

How to Run Simulation GUI

Contributors: Yusi Wei, Wenke E, Honghao Pan, Junyan Hu, Farshad Arvin

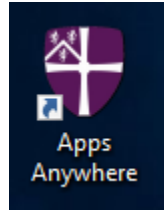
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A.Campus PC

a) By preparing virtual environment for Python

- Open 'AppsAnywhere' application on your desktop.



- Type 'Anaconda' in the search box. Find 'Anaconda 2021.5 – Python 3.8.10' and click 'Launch'.








Important information regarding AppsAnywhere.

When launching remote applications from AppsAnywhere you will need to authorise using MFA on your smartphone or security token.


Good afternoon


What would you like to launch?


5 apps


 Anaconda 2021.5 - Python 3.8.10 Anaconda	Launch	▼
 Anaconda 2022.5 - Python 3.9.12 Anaconda	Launch	▼
 Anaconda 2023.7 - Python 3.11.3 Anaconda	Launch	▼
 Anaconda3 2020.07 - Python 3.8.3 Python	Launch	▼
 Geography Anaconda Python	Launch	

Ctrl+↩

 . AppsAnywhere Info
CIS


 . Outlook
Microsoft

 . OneNote
Microsoft

 . Quick Assist
Microsoft

b) By launching Visual Studio Code from 'AppsAnywhere'

- Type 'Visual Studio Code' in the search box. Find 'Visual Studio Code' and click 'Launch'.




Important information regarding AppsAnywhere.

When launching remote applications from AppsAnywhere you will need to authorise using MFA on your smartphone or security token.


Good morning


What would you like to launch?


One app


 Visual Studio Code Microsoft	Launch	▼
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Ctrl+↩

 . AppsAnywhere Info
CIS

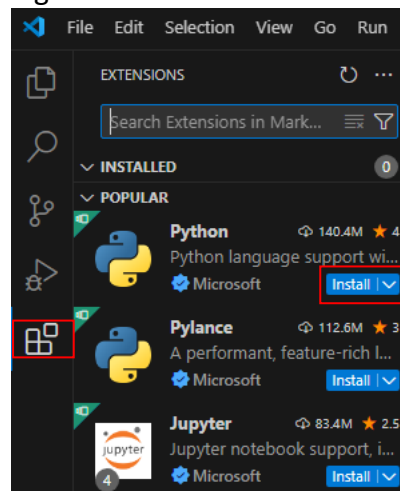
 . Outlook
Microsoft

 . PowerPoint
Microsoft

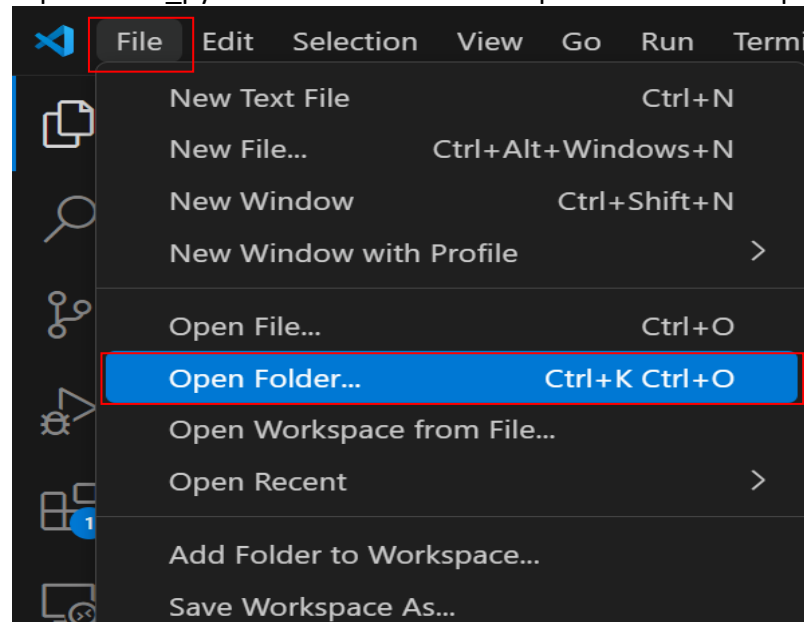
 . Publisher
Microsoft

View all apps

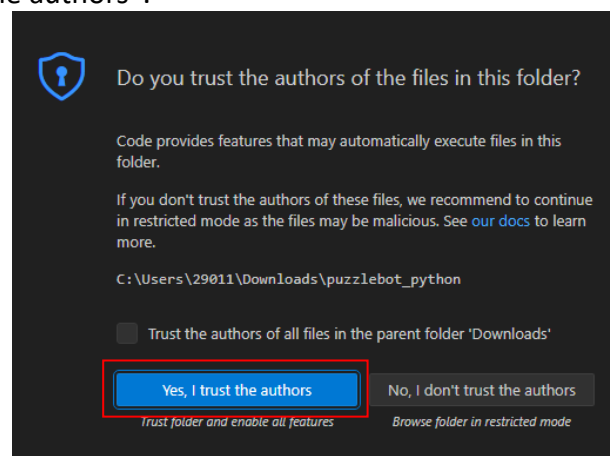
- Click the “Extensions” icon in the left side of the window(Or “Ctrl + Shift + X” on the keyboard). Type “Python” in the searching box and click “Install” to install extension for Python.



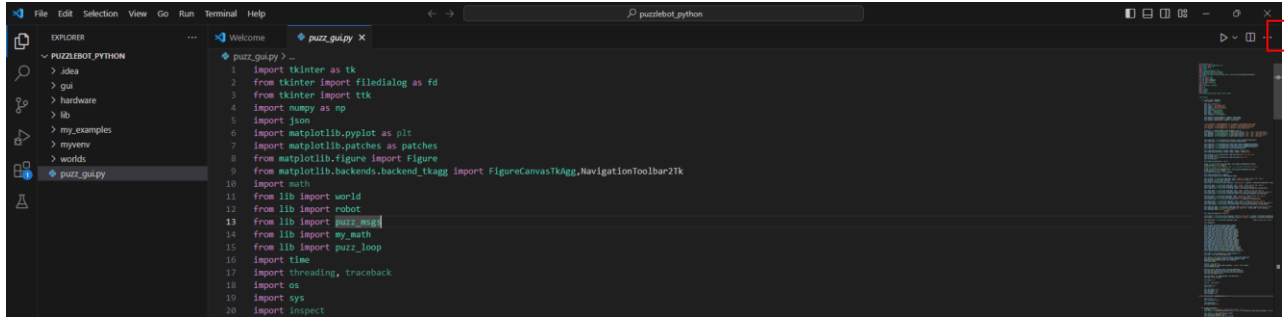
- Download and Unzip “puzzlebot_python.zip” from your Ultra. Click “File” and “Open Folder...” to find folder “puzzlebot_python” and click “OK” to open it in the workspace.



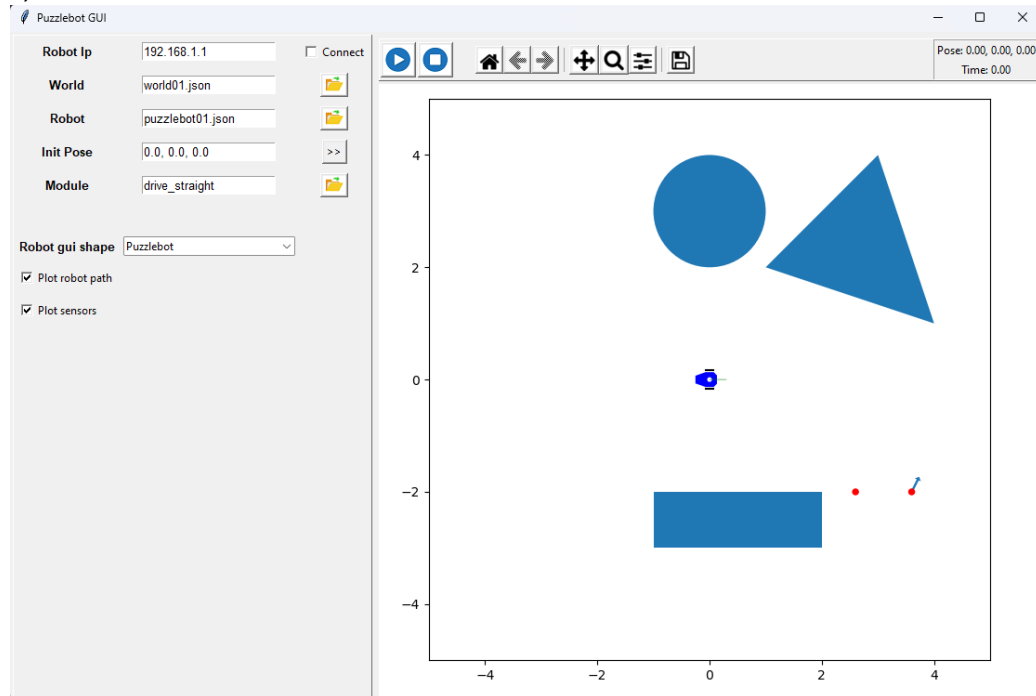
- Click “Yes, I trust the authors”.



- Run “puzz_gui.py”



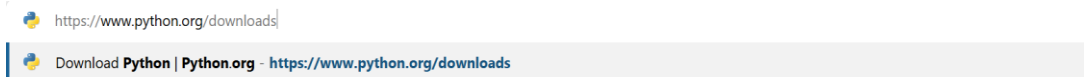
- Now, the GUI will show



B. Personal laptop (Windows)

a) Download and install Python

- Download Python from <https://www.python.org/downloads>.



- Scroll down and find Python3.12.7, click “Download”.

Looking for a specific release?

Python releases by version number:

Release version	Release date	Click for more	
Python 3.13.0	Oct. 7, 2024	Download	Release Notes
Python 3.12.7	Oct. 1, 2024	Download	Release Notes
Python 3.11.10	Sept. 7, 2024	Download	Release Notes
Python 3.10.15	Sept. 7, 2024	Download	Release Notes
Python 3.12.6	Sept. 6, 2024	Download	Release Notes
Python 3.9.20	Sept. 6, 2024	Download	Release Notes
Python 3.8.20	Sept. 6, 2024	Download	Release Notes

[View older releases](#)

- In the new page, select and click “Windows Installer(64-bit)”. (If you are working on MacOS or Linux, then select the corresponding version).

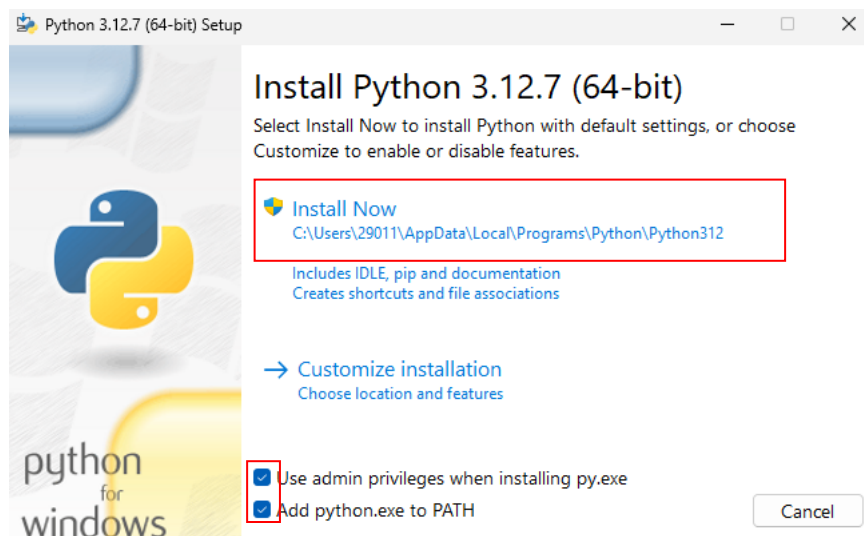
Files

Version	Operating System	Description	MD5 Sum	File Size	GPG	Sigstore	SBOM
Gzipped source tarball	Source release		5d0c0e4c6a022a87165a9addcd869109	25.8 MB	SIG	.sigstore	SPDX
XZ compressed source tarball	Source release		c6c933c1a0db52597cb45a7910490f93	19.5 MB	SIG	.sigstore	SPDX
macOS 64-bit universal2 installer	macOS	for macOS 10.13 and later	82711848a795f6d7b25e81844d5a9a3f	43.3 MB	SIG	.sigstore	
Windows installer (64-bit)	Windows	Recommended	b51e0889be50c55fbd809f4ad587120	25.3 MB	SIG	.sigstore	SPDX
Windows installer (32-bit)	Windows		5d5452249401822cb3ad1bce7105d5fd	24.1 MB	SIG	.sigstore	SPDX
Windows installer (ARM64)	Windows	Experimental	19bdd2de8a7ccb6f1115f85bc54c1764	24.6 MB	SIG	.sigstore	SPDX
Windows embeddable package (64-bit)	Windows		4c0a5a44d4ca1d0bc76fe08ea8b76adc	10.6 MB	SIG	.sigstore	SPDX
Windows embeddable package (32-bit)	Windows		21a051ecac4a9a25fab169793ecb6e56	9.4 MB	SIG	.sigstore	SPDX
Windows embeddable package (ARM64)	Windows		6fc899d8dbd46dd2b585a038f7cf68a4	9.8 MB	SIG	.sigstore	SPDX

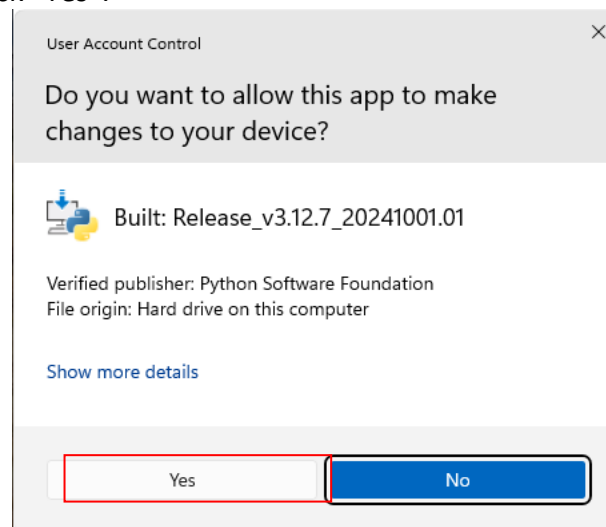
- Double Click “python-3.12.7-amd64.exe” to install the interpreter.



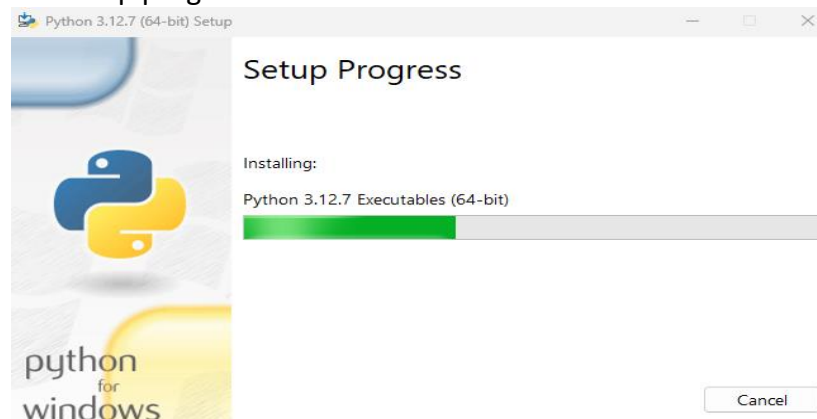
- Then in the following window, tick “use admin privileges when installing py.exe” and “Add python.exe to PATH”, then click “Install Now”.



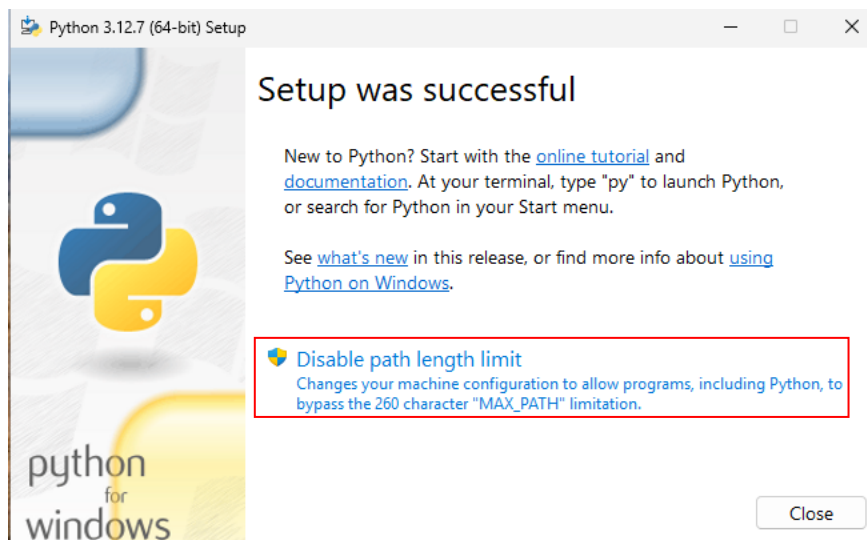
- In next window, click “Yes”.



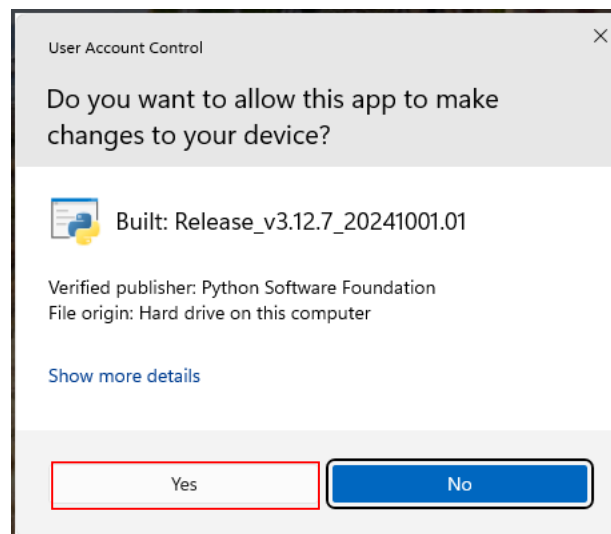
- Waiting for the setup progress to finish.



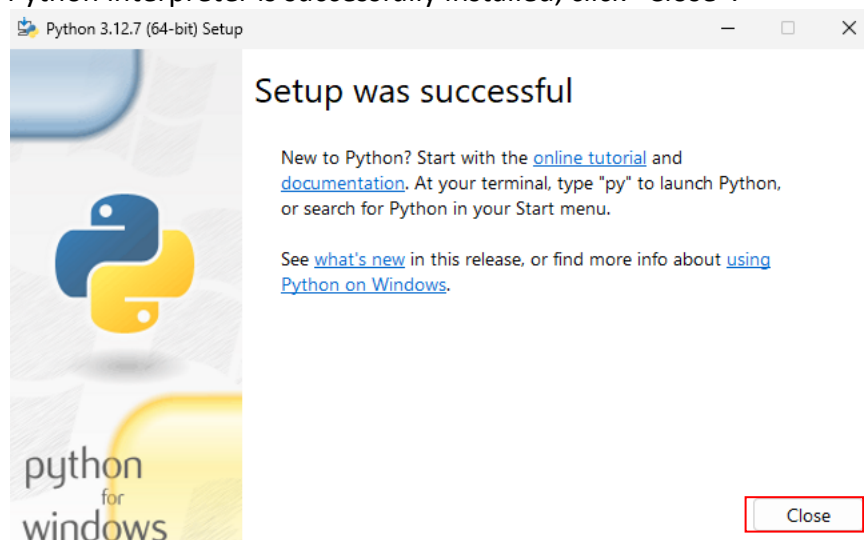
- Next, click “Disable path length limit”.



- Next, click “Yes”.



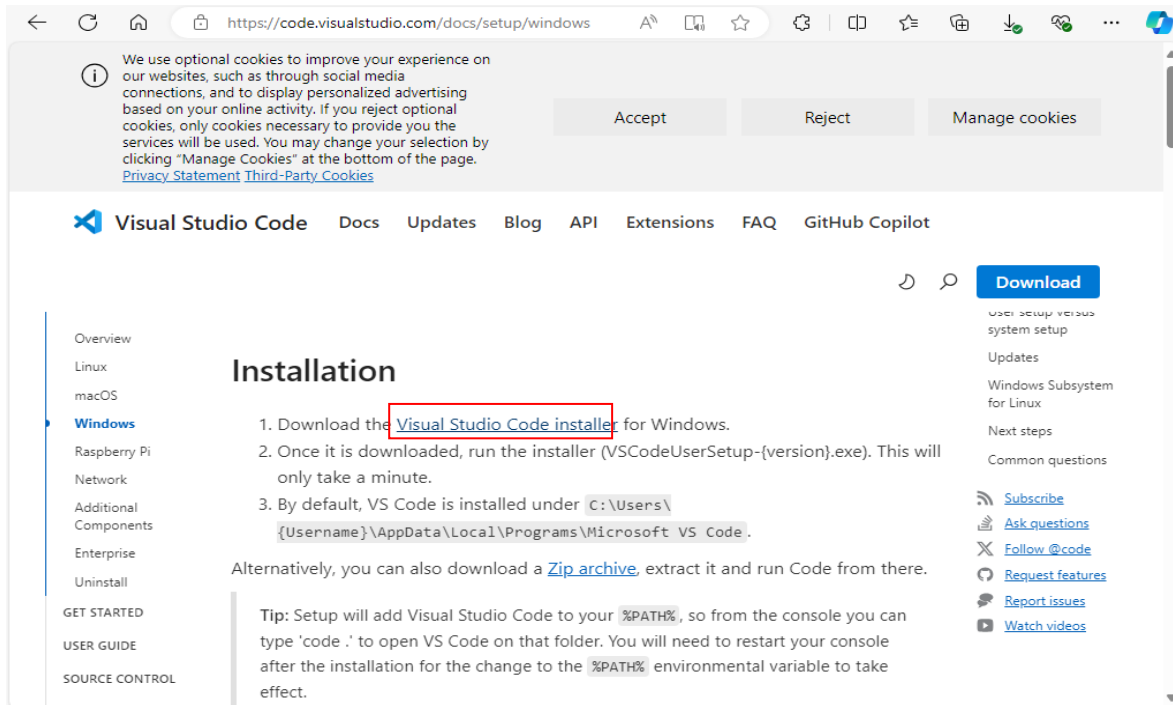
- Next, the Python interpreter is successfully installed, click “Close”.



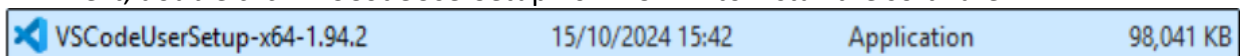
b) Download and install Visual Studio Code

- Now, find Visual Studio Code from <https://code.visualstudio.com/docs/setup/windows>, then

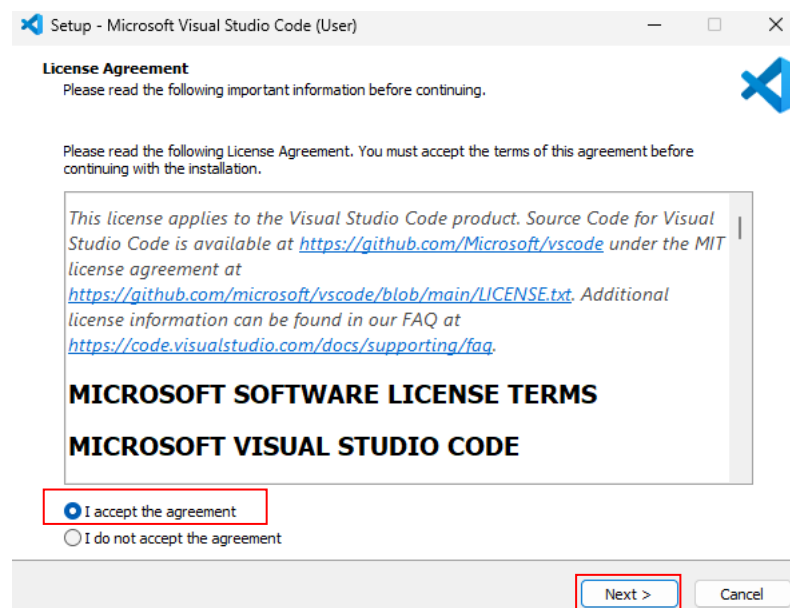
click “Visual Studio Code installer” to download it.



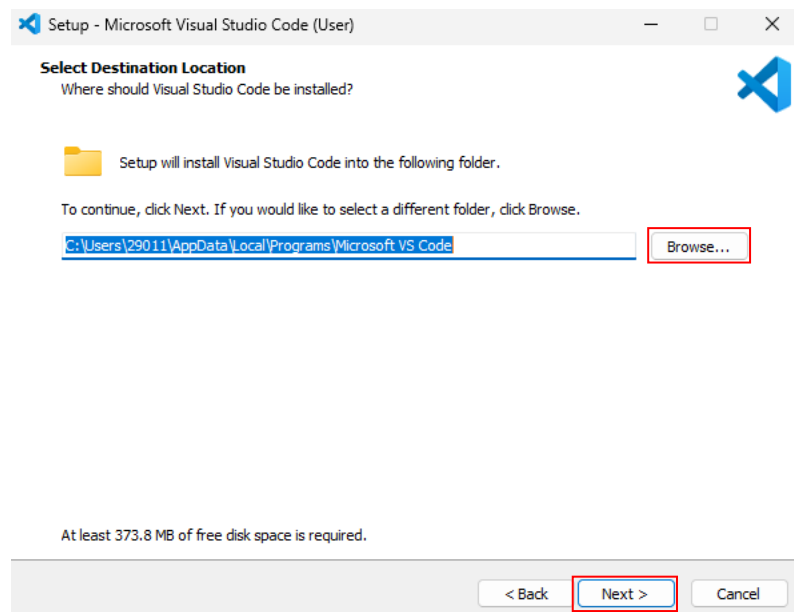
- Next, double click “VSCodeUserSetup-x64-1.94.2” to install the software.



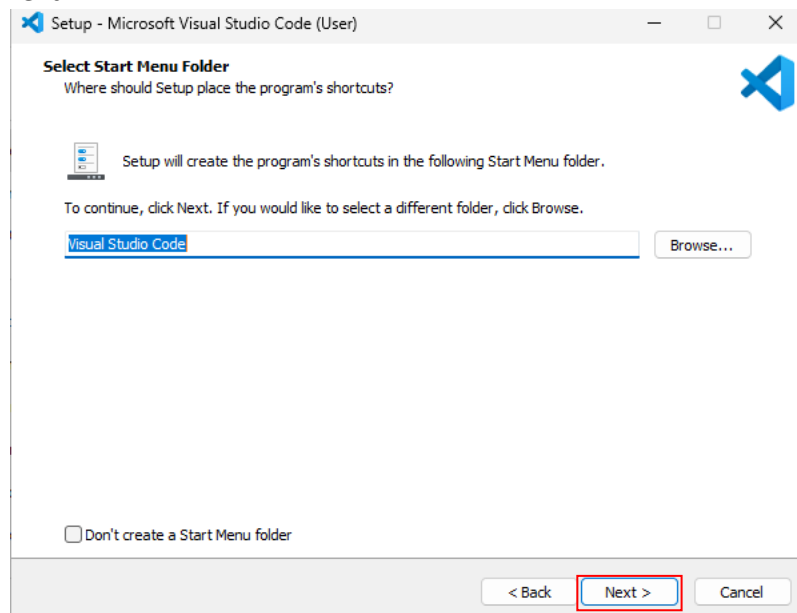
- In the following window, tick “I accept the agreement”, and click “Next”.



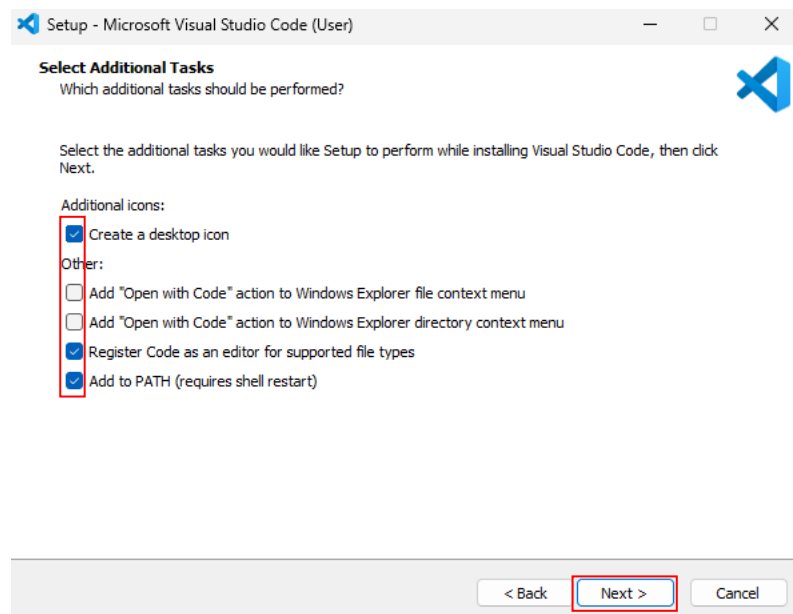
- Next, click “Browse...” to select the path to install VS code, and then click “Next”.



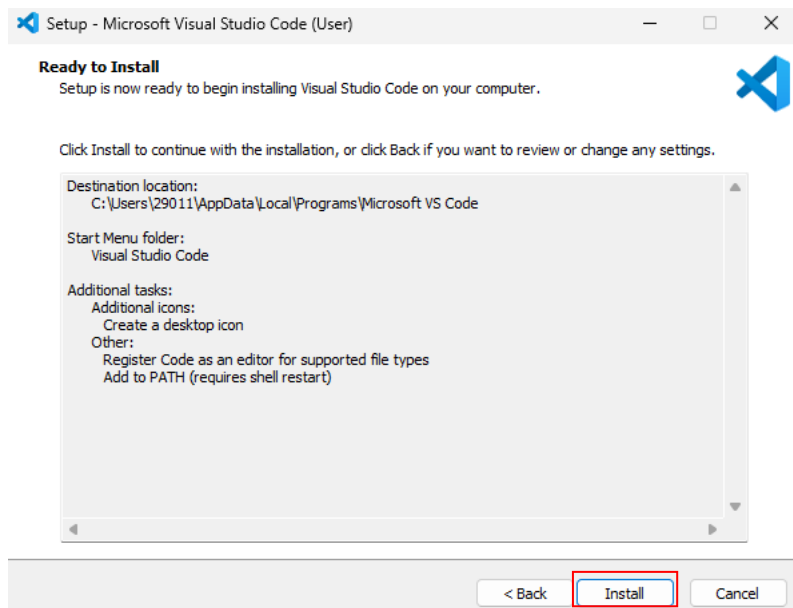
- Next, click “Next”.



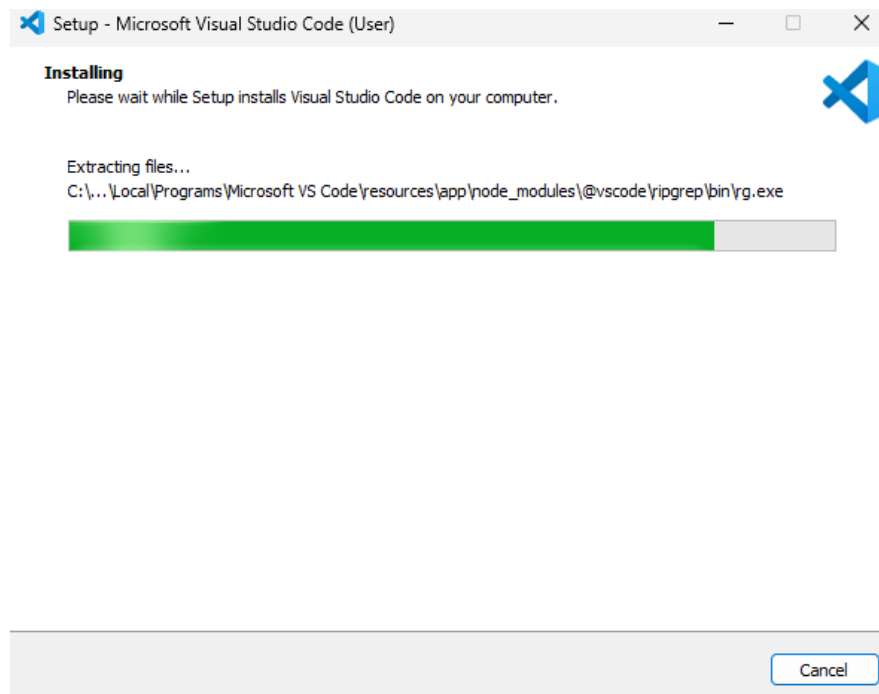
- Next, tick “Create a desktop icon”, “Register Code as an editor for supported file types” and “Add to PATH (requires shell restart)”. Click “Next”.



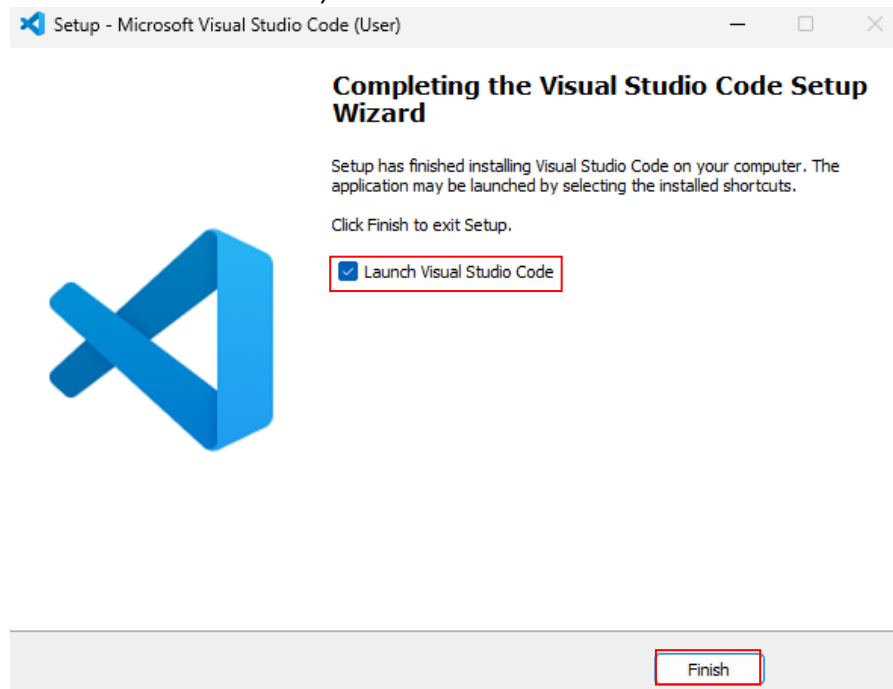
- Click "Install"



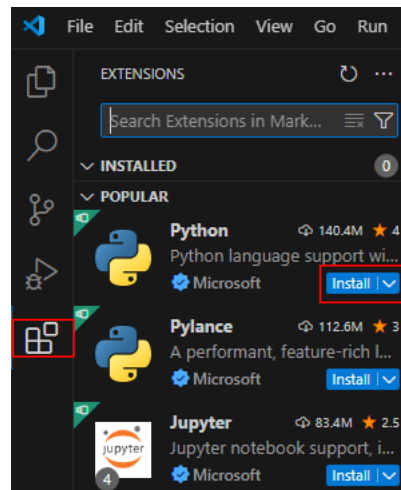
- Waiting for the installing progress to finish.



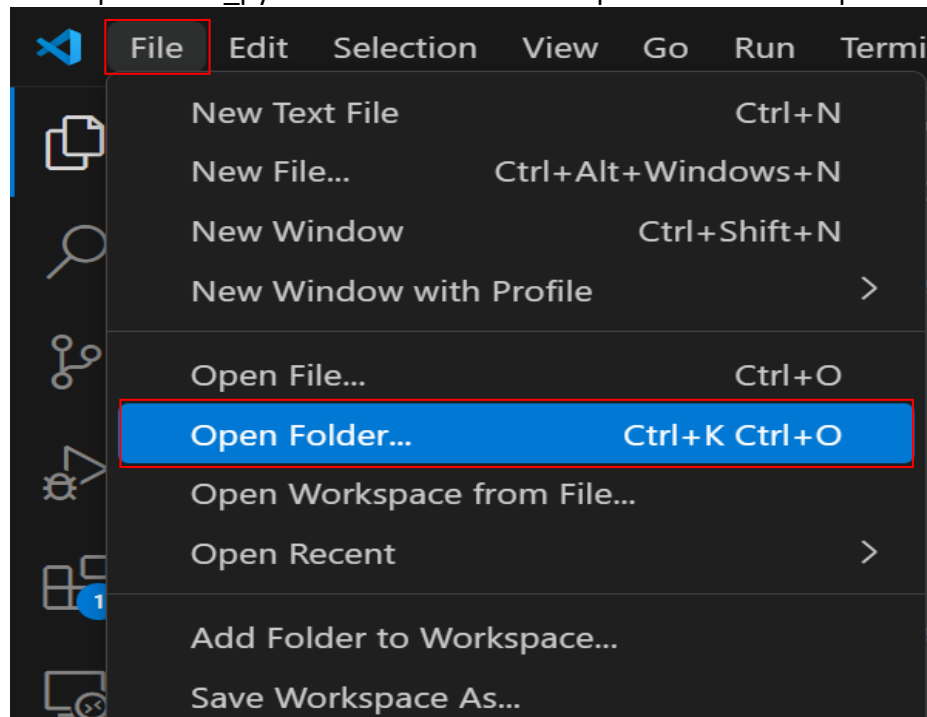
- Tick “Launch Visual Studio Code”, and Click “Finish”.



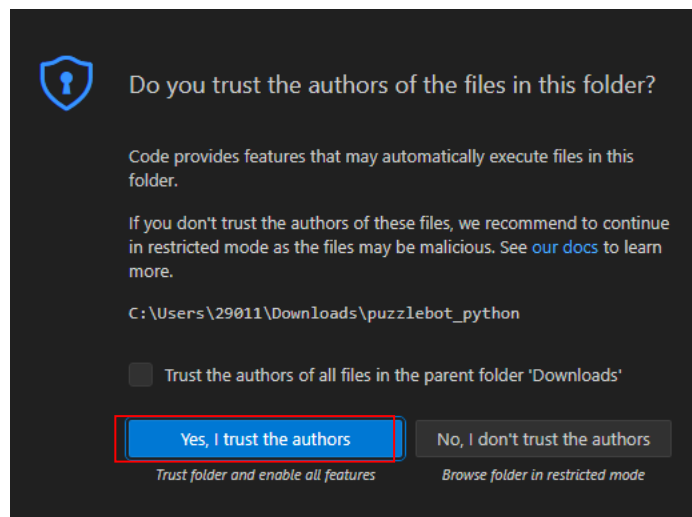
- Open Visual Studio Code and click the “Extensions” icon in the left side of the window(Or “Ctrl + Shift + X” on the keyboard). Type “Python” in the searching box and click “Install” to install extension for Python.



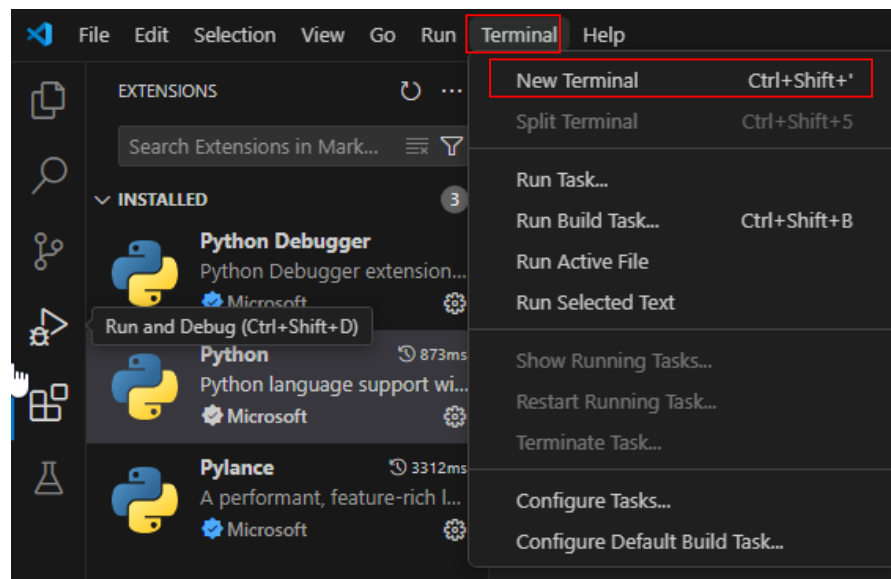
- Download and Unzip “puzzlebot_python.zip” from your Ultra. Click “File” and “Open Folder...” to find folder “puzzlebot_python” and click “OK” to open it in the workspace.



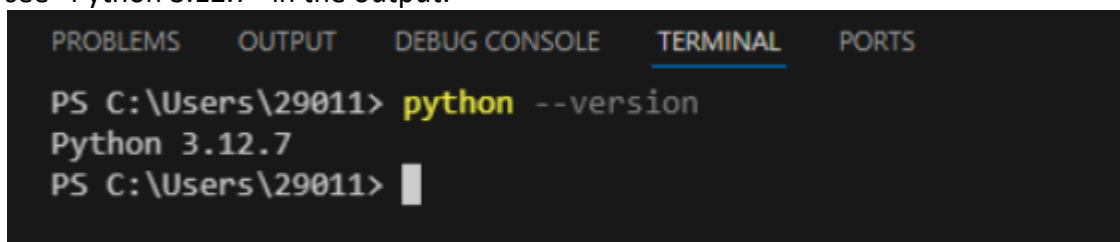
- Click “Yes, I trust the authors”.



- Click “Terminal”, and click “New Terminal”.



- Then you will find the Terminal window in the bottom.
- Type “python --version” in the Terminal, press “Enter”. If python is installed correctly, you will see “Python 3.12.7” in the output.



- Type “python -m venv myvenv” in the Terminal, press “Enter” to create a virtual environment named “myvenv”.

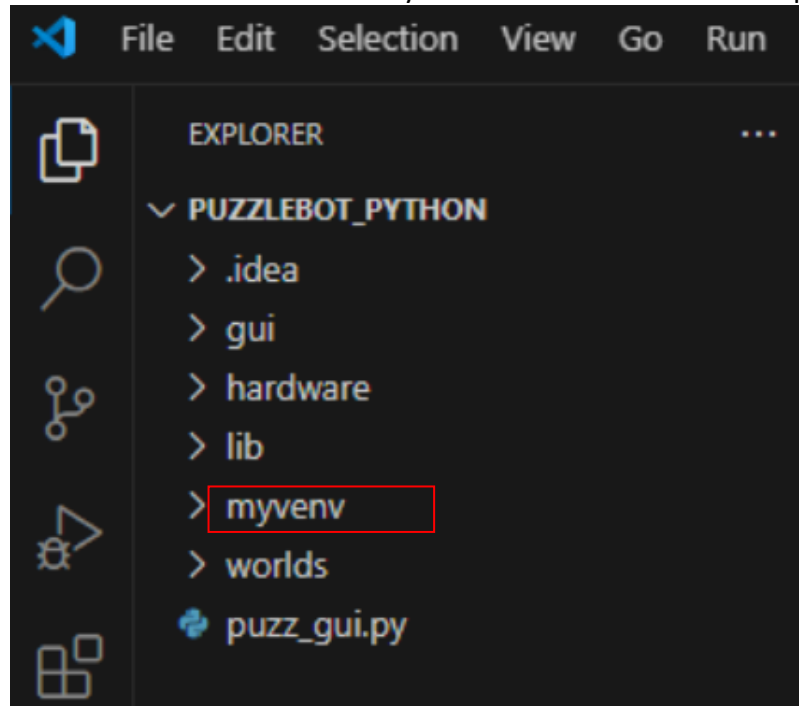
```

PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

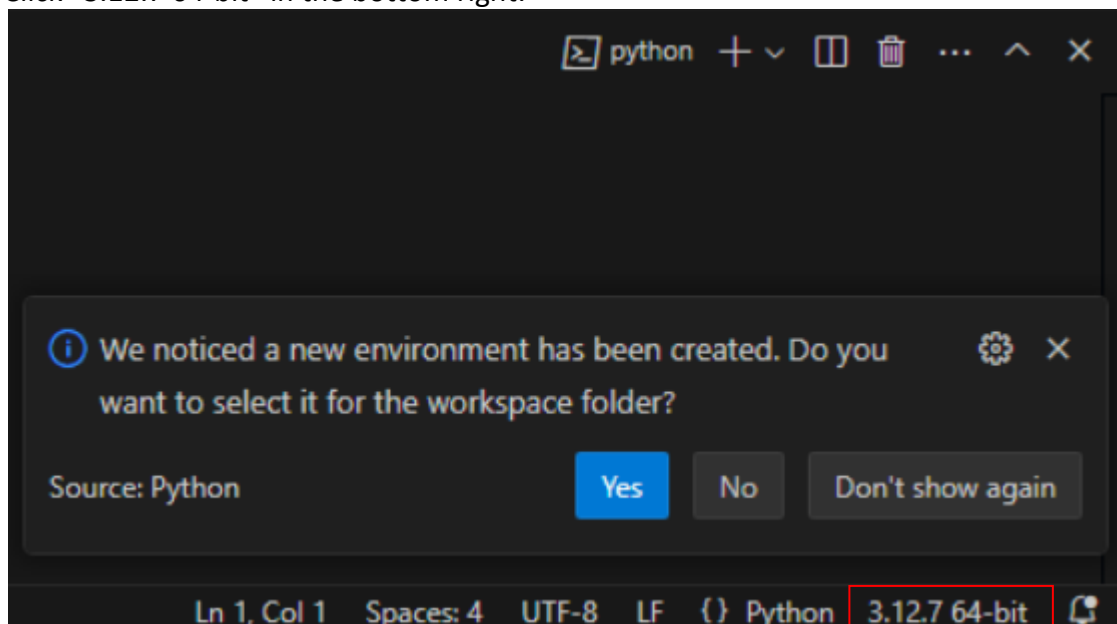
PS C:\Users\29011\Desktop\puzzlebot_python> python -m venv myvenv
PS C:\Users\29011\Desktop\puzzlebot_python>

```

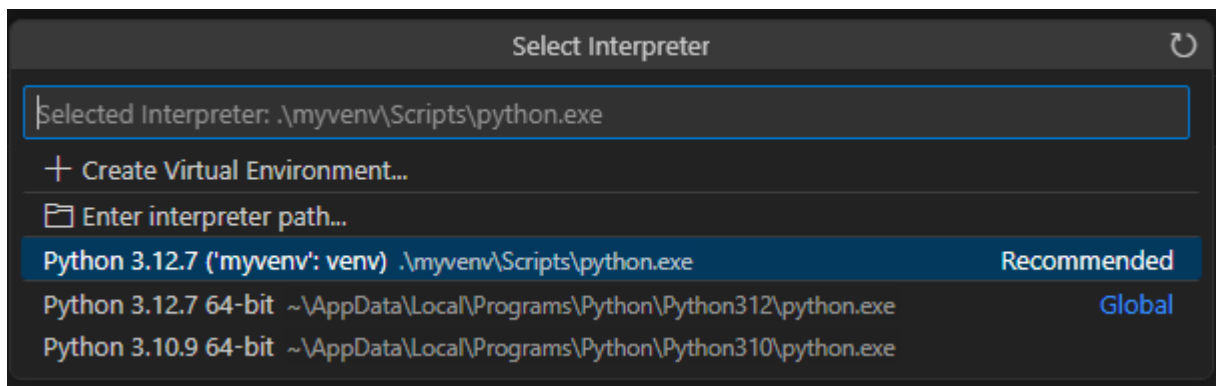
- Then you will find a new folder named “myvenv” is created in the workspace.



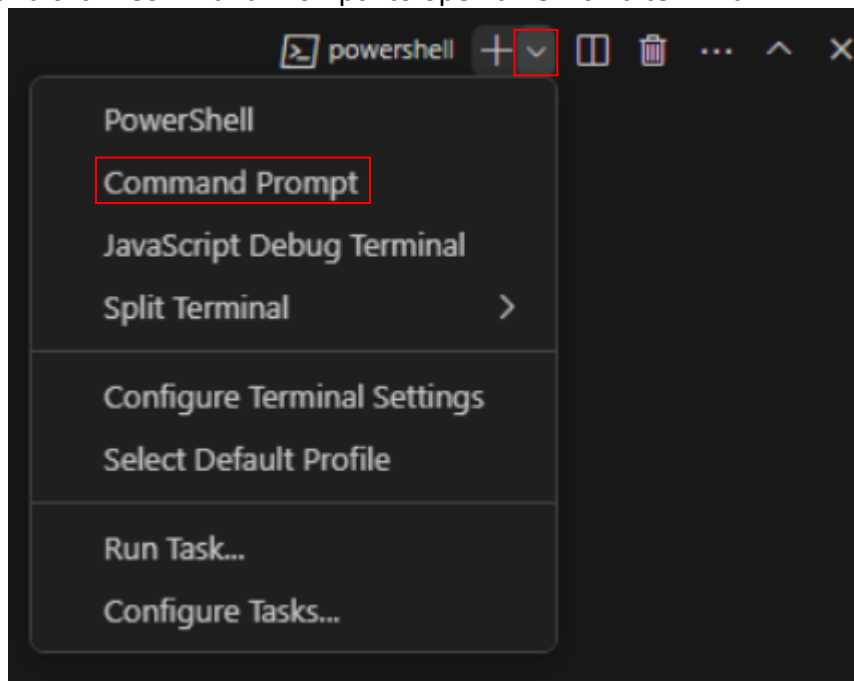
- Click “3.12.7 64-bit” in the bottom right.



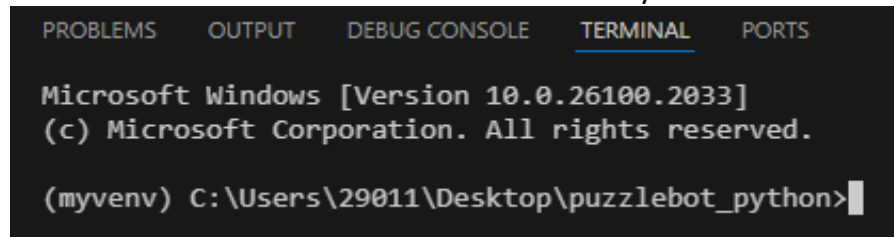
- Select “Python 3.12.7(‘myvenv’:venv) .\myvenv\Scripts\python.exe”.



- Click “v” and click “Command Prompt” to open a new cmd terminal.



- Then you will activate the virtual environment named “myvenv”.



- If you can't activate the virtual environment correctly, type “Get-ExecutionPolicy” in the Terminal, press “Enter”.

```
PS C:\Users\29011\Desktop\puzzlebot_python> Get-ExecutionPolicy
Restricted
```

- If you will see “Restricted” in the output, type “Set-ExecutionPolicy -Scope Process -ExecutionPolicy RemoteSigned” in the Terminal, press “Enter”.

```
PS C:\Users\29011\Desktop\puzzlebot_python> Set-ExecutionPolicy -Scope Process -ExecutionPolicy RemoteSigned
PS C:\Users\29011\Desktop\puzzlebot_python>
```

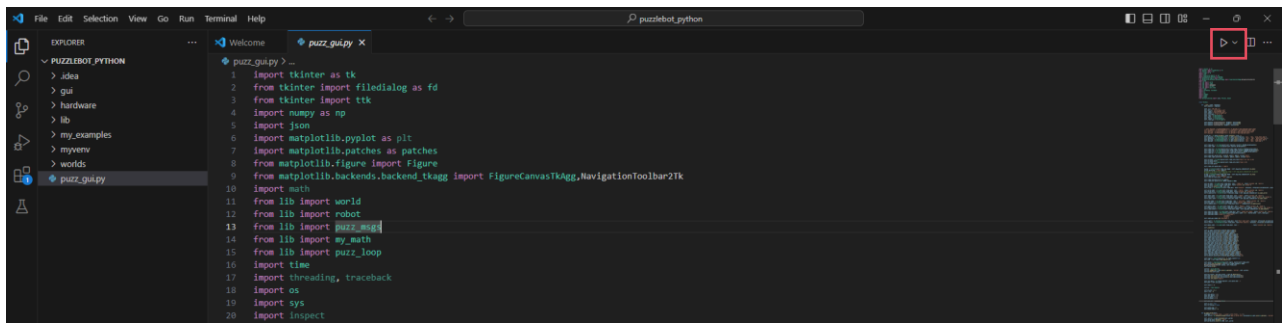
- Type “pip install numpy matplotlib” in the Terminal, press “Enter” to install “numpy” and “matplotlib” in the virtual environment.

```
Collecting numpy
  Downloading numpy-1.24.4-cp38-cp38-win_amd64.whl (14.9 MB)
    | 14.9 MB 3.3 MB/s
Collecting matplotlib
  Downloading matplotlib-3.7.5-cp38-cp38-win_amd64.whl (7.5 MB)
    | 7.5 MB ...
Collecting contourpy>=1.0.1
  Downloading contourpy-1.1.1-cp38-cp38-win_amd64.whl (477 kB)
    | 477 kB ...
Collecting packaging>=20.0
  Downloading packaging-24.1-py3-none-any.whl (53 kB)
    | 53 kB 1.0 MB/s
Collecting fonttools>=4.22.0
  Downloading fonttools-4.54.1-cp38-cp38-win_amd64.whl (1.5 MB)
    | 1.5 MB ...
Collecting cycler>=0.10
  Downloading cycler-0.12.1-py3-none-any.whl (8.3 kB)
Collecting pyparsing>=2.3.1
  Downloading pyparsing-3.1.4-py3-none-any.whl (104 kB)
    | 104 kB ...
Collecting importlib-resources>=3.2.0
  Downloading importlib_resources-6.4.5-py3-none-any.whl (36 kB)
Collecting pillow>=6.2.0
  Downloading pillow-10.4.0-cp38-cp38-win_amd64.whl (2.6 MB)
    | 2.6 MB ...
Collecting kiwisolver>=1.0.1
  Downloading kiwisolver-1.4.7-cp38-cp38-win_amd64.whl (55 kB)
    | 55 kB ...
Collecting python-dateutil>=2.7
  Downloading python_dateutil-2.9.0.post0-py2.py3-none-any.whl (229 kB)
    | 229 kB ...
Collecting zipp>=3.1.0
  Downloading zipp-3.20.2-py3-none-any.whl (9.2 kB)
Collecting six>=1.5
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: zipp, six, numpy, python-dateutil, pyparsing, pillow, packaging, kiwisolver, importlib-resources, fonttools, cycler, contourpy, matplotlib
```

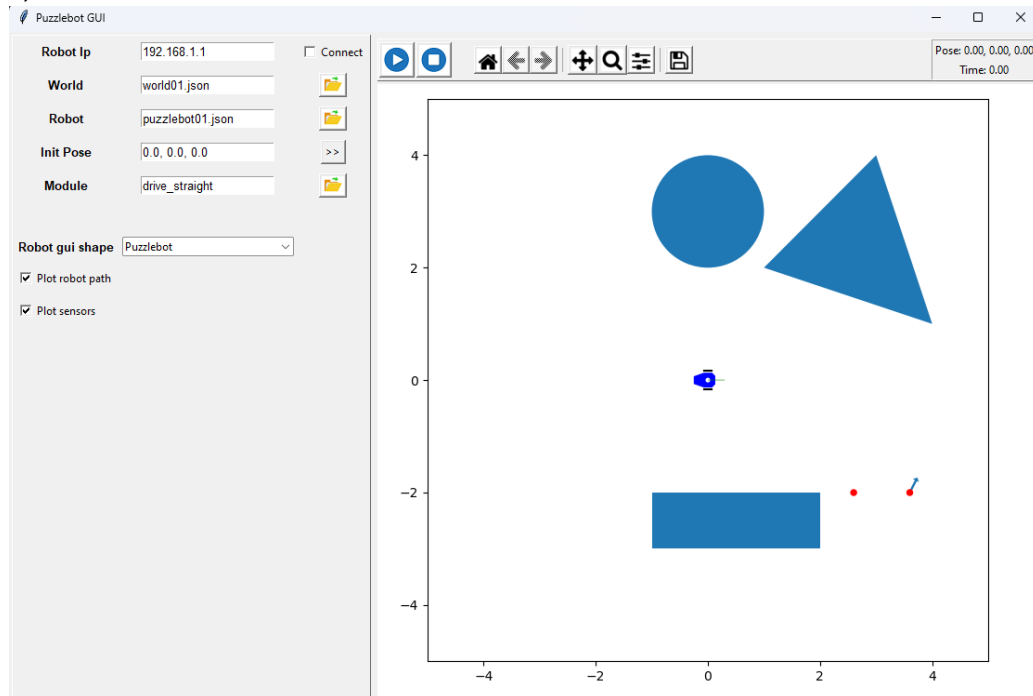
- Type “pip list” in the Terminal, press “Enter”, If both “numpy” and “matplotlib” are installed correctly, you will see all packages in the output.

```
(myvenv) C:\Users\29011\Desktop\puzzlebot_python>pip list
Package            Version
-----
contourpy          1.3.0
cycler              0.12.1
fonttools           4.54.1
kiwisolver          1.4.7
matplotlib          3.9.2
msvc_runtime        14.40.33807
numpy               2.1.2
packaging           24.1
pillow              11.0.0
pip                 24.2
pyparsing           3.2.0
python-dateutil     2.9.0.post0
six                 1.16.0
```

- Run “puzz_gui.py”



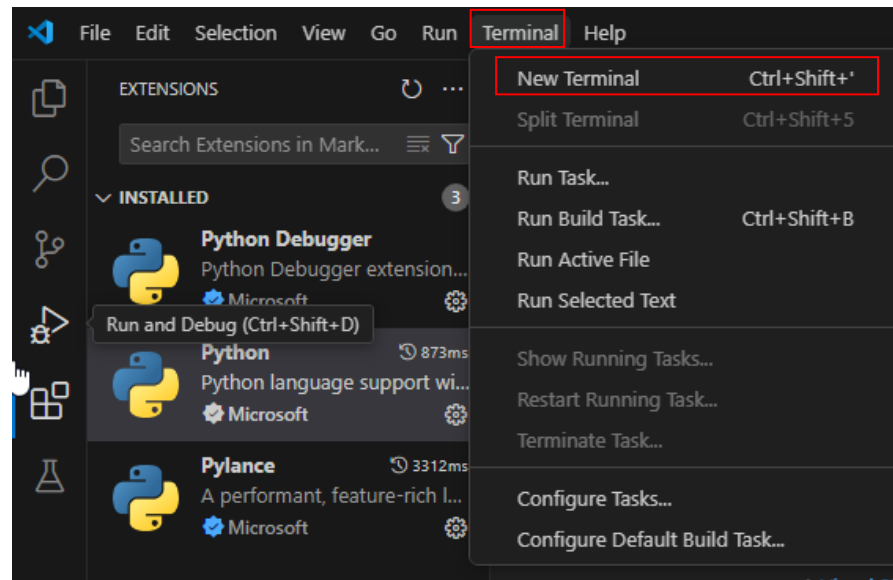
- Now, the GUI will show.



C. Personal laptop (Mac)

a) Instructions

- Download Python from <https://www.python.org/ftp/python/3.12.7/python-3.12.7-macos11.pkg>.
- Follow the instructions as in the [Windows Part for Python](#).
- Download and install Visual Studio Code from: <https://go.microsoft.com/fwlink/?LinkID=534106>
- Follow the instructions as in the [Windows Part for VSCode](#)
- After selecting your python virtual environment as interpreter, you can open a new terminal by pressing “ Ctrl+Shift+` ” or:



- Then you will see the virtual environment is already activated in the terminal.
- After installing the numpy and matplotlib by typing “pip install numpy matplotlib”, run “puzz_gui.py”

