a must for every Arduino Sketch
        gt executes once Setup () is complete.
Example:
              Void loop()
                   digital Write (ledPin, High); // sets the digital Pin 13 on delay (1000);
                        delay (1000);
                    digital write (led Pin, Low) ; 11 sets the digital Pin 13 off.
                        delay (1000);
```

after the Setup() function & loop() function, there are other user defined functions which only activated when called in the setup() & loop() routine.

compiling

Aften writing the Sketch Script

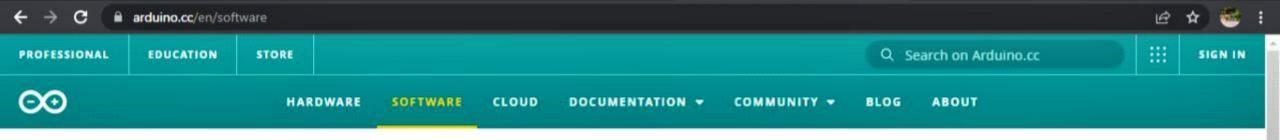
9+ needs to be converted into instructions that can be read 4 executed by Arduino Controller Chip

9+ is called compiling

Sketch -> Very Compile

after Compilation an additional your msg will show pop up to your console Screen

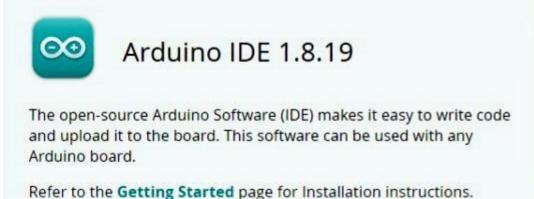
Binary Sketch Size 1208 bytes (of a 32256 byte maximum).







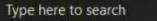
Downloads





























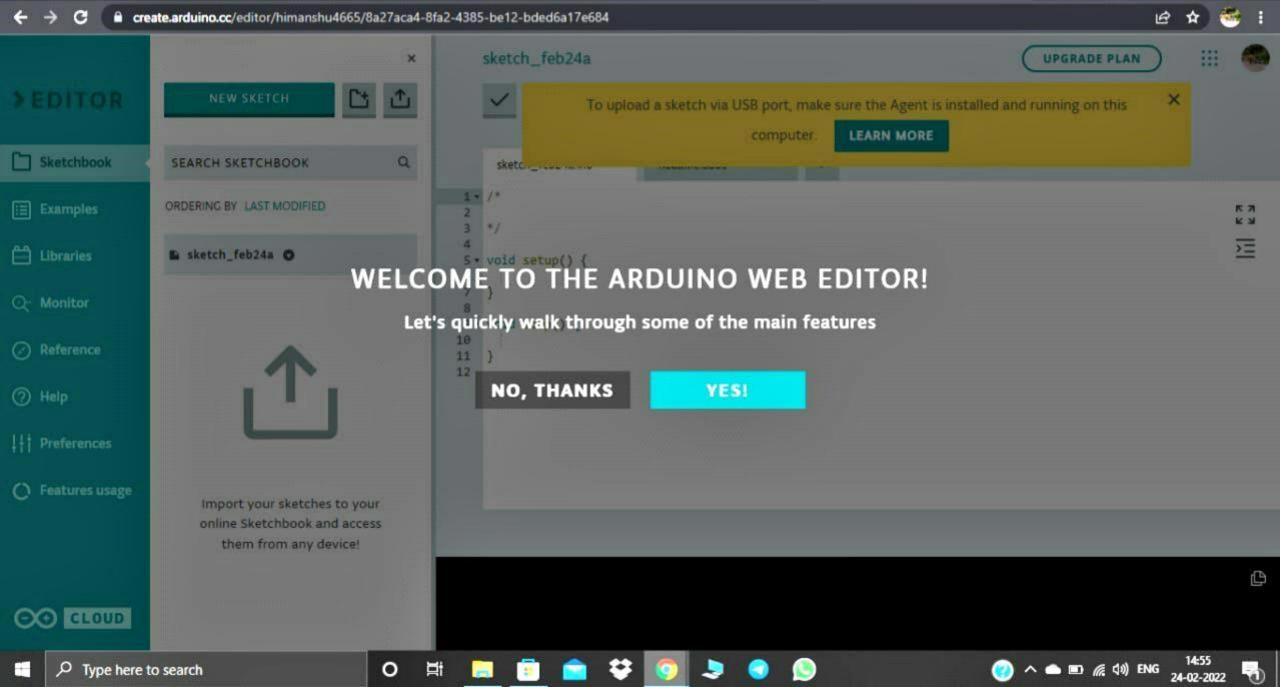


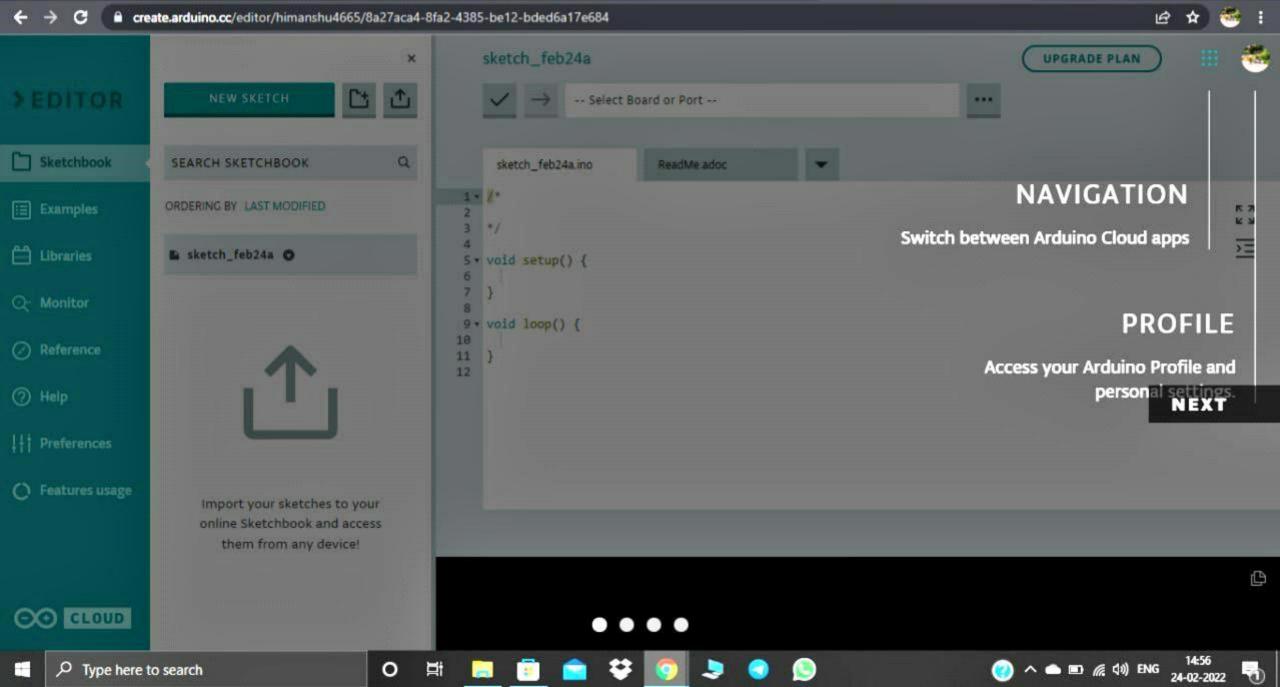


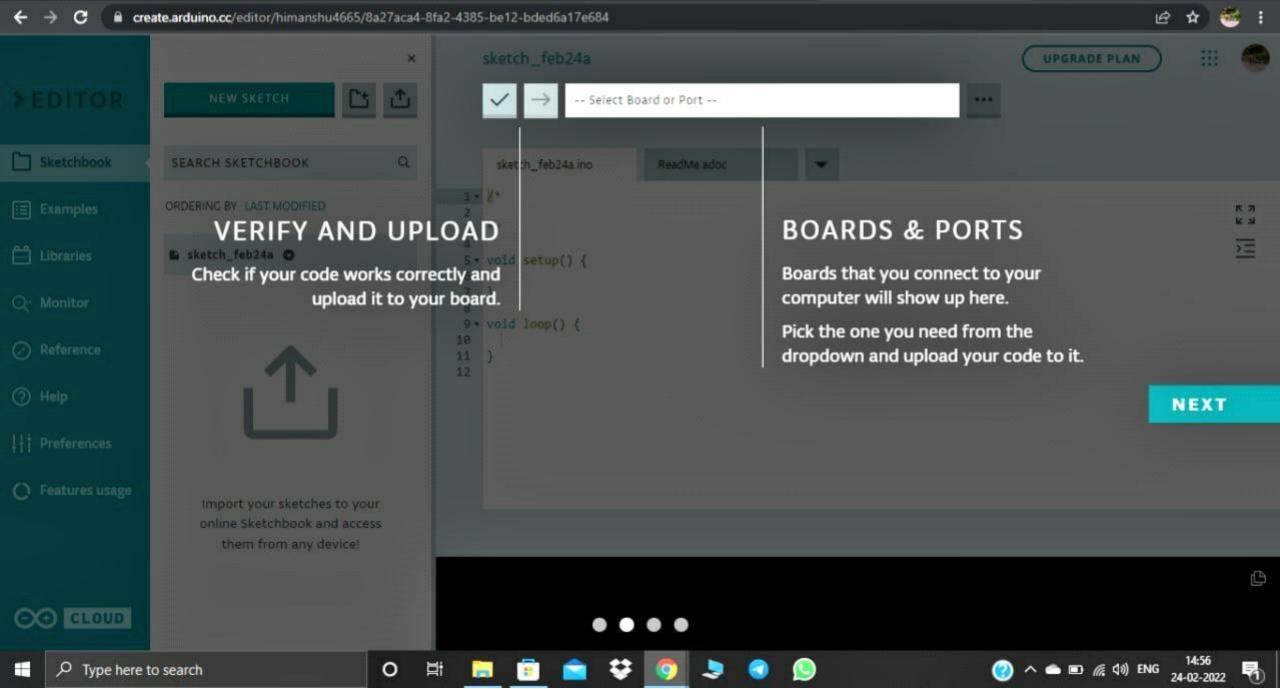


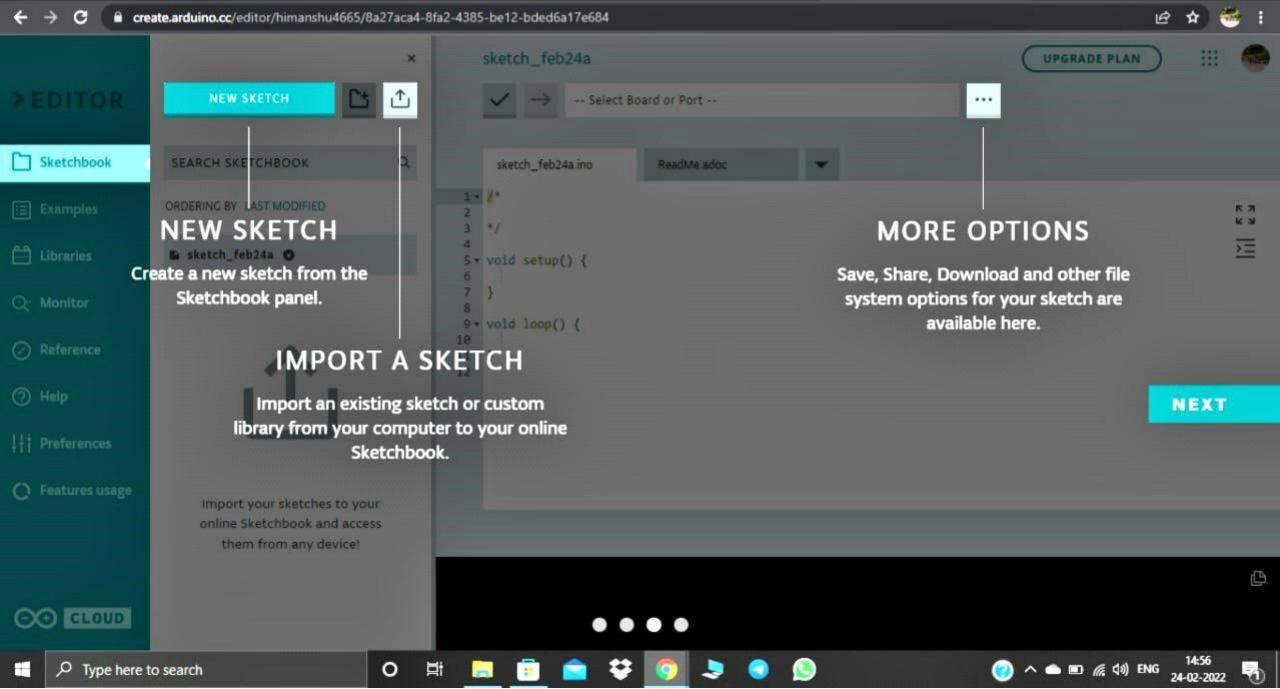


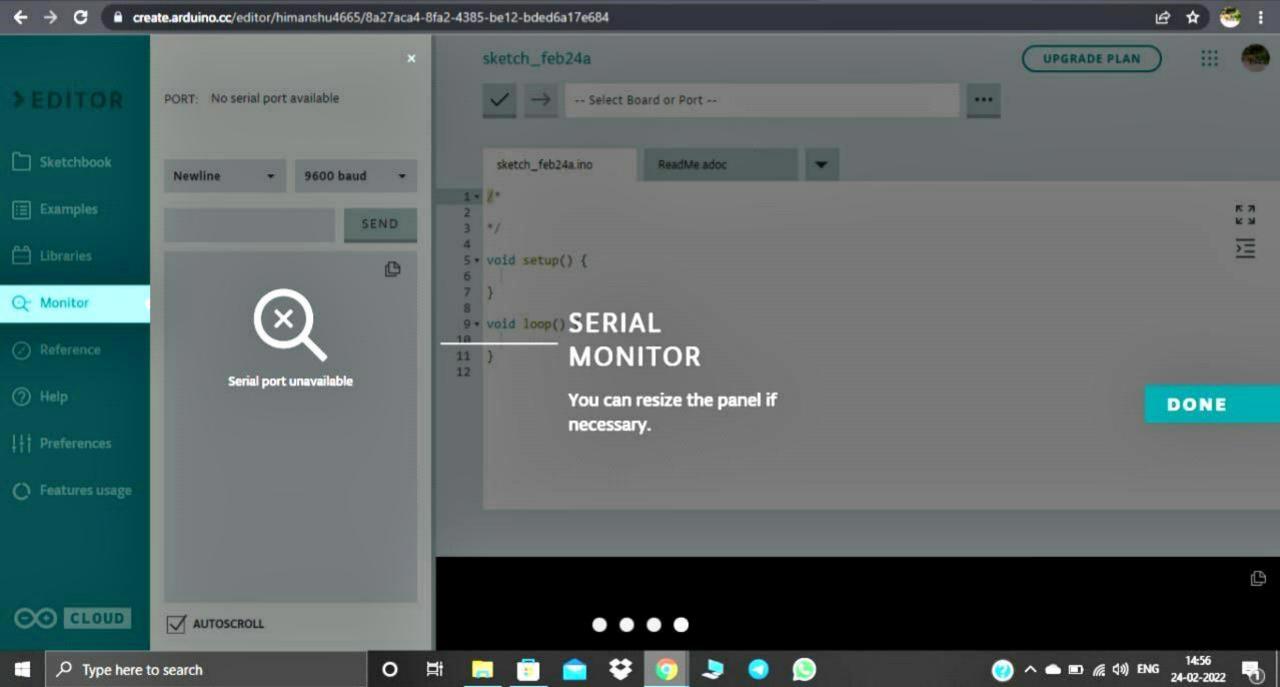


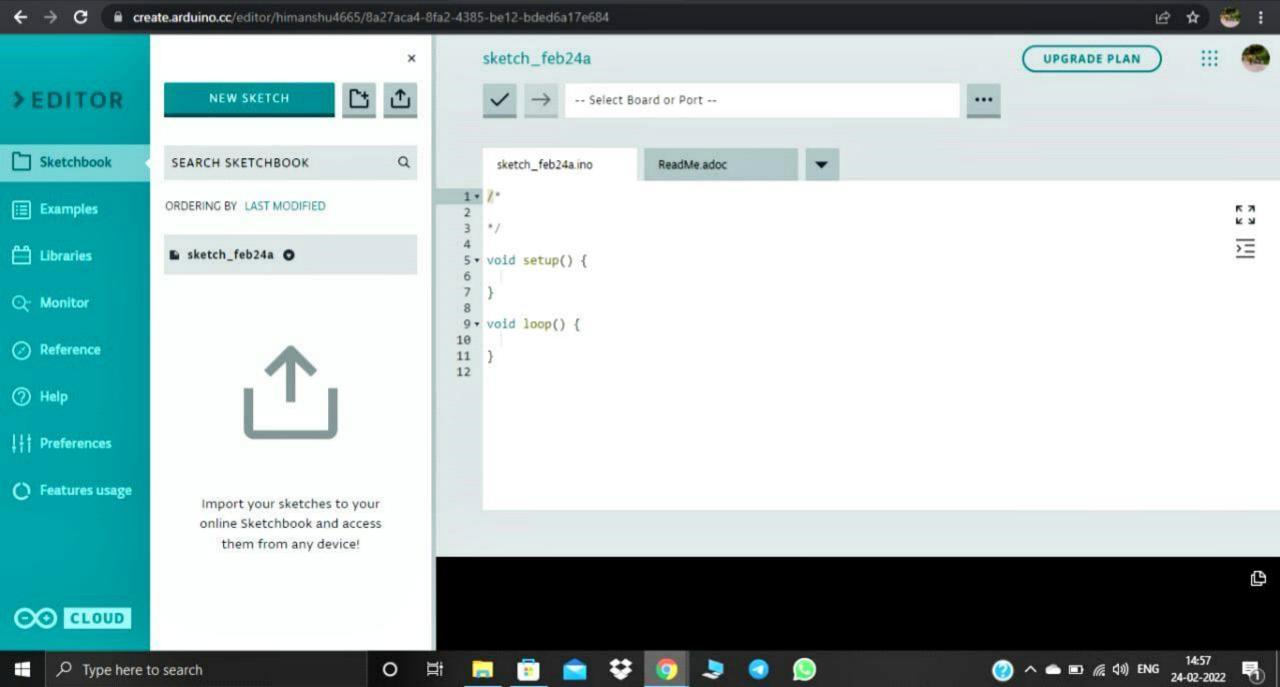


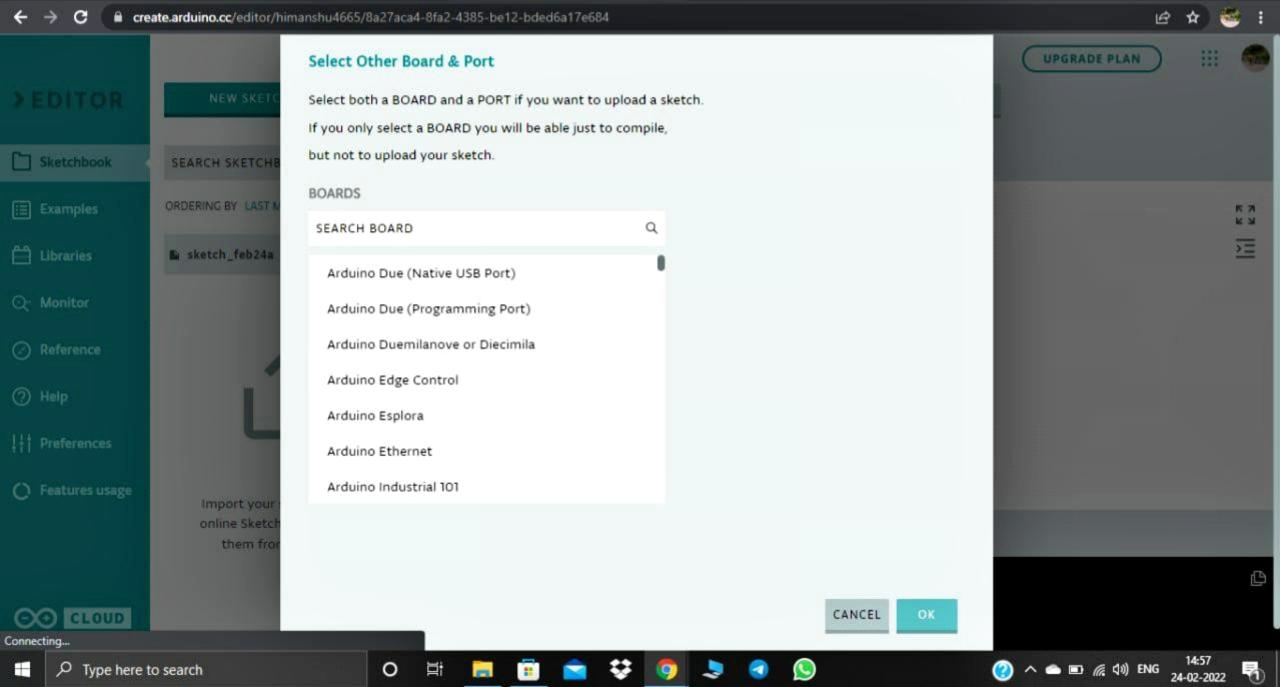


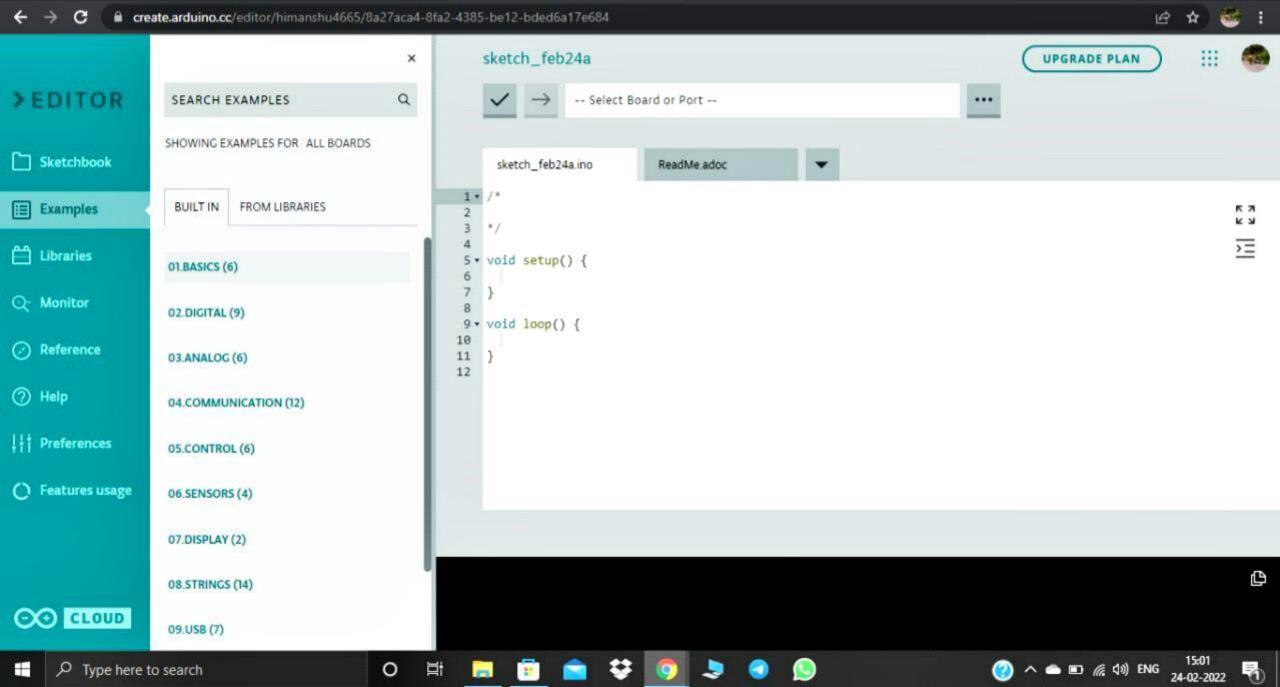


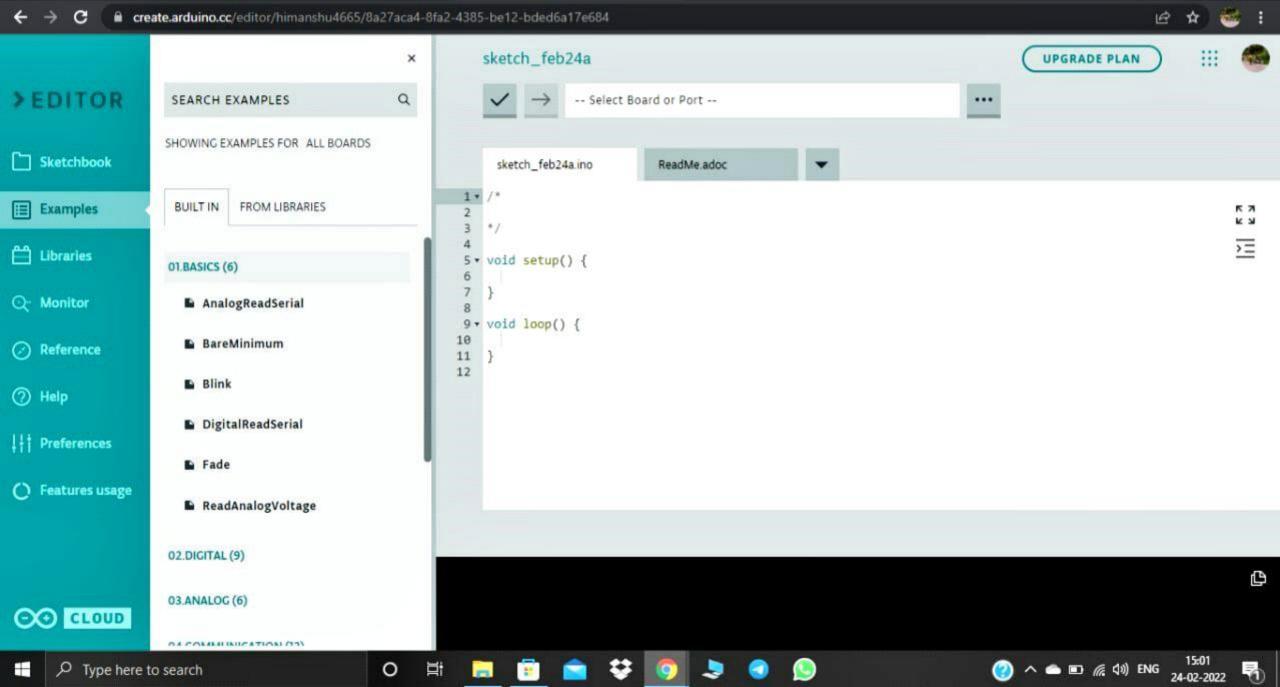




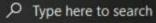






























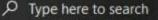




































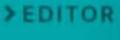












Sketchbook

⊞ Examples

Libraries

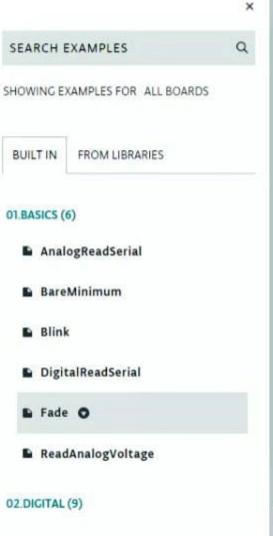
Q. Monitor

Reference

(?) Help

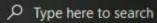
! Preferences

() Features usage



```
Fade
                                                                                      UPGRADE PLAN
                 -- Select Board or Port --
                                                                            ...
                                                                                                               ctrl S
                                                                            Save
      Fade ino
                             Fade.txt
                                                     layout png
                                                                            Save As
                                                                                                          shift ctrl S
14
                                                                            Rename Sketch...
15
    int led = 9;
                            // the PWM pin the LED is attached to
                                                                            Download Sketch
    int brightness = 0;
                            // how bright the LED is
    int fadeAmount - 5;
                            // how many points to fade the LED by
                                                                            Export CMake file
19
   // the setup routine runs once when you press reset:
                                                                            Share Sketch...
21 * void setup() {
      // declare pin 9 to be an output:
                                                                            Display Sketch Info...
                                                                                                               ctrl I
      pinMode(led, OUTPUT);
23
24
                                                                            Delete Sketch...
25
    // the loop routine runs over and over again forever:
    void loop() {
      // set the brightness of pin 9:
      analogWrite(led, brightness);
29
30
31
      // change the brightness for next time through the loop:
32
      brightness = brightness + fadeAmount;
33
34
      // reverse the direction of the fading at the ends of the fade:
```





03.ANALOG (6)

OA COMMUNICATION (13)

























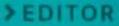












Sketchbook

i≡ Examples

Libraries

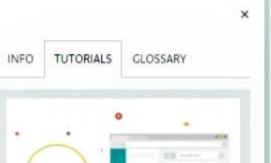
Q. Monitor

Reference

(?) Help

! Preferences

() Features usage



GETTING STARTED WITH THE ARDUINO WEB EDITOR

















layout png

// set the brightness of pin 9: analogWrite(led, brightness);

// change the brightness for next time through the loop: brightness = brightness + fadeAmount;

UPGRADE PLAN

...

schematic.png













KA

KN

>=





Fade.ino

14

29

30 31

32

33 34



-- Select Board or Port --

15 int led = 9; // the PWM pin the LED is attached to int brightness = 0; // how bright the LED is int fadeAmount - 5; // how many points to fade the LED by 19 // the setup routine runs once when you press reset: 21 * void setup() { // declare pin 9 to be an output: pinMode(led, OUTPUT); 23 24 25 // the loop routine runs over and over again forever: void loop() {

Fade.txt

// reverse the direction of the fading at the ends of the fade:



