USER MANUAL FOR FACIAL MOVEMENT BASED ROBOTIC ARM CONTROL USING ARDUINO AND PYTHON

INSTALLATION

STEP 1: Open the required software folder

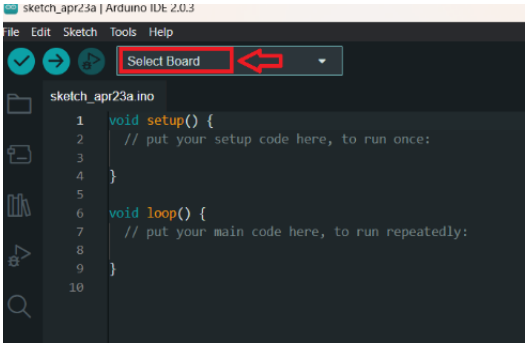
STEP 2: Click and install Python.exe (choose 32 bit or 64 bit based on pc support)

STEP 3: After installing python now click the file named “Setup” to install other necessary files

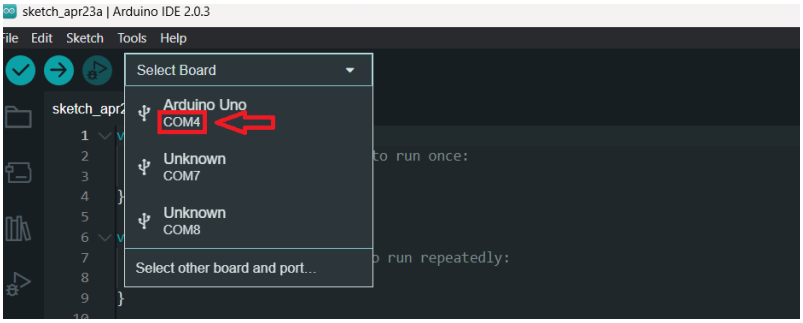
STEP 4: now install the “Arduino IDE” file

RUNNING THE PROGRAM

STEP 1: Open the Arduino IDE and click the select board option



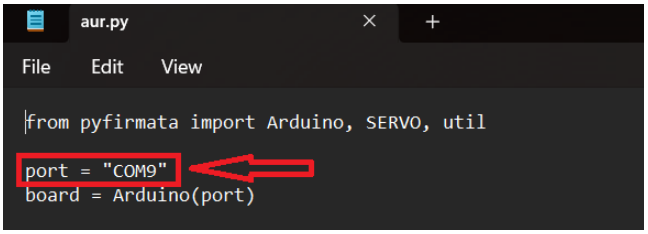
STEP 2: If “Arduino UNO” option is present in the options then note the port number (It is number that has the “COM” before it)



NOTE: If missing “Arduino UNO” option is missing then unplug the arduino and see which option disappears and re appears when it is plugged in again and note the port number of that option.

STEP 3: Right click the “aur” file and open it with notepad and once it is open the change the “port” value to the port number that was found in the Step 2.

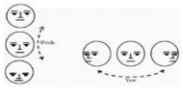
USER MANUAL FOR FACIAL MOVEMENT BASED ROBOTIC ARM CONTROL USING ARDUINO AND PYTHON



STEP 4: Now click the “Main Program” (you can also right click it and choose open with and select the Python option”)

NOTE: If the program does not open check if the arduino is connected properly and detected in the “Arduino IDE” and also re-verify if the port number in the “aur” file is correct. The web camera should also be connected and enabled.

STEP 5: After the program opens, please refer the following table to control the robotic arm

Action	Function
 Opening Mouth	Start/Stop program
 Right Eye Wink	Selection of elbow
 Left Eye Wink	Selection of Wrist
 Squinting Eyes	Selection of Shoulder / base
 Head Movements (Pitch and Yaw)	Movement of selected part of robotic arm

STEP 6: To close the program press the “ESC” key on the keyboard.

DOWNLOAD LINK

(GITHUB)

(GDRIVE)