Manual of setting up the software environment

To start, you should have the following software ready:
- *Visual Studio Code (https://code.visualstudio.com/download)*
- *Python 3.10 or above (https://www.python.org/downloads/)*
- *Arduino IDE (https://www.arduino.cc/en/software)*

Please use the link to install the software if you don't have them ready.

You can check your existing Python version by simply running Python in the terminal:
- Mac user: Click the Launchpad icon ▦ in the Dock, type Terminal in the search field, then click Terminal.
- Windows use: Press Win+R to open "Run" box, type in 'cmd', press Enter

Type `Python` and press 'Enter'. You should see something similar as below and you can see the Python version.:

Make sure you check the following two options when you are installing Python so that the latest Python version will be the default version.
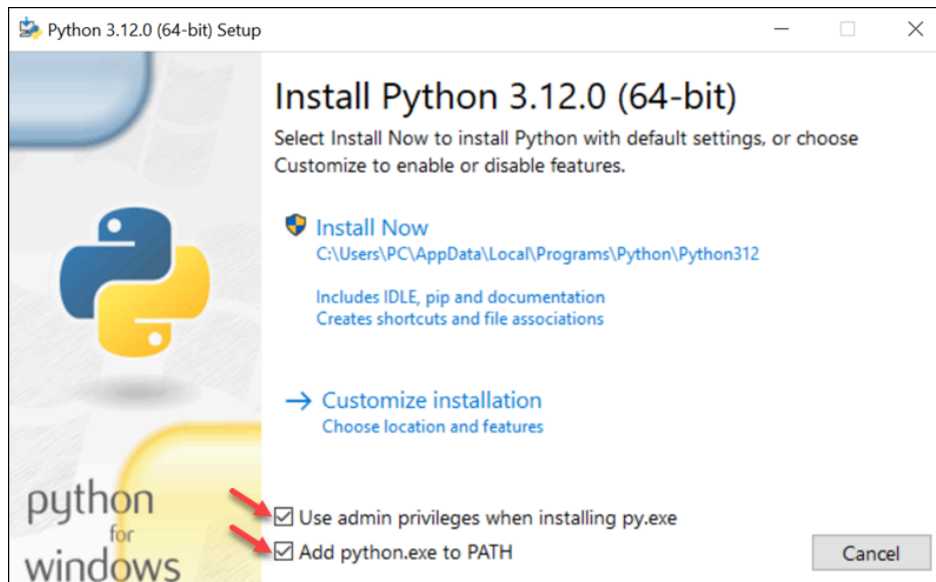
In your VS Code (Visual Studio Code), please make sure you have the following extensions installed:
- *Python*
- *Pylance*
- *Python Debugger*
- *Serial Monitor*

Please follow the link (https://code.visualstudio.com/docs/editor/extension-marketplace) to install extensions if they aren't ready.

Optional but <u>recommended </u>if you are not familiar with using Git:
- *Github*
  (https://docs.github.com/en/enterprise-cloud@latest/desktop/installing-and-authenticating-to-github-desktop/installing-github-desktop)

Note that if you are working on a Windows device, please have either Github desktop or Git Bash ready. It's recommended to install GitHub desktop if you have little to no experience of working with Git. UTCV uses GitHub for code collaboration and version control.

Now, let's do some preparation for running the code!
Please follow the link below to clone the Reactions repo onto your computer
https://docs.github.com/en/repositories/creating-and-managing-repositories/cloning-a-repository?tool=desktop

* In GitHub, a "clone" refers to creating a copy of a repository onto your local machine. This copy contains all the files, commit history, and branches from the original repository. Cloning a repository allows you to work on the code locally, make changes, and then push those changes back to the remote repository on GitHub.

Once you have a local copy of the code, you can now start working on the code. However, if you open the code file using VS code, you might see part of the code is highlighted with yellow underline, as shown below:

This indicates that (some of) the libraries used in this code are not installed on your machine.

If you are NOT using Anaconda to manage your environment:
To install the libraries, open your terminal

- Mac user: Click the Launchpad icon in the Dock, type Terminal in the search field, then click Terminal.
- Windows use: Press Win+R to open "Run" box, type in 'cmd', press Enter

Then run the following code:
```
Python -m pip install pyserial pandas matplotlib numpy pandas
customtkinter    CTkMessagebox    Pillow    CTkTable    pyqtgraph    PyQt5
CTkTableRowSelector

* This is a one-line code!
```

If you are using Anaconda to manage your environment:
Open Anaconda, Create a new environment or open an existing environment. THen open the Python terminal in Conda, run the following code:
```
conda install pyserial pandas matplotlib numpy pandas customtkinter
CTkMessagebox Pillow CTkTable pyqtgraph PyQt5 CTkTableRowSelector

* This is a one-line code!
```

Now you should be able to run the code. The main code file is GUI_new.py