Deck 002
Python – Source Files

Dr. Hazel “twitch.tv/hazeldotzone” Campbell

What is a Code Editor?

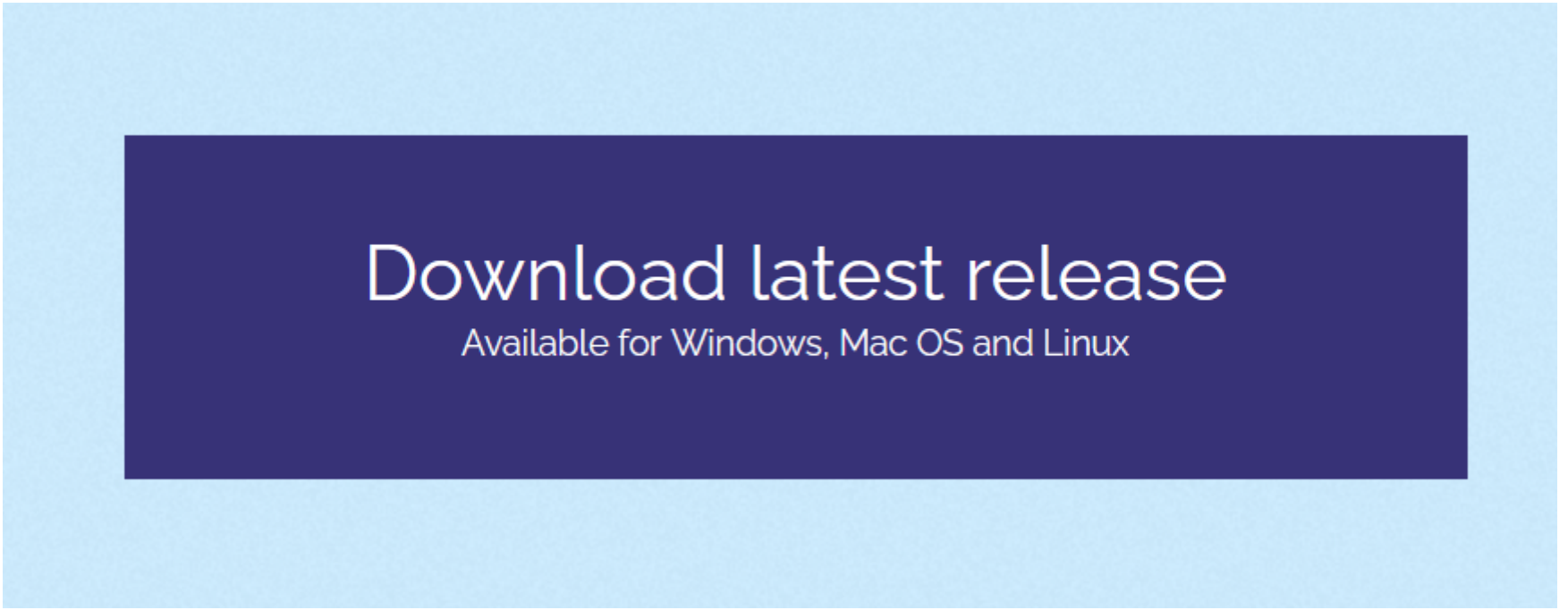
Essentially a word processor for computer program code...

Feel free to continue using your preferred editor if you already have one!

Installing Codium

https://vscodium.com/

VSCodium is an open-source version of VS Code with the AI disabled by default. Any online help relevant to VS Code usually applies to Codium too.



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Installing Codium

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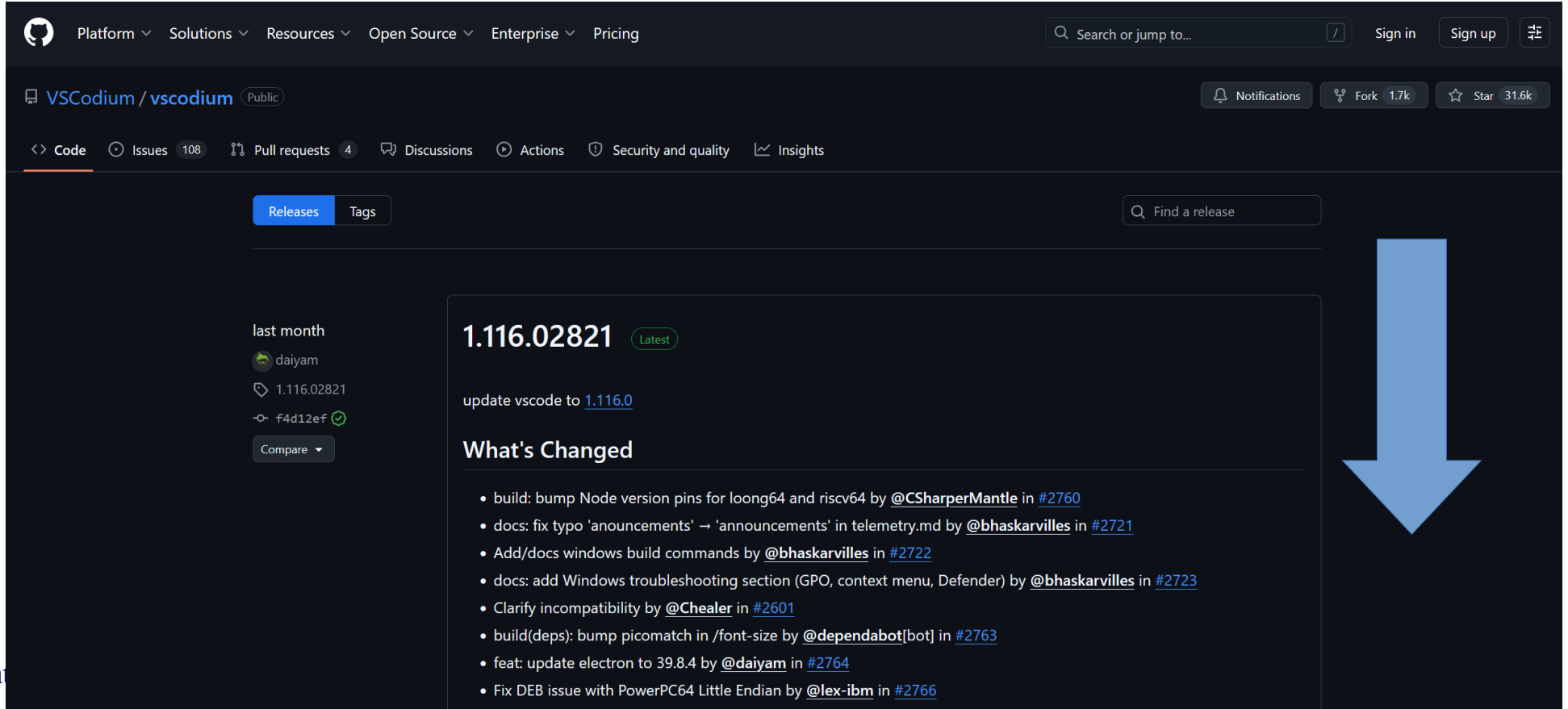

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Windows	User Installer	VSCodiumUserSetup-x64-1.116.02821.exe
	System Installer	VSCodiumSetup-x64-1.116.02821.exe
	.zip	VSCodium-win32-x64-1.116.02821.zip
	.msi - updates enabled	VSCodium-x64-1.116.02821.msi
	.msi - updates disabled	VSCodium-x64-updates-disabled-1.116.02821.msi
	Remote Host	vscodium-reh-win32-x64-1.116.02821.tar.gz
	Web Host	vscodium-reh-web-win32-x64-1.116.02821.tar.gz
	CLI	vscodium-cli-win32-x64-1.116.02821.tar.gz
macOS	.dmg	VSCodium.x64.1.116.02821.dmg
	.zip	VSCodium-darwin-x64-1.116.02821.zip
	Remote Host	vscodium-reh-darwin-x64-1.116.02821..tar.gz
	Web Host	vscodium-reh-web-darwin-x64-1.116.02821.tar.gz
	CLI	vscodium-cli-darwin-x64-1.116.02821.tar.gz
Linux	.deb	codium_1.116.02821_amd64.deb
	.rpm	codium-1.116.02821-el8.x86_64.rpm
	.tar.gz	VSCodium-linux-x64-1.116.02821.tar.gz
	AppImage	VSCodium-1.116.02821.glibc2.30-x86_64.AppImage VSCodium-1.116.02821.glibc2.30-x86_64.AppImage.zsync
	Snap	codium_1.116.02821_amd64.snap
	Remote Host	vscodium-reh-linux-x64-1.116.02821.tar.gz
	Web Host	vscodium-reh-web-linux-x64-1.116.02821.tar.gz

I am choosing this one though many of the other options will also work.

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	Remote Host	vscodium-reh-win32-x64-1.116.02821.tar.gz
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	CLI	vscodium-cli-win32-x64-1.116.02821.tar.gz
macOS	.dmg	VSCodium.x64.1.116.02821.dmg
	.zip	VSCodium-darwin-x64-1.116.02821.zip
	Remote Host	vscodium-reh-darwin-x64-1.116.02821..tar.gz
	Web Host	vscodium-reh-web-darwin-x64-1.116.02821.tar.gz
	CLI	vscodium-cli-darwin-x64-1.116.02821.tar.gz
Linux	.deb	codium_1.116.02821_amd64.deb
	.rpm	codium-1.116.02821-el8.x86_64.rpm
	.tar.gz	VSCodium-linux-x64-1.116.02821.tar.gz
	AppImage	VSCodium-1.116.02821.glibc2.30-x86_64.AppImage VSCodium-1.116.02821.glibc2.30-x86_64.AppImage.zsync
	Snap	codium_1.116.02821_amd64.snap
	Remote Host	vscodium-reh-linux-x64-1.116.02821.tar.gz
	Web Host	vscodium-reh-web-linux-x64-1.116.02821.tar.gz

I am choosing this one though many of the other options will also work.

Don’t worry too much about options you don’t understand. I don’t know what half of these, such as “reh” are either... sometimes it’s best to just skip over some things, rather than try to understand every option in front of you.

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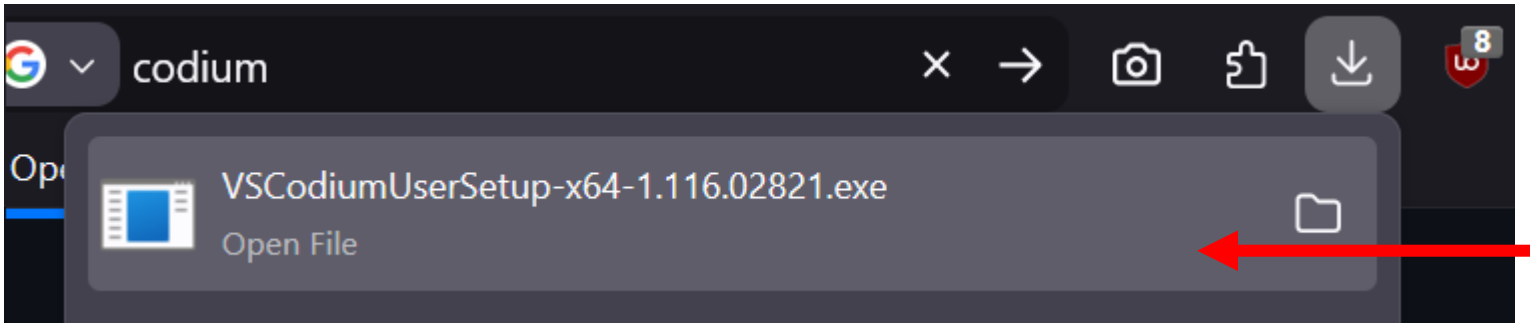
Installing Codium

https://github.com/VSCodium/vscodium/releases



Run the installer...

Feel free to continue using your preferred editor if you already have one!

Installing Codium

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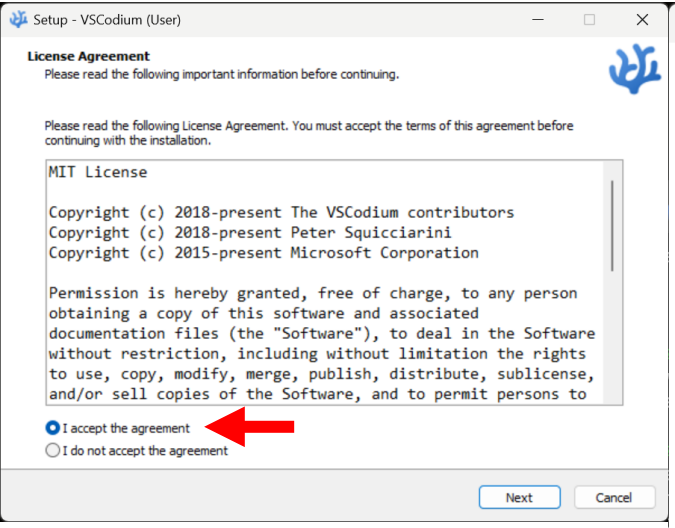

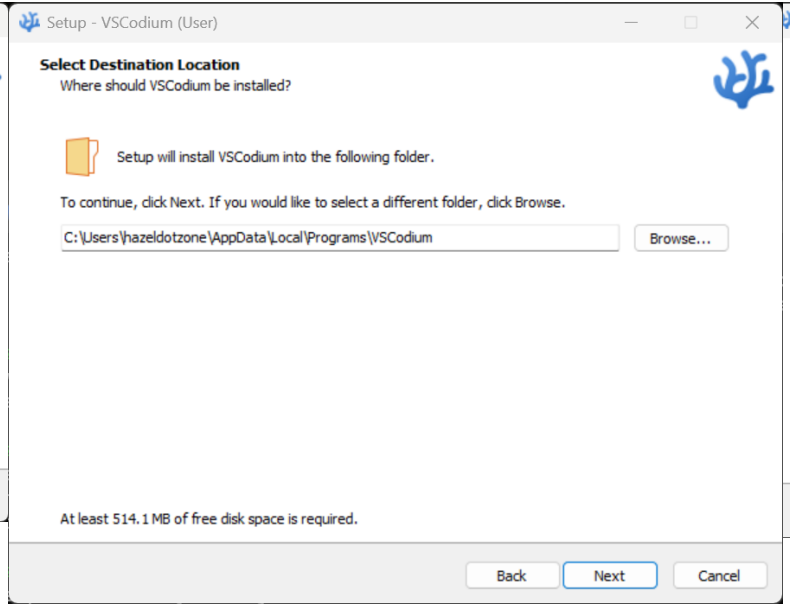

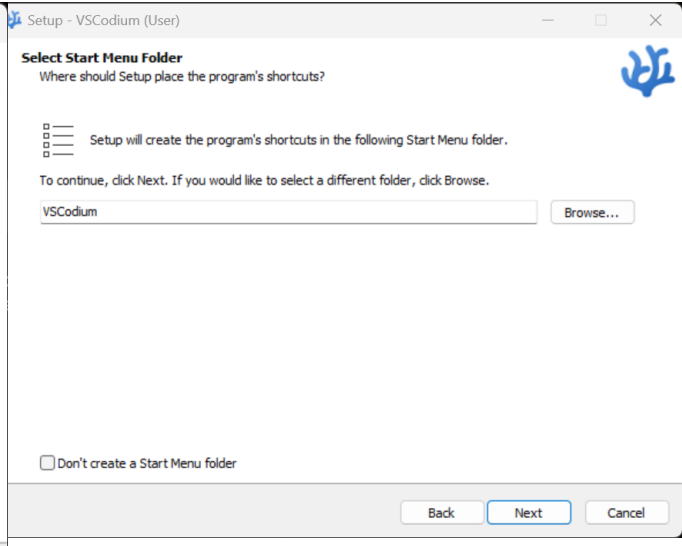

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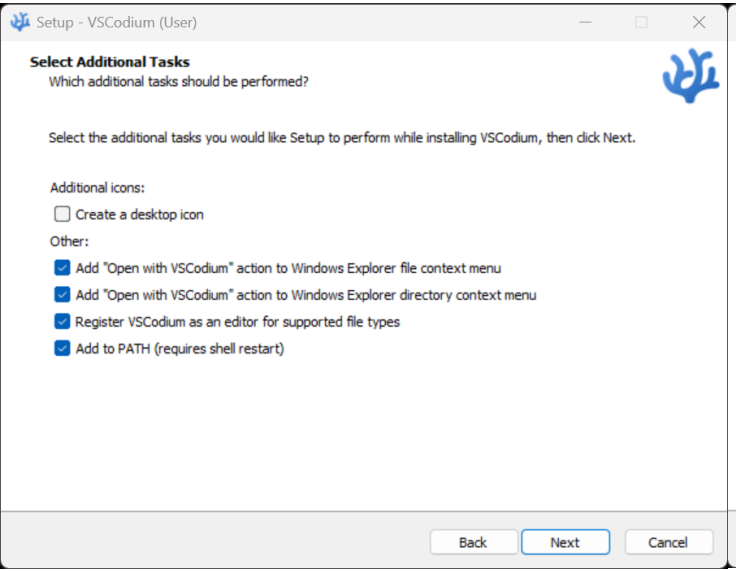

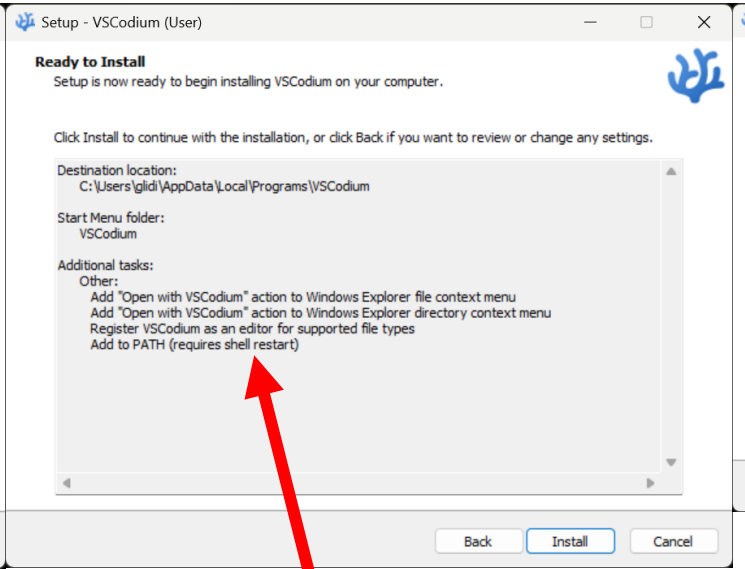

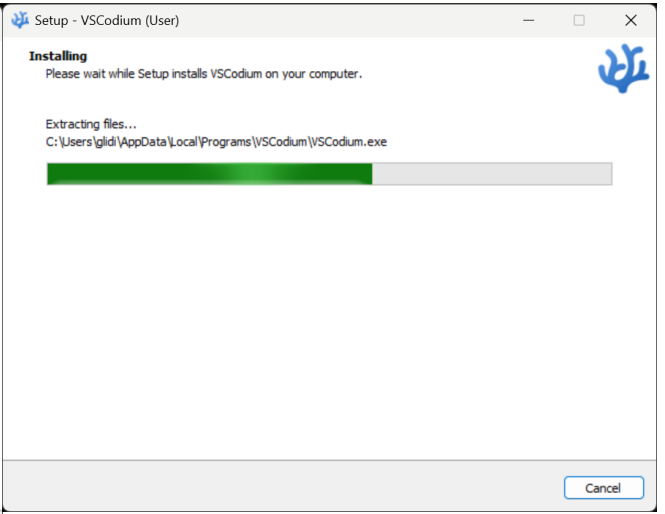

We will need to reboot or logout and log back in.

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Installing Codium

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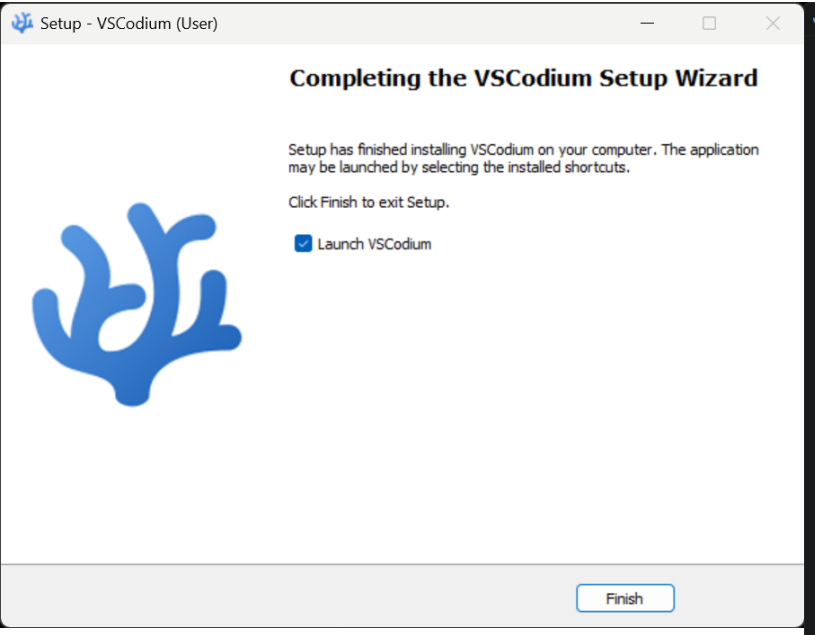
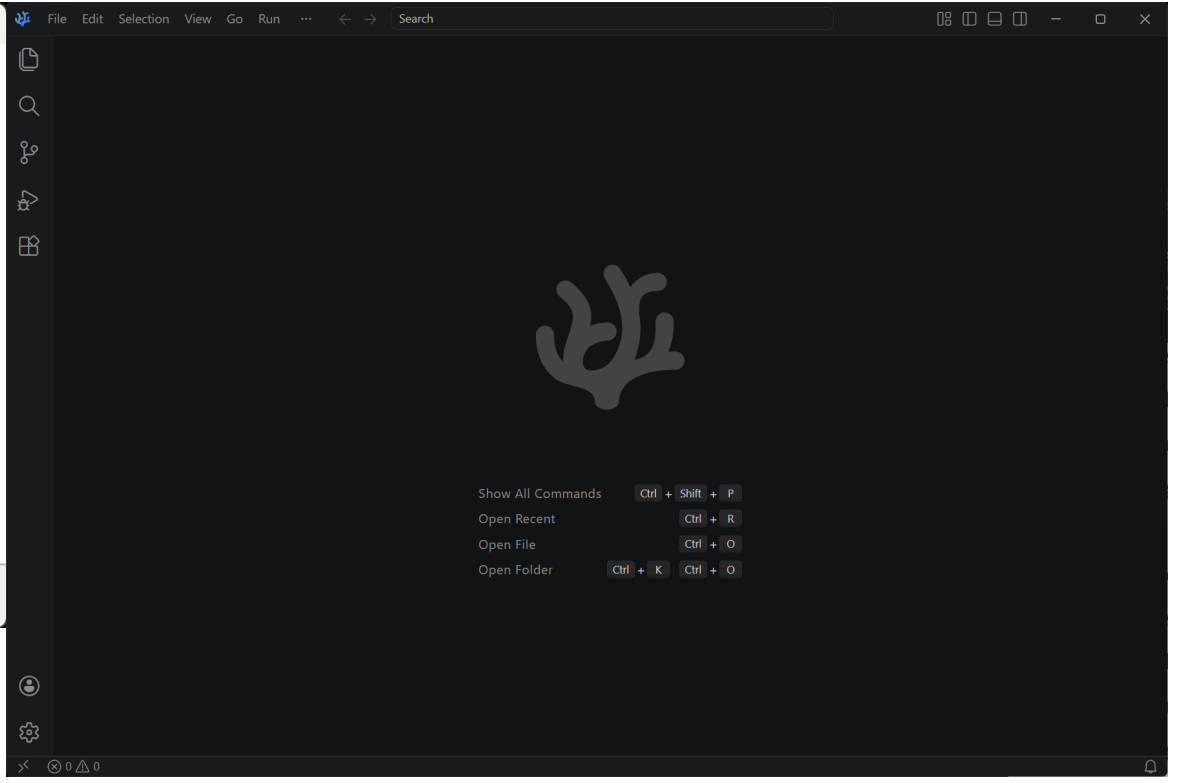
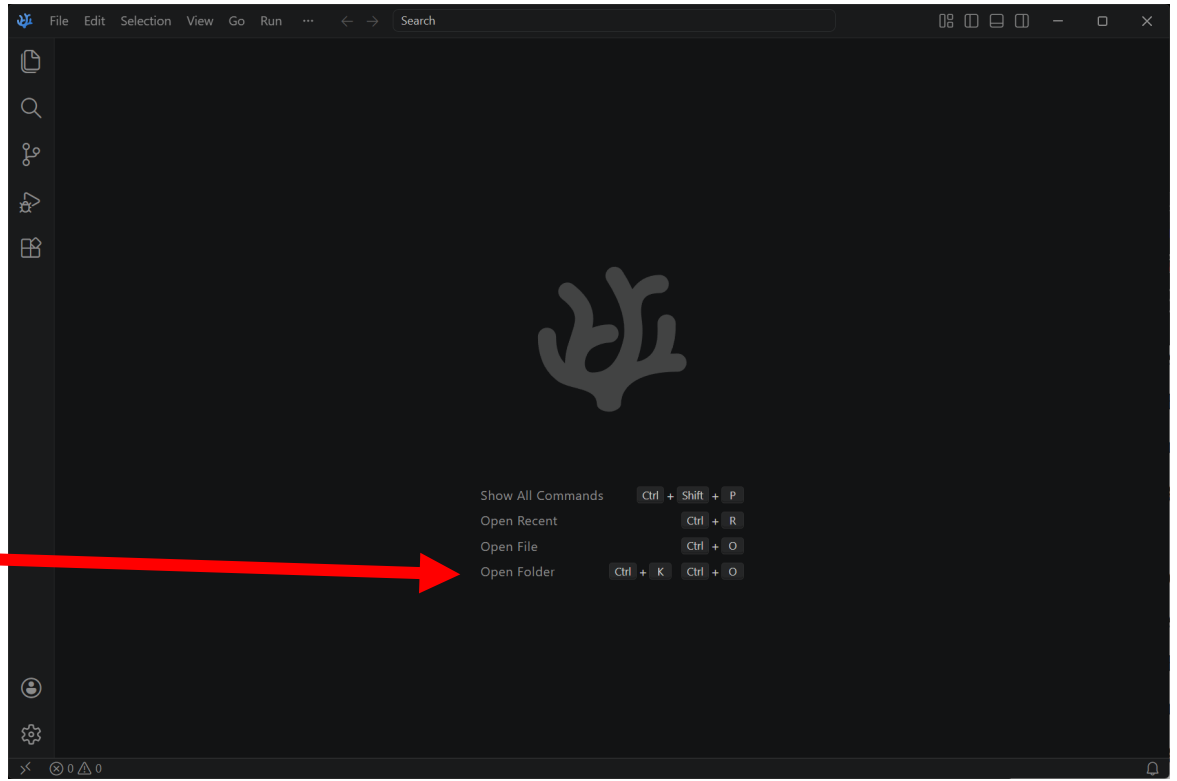


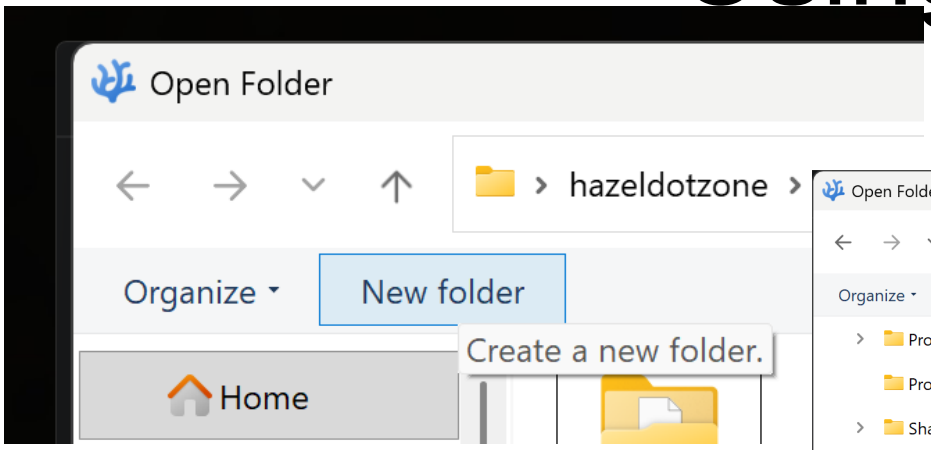


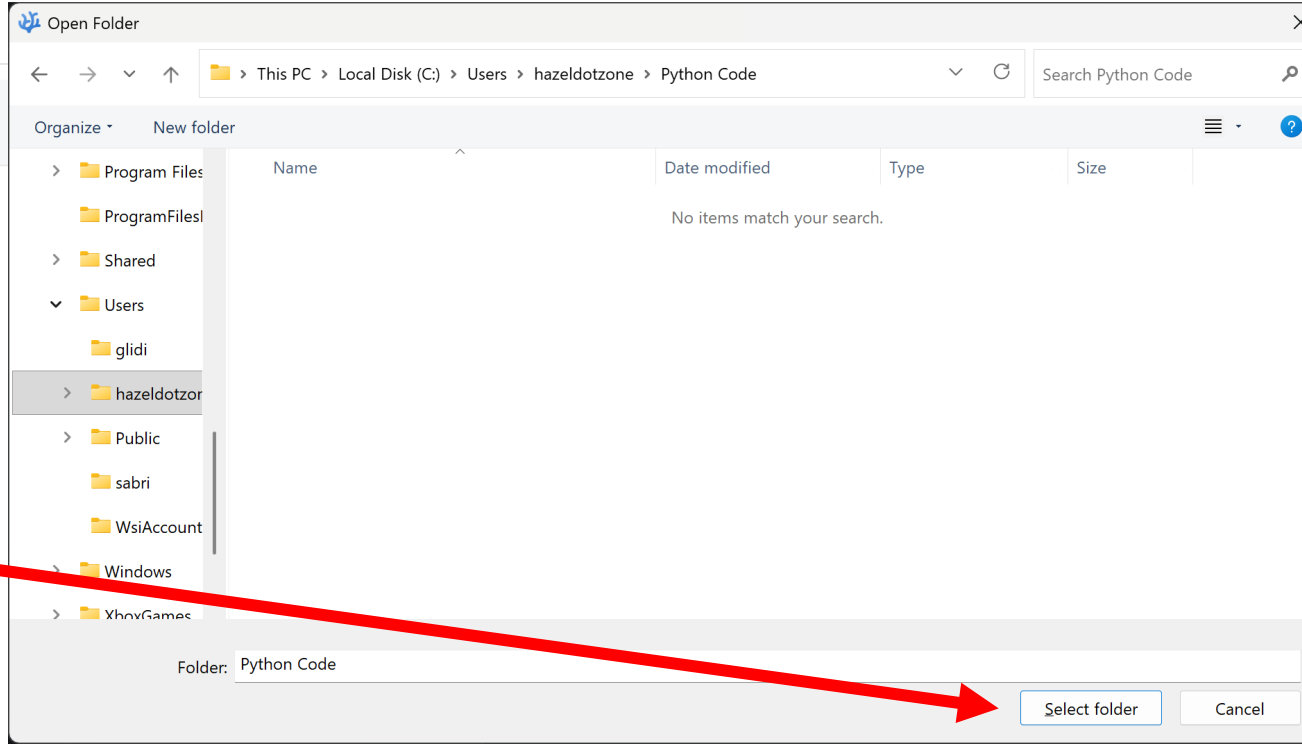
Using Codium

Usually projects are kept in folders, and we can open the entire folder at once in our editor... but we don't have a folder yet.



Using Codium



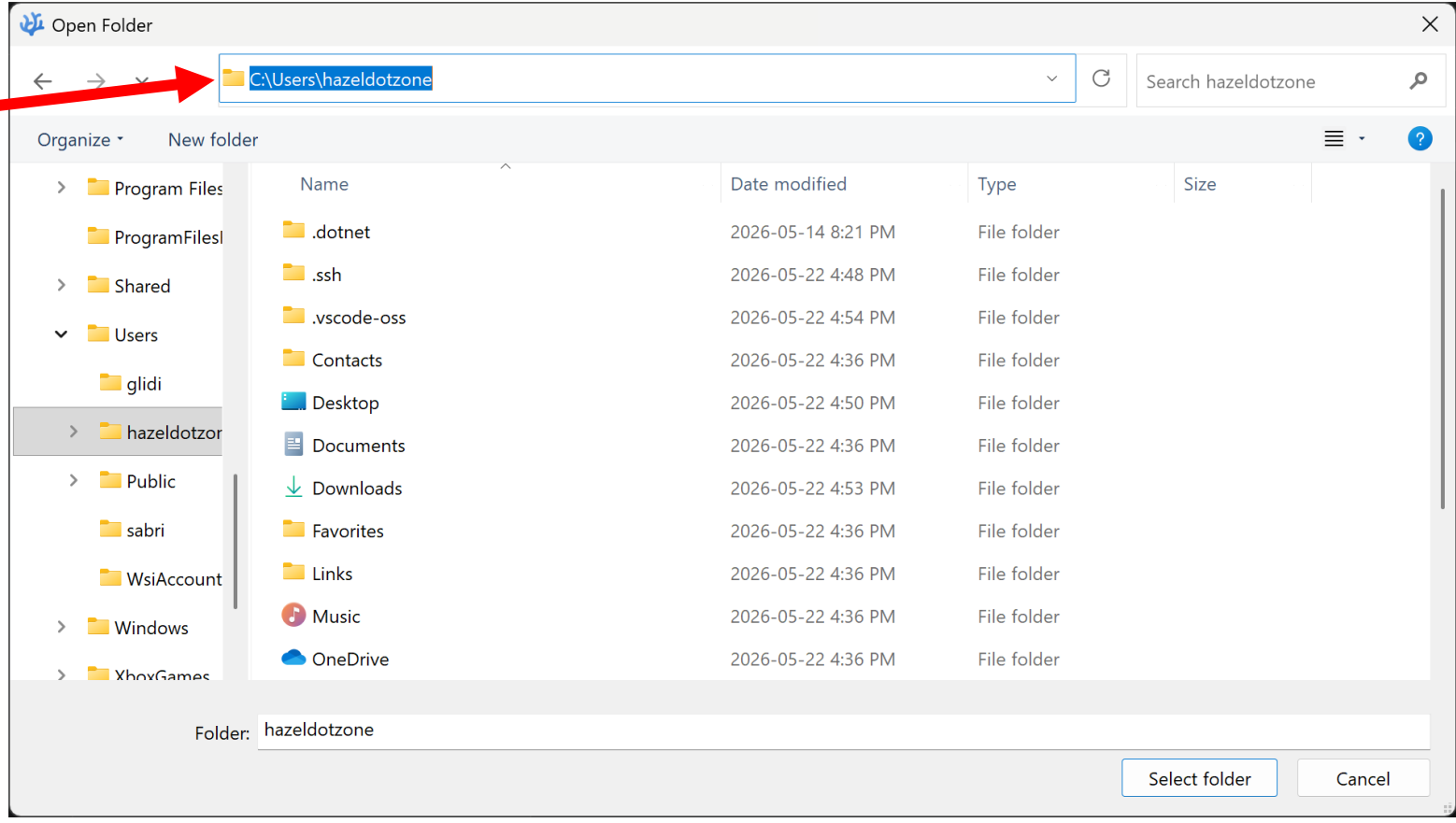


Create a new folder, go into it and then hit select.

Aside: Home Folder

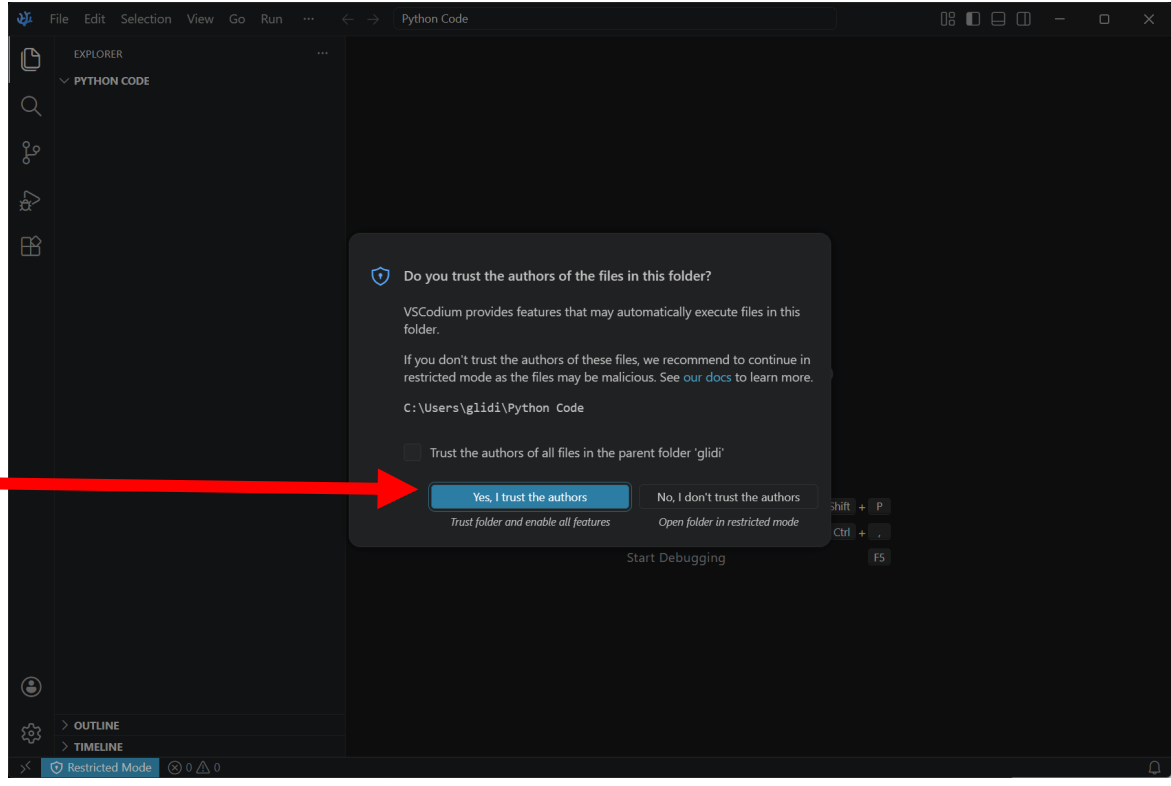
In windows your home folder is in C:\Users\

This is where you can find a variety of files relevant to computer programming



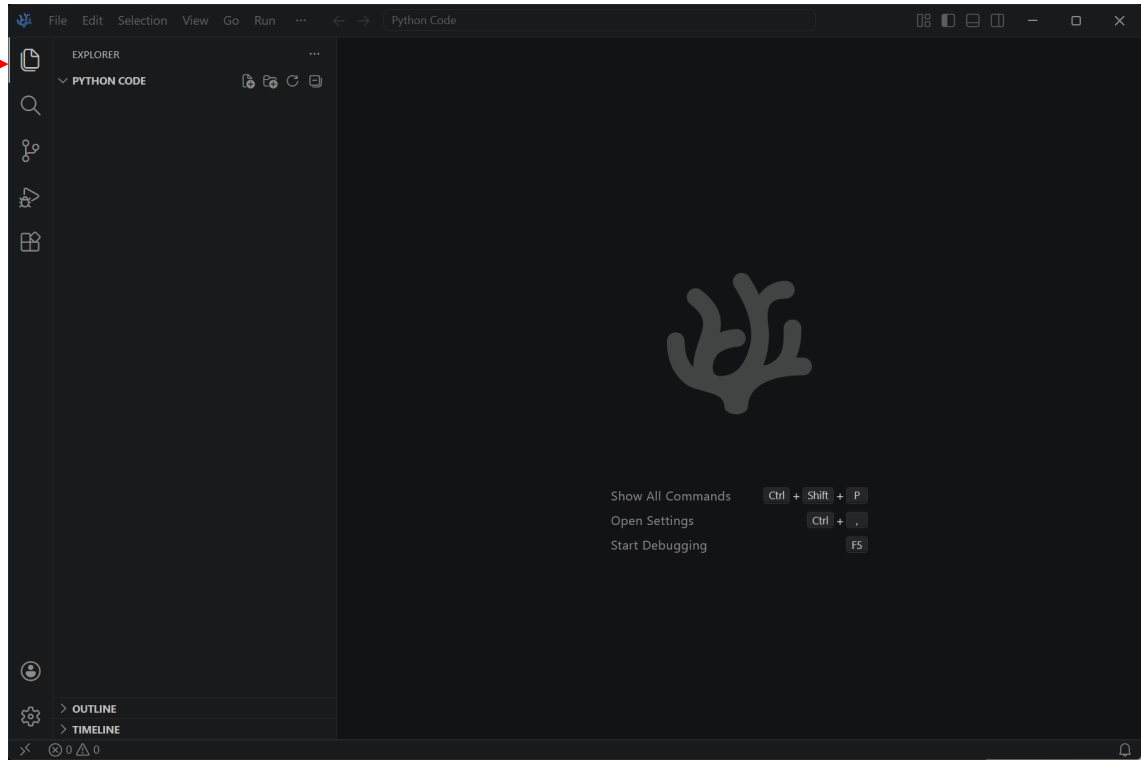
Using Codium

Click yes I trust the authors.



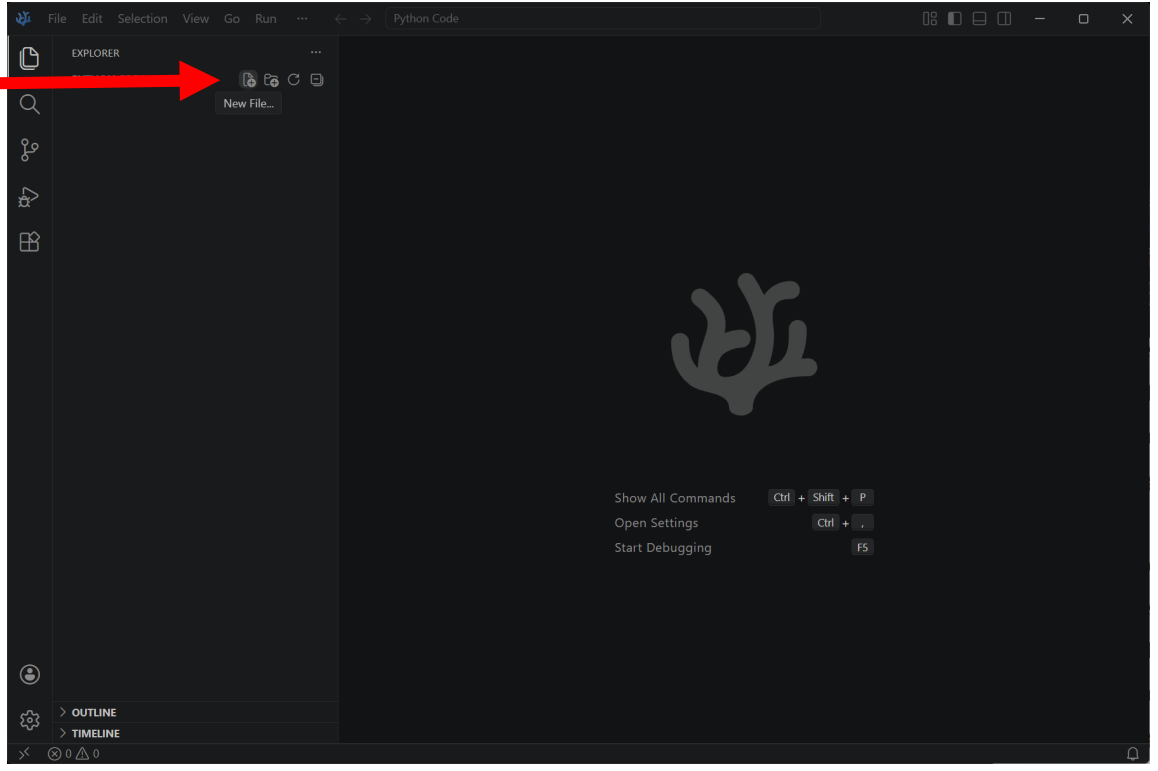
Using Codium

Explorer button...
We have an outline view of our empty folder.



Using Codium

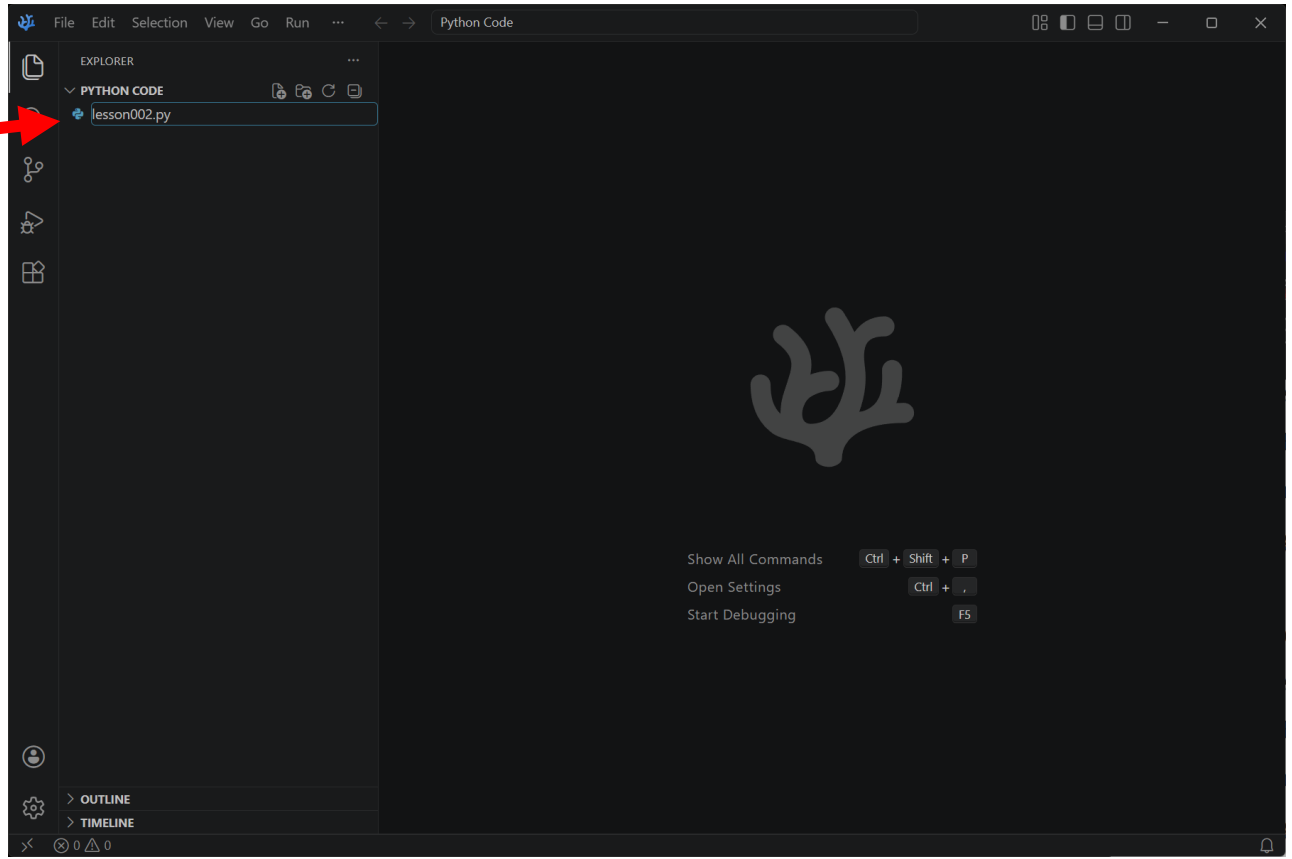
Click here to make a new file



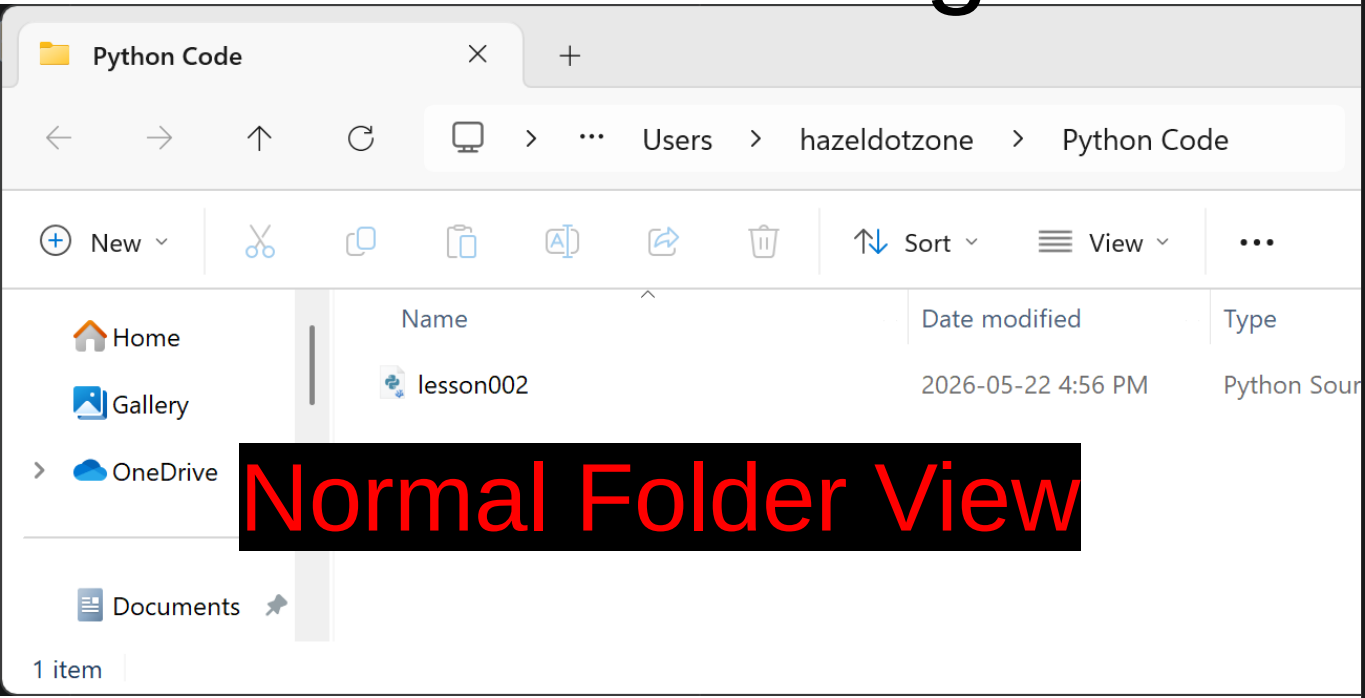
Using Codium

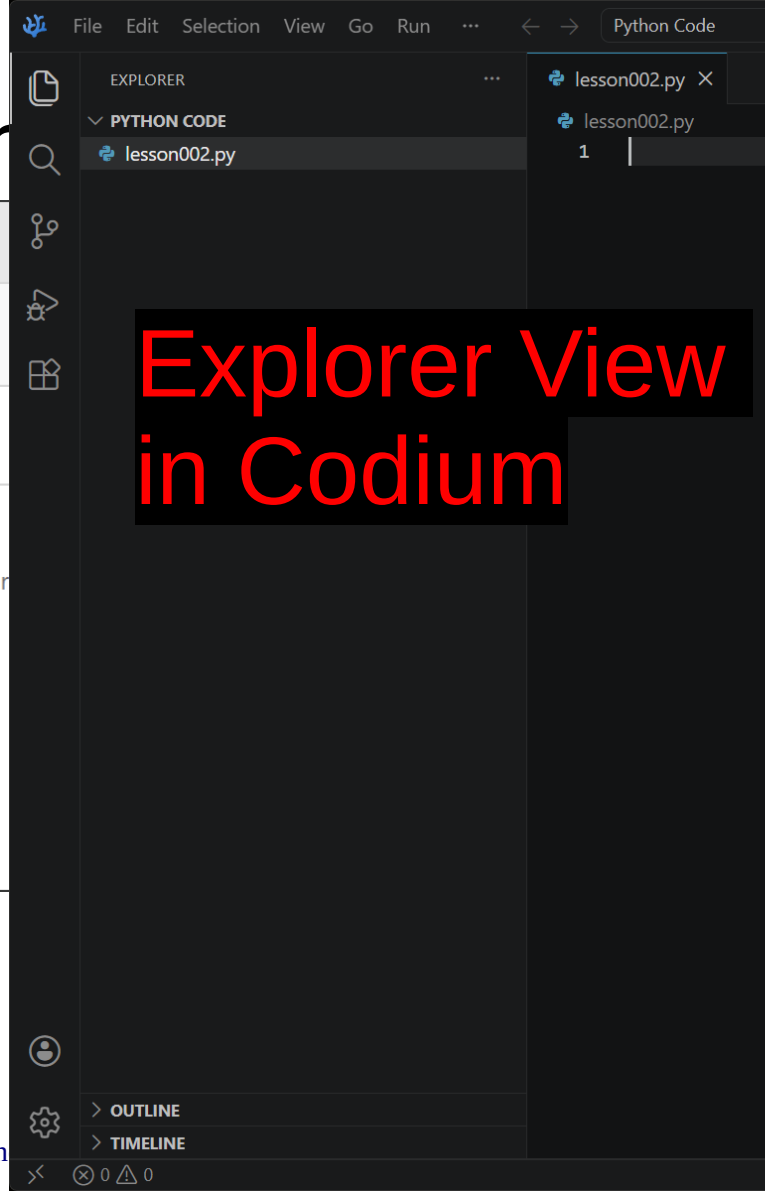
Click here to name the new file

If we want it to be recognized as a python code file we should make sure the name ends in .py then the icon will change to the python icon



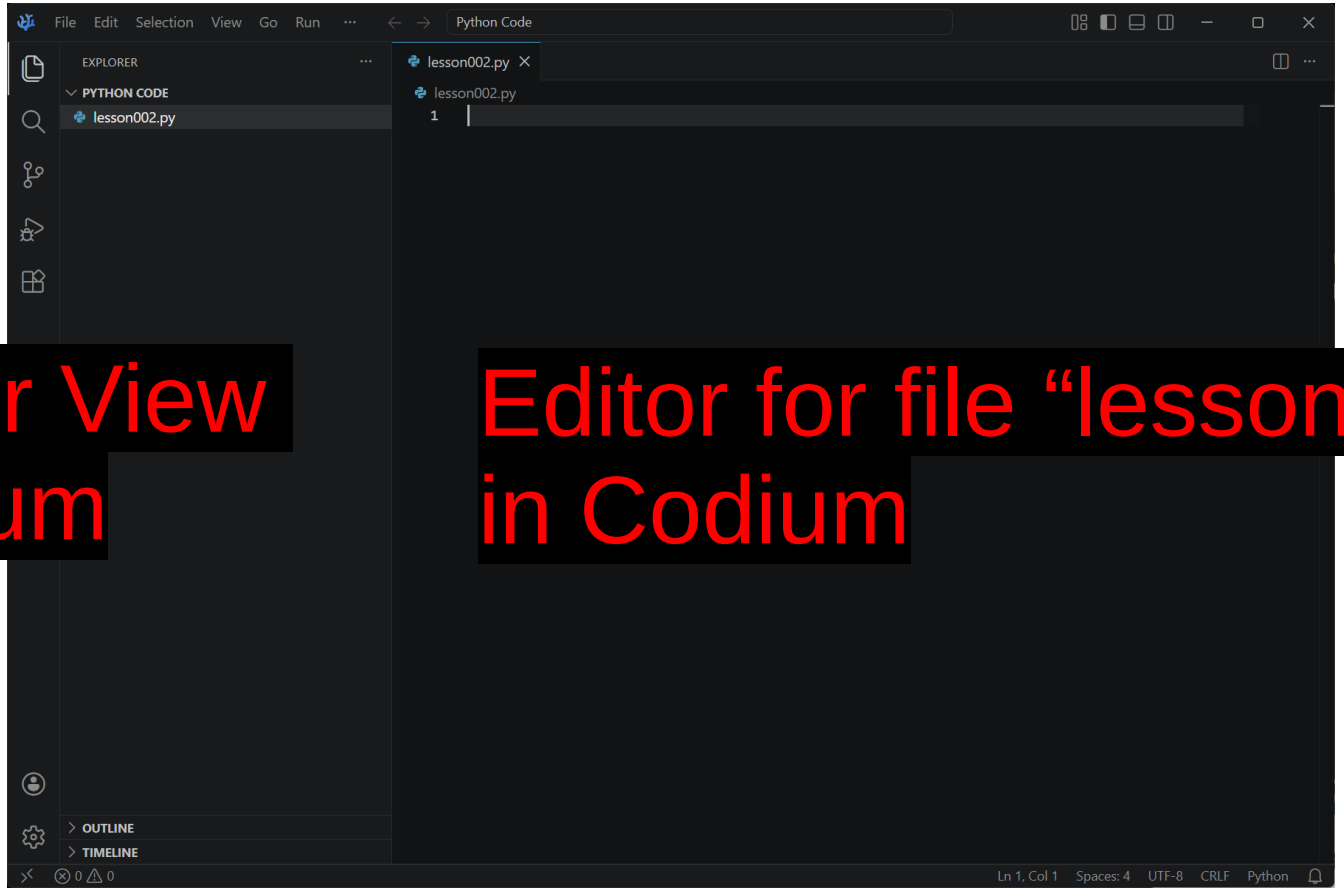
Using Codiu





https://www.twitch.tv/hazeldotzone

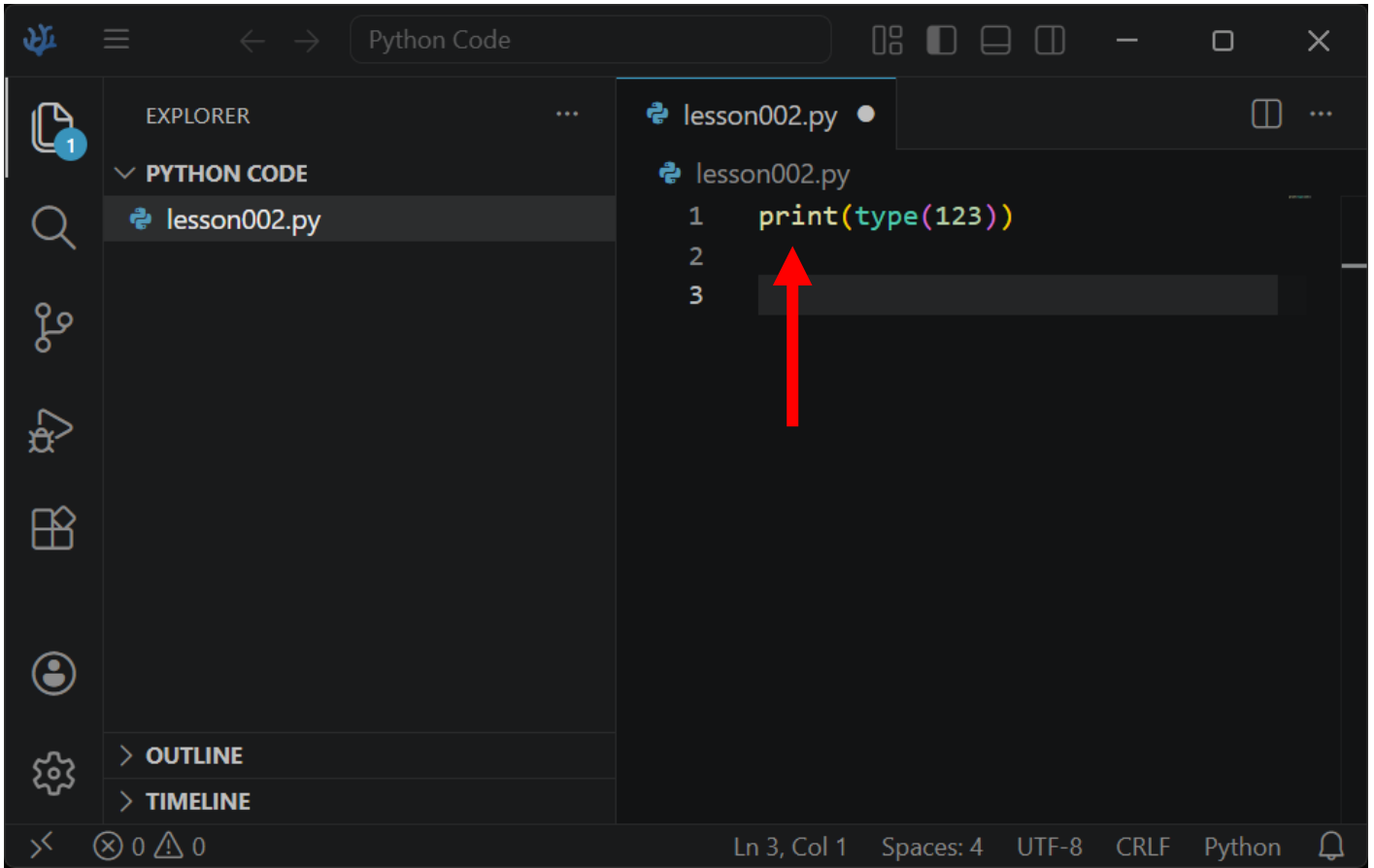
Using Codium



Explorer View in Codium

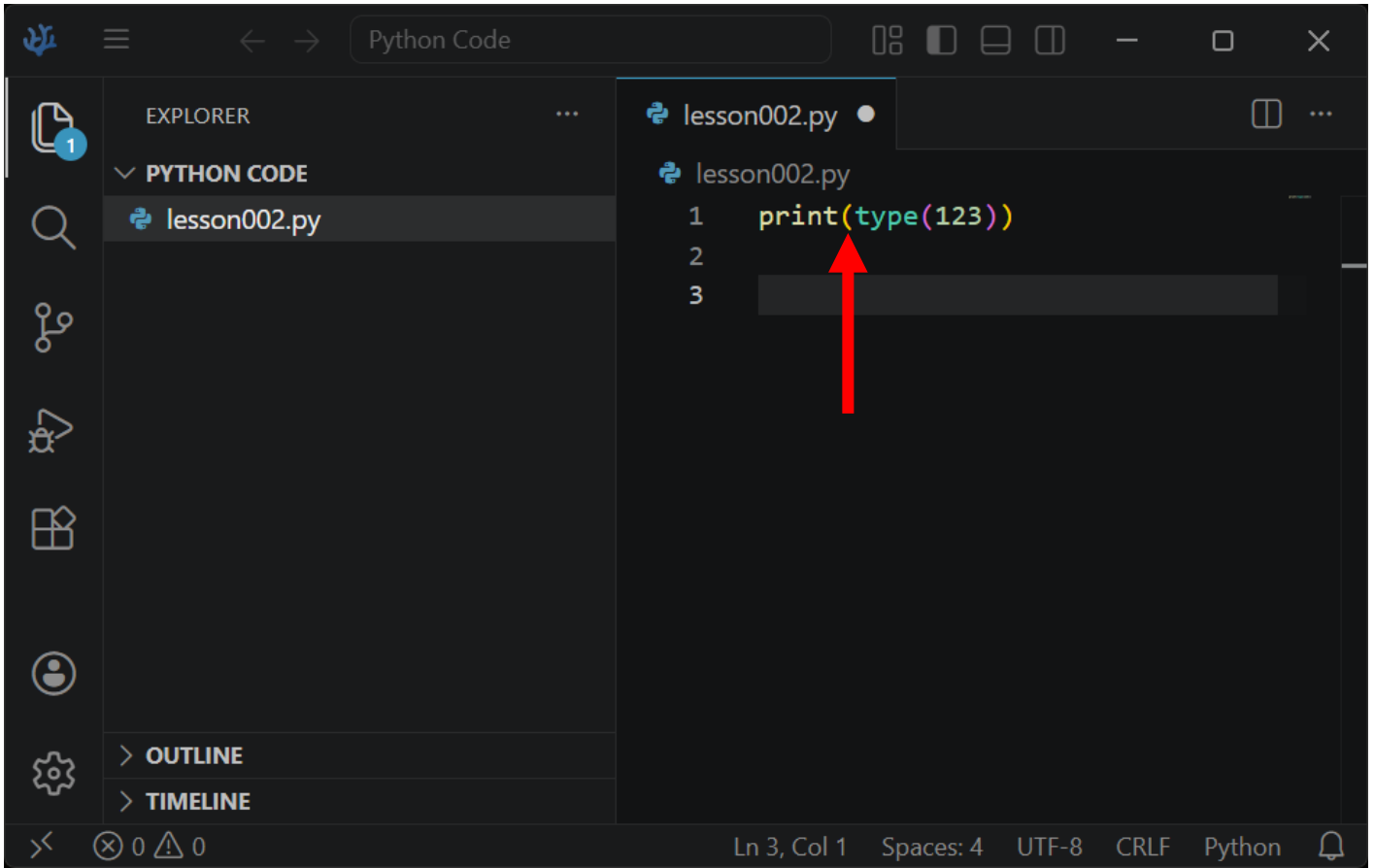
Editor for file “lesson002.py” in Codium

Using Codium



The colors help us visually distinguish elements (identifiers, delimiters, ...)

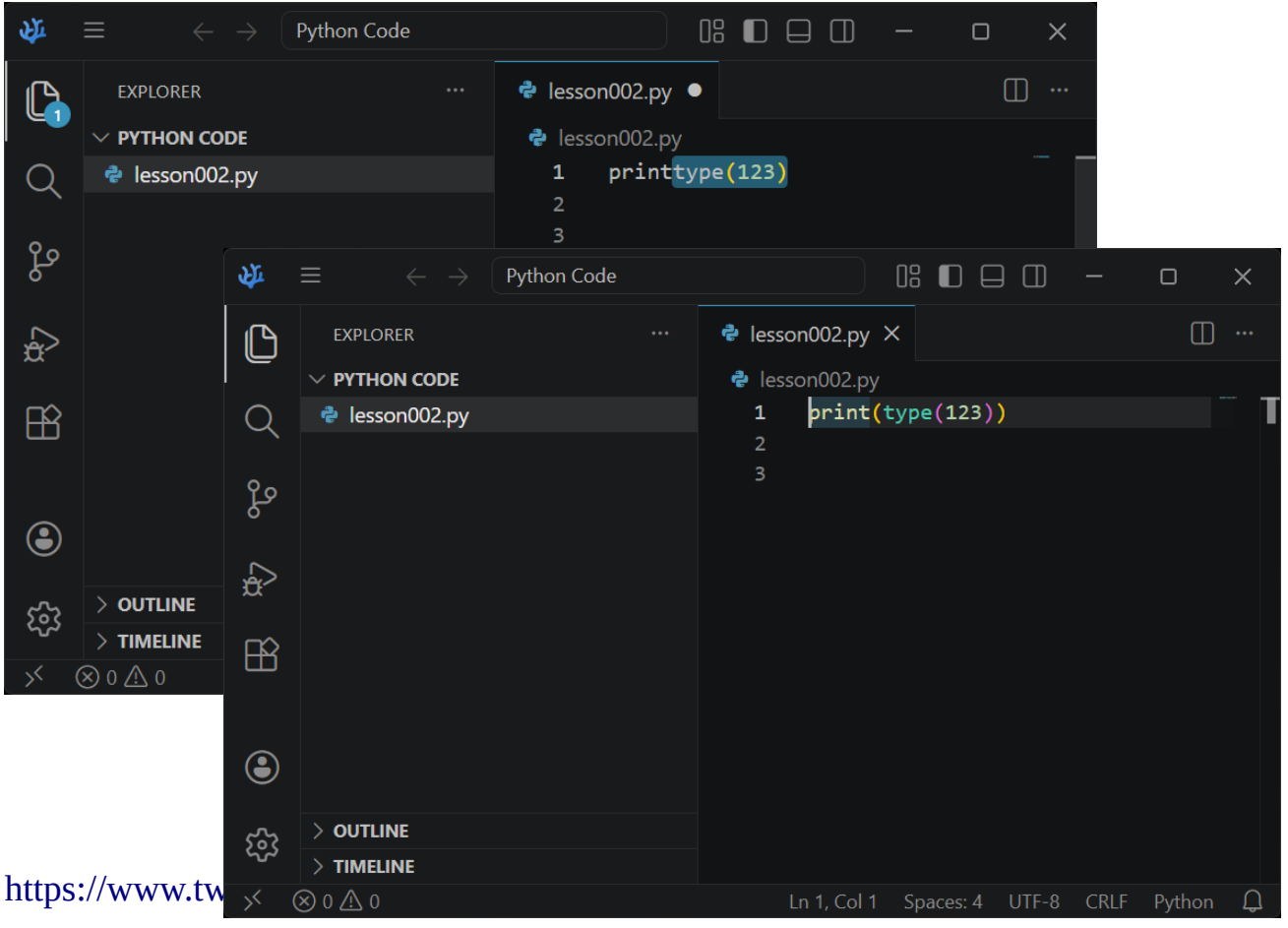
Using Codium



Typing (will place both parentheses in some situations...

Try highlighting some text and hitting the (key

Using Codium



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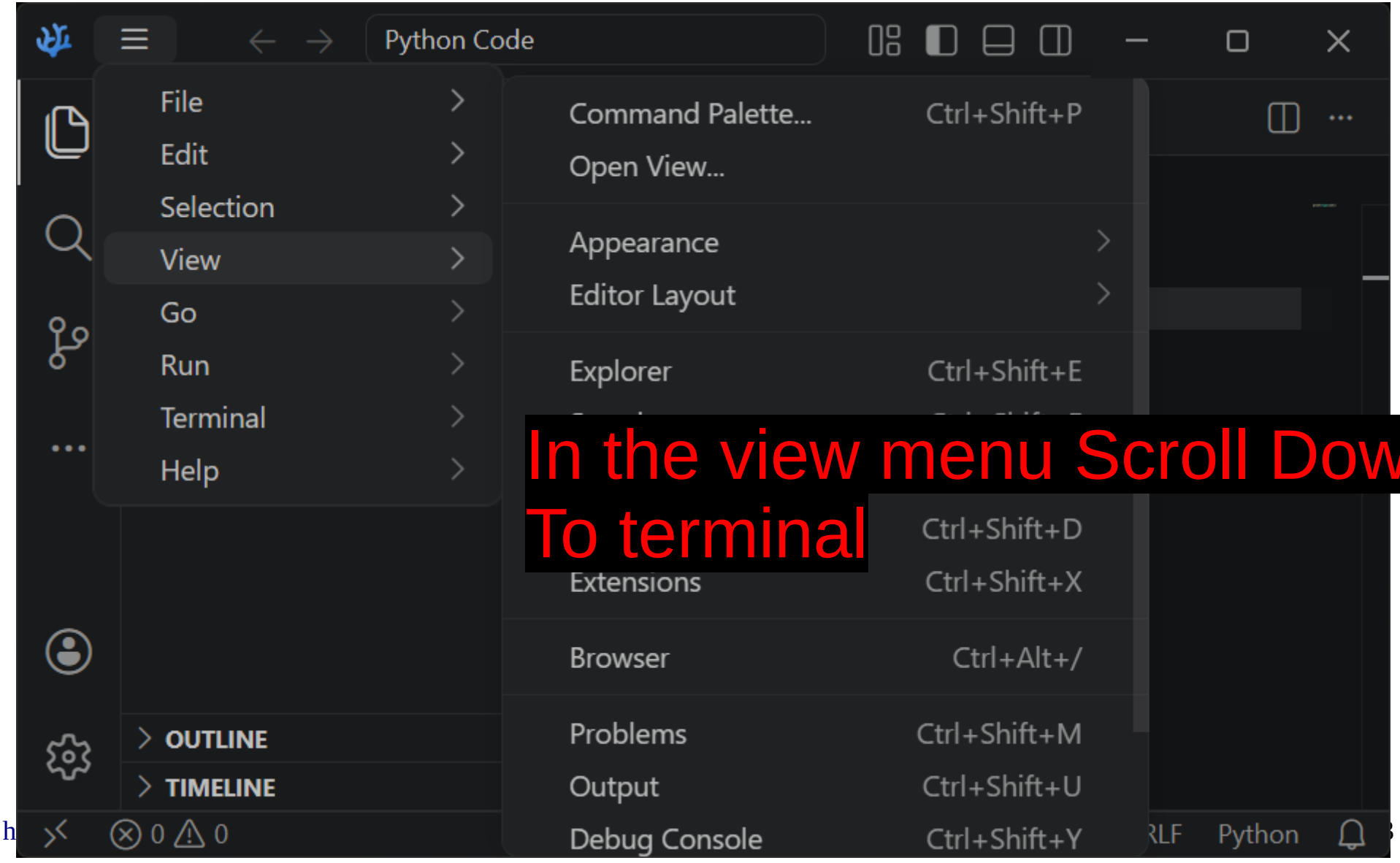
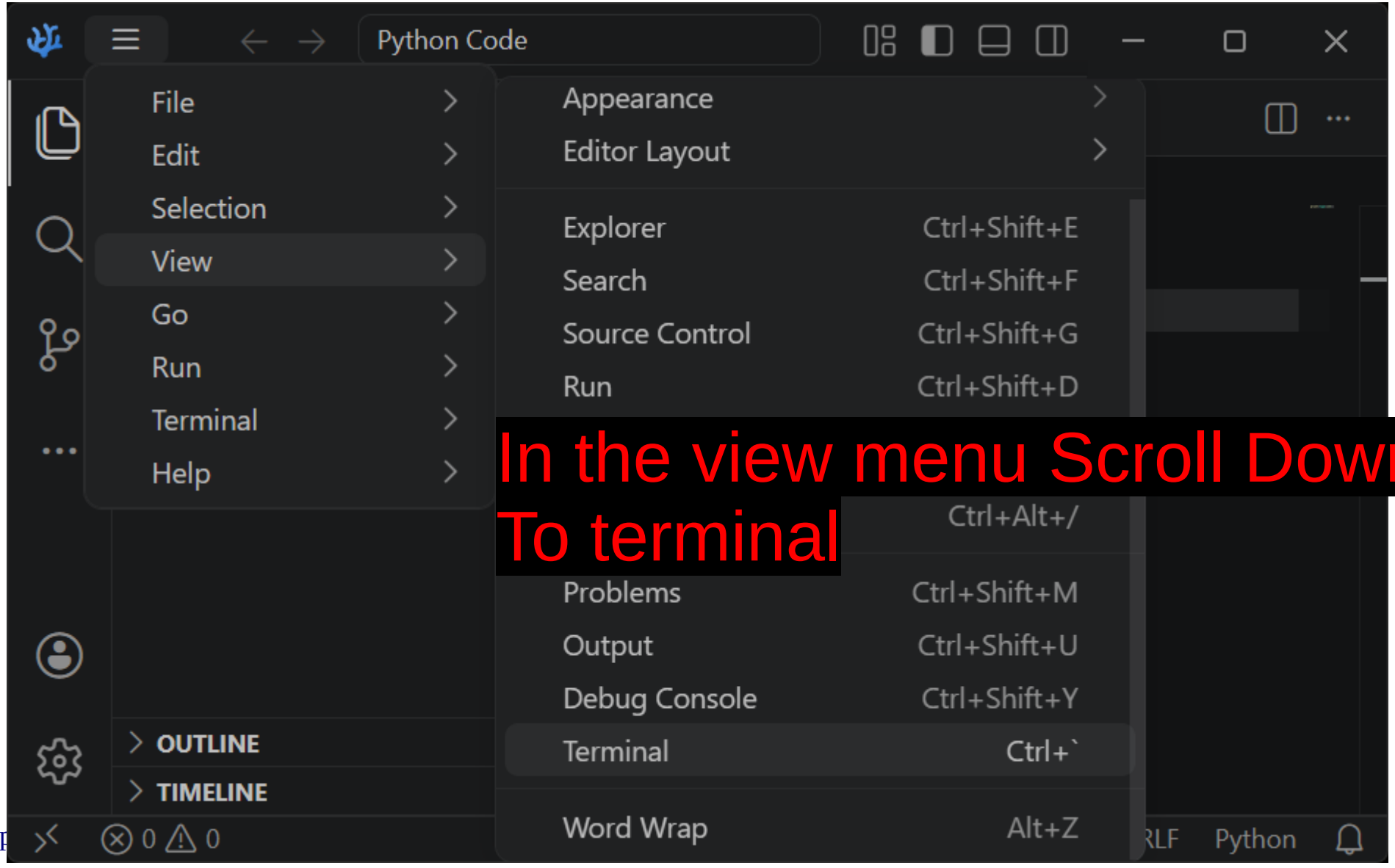
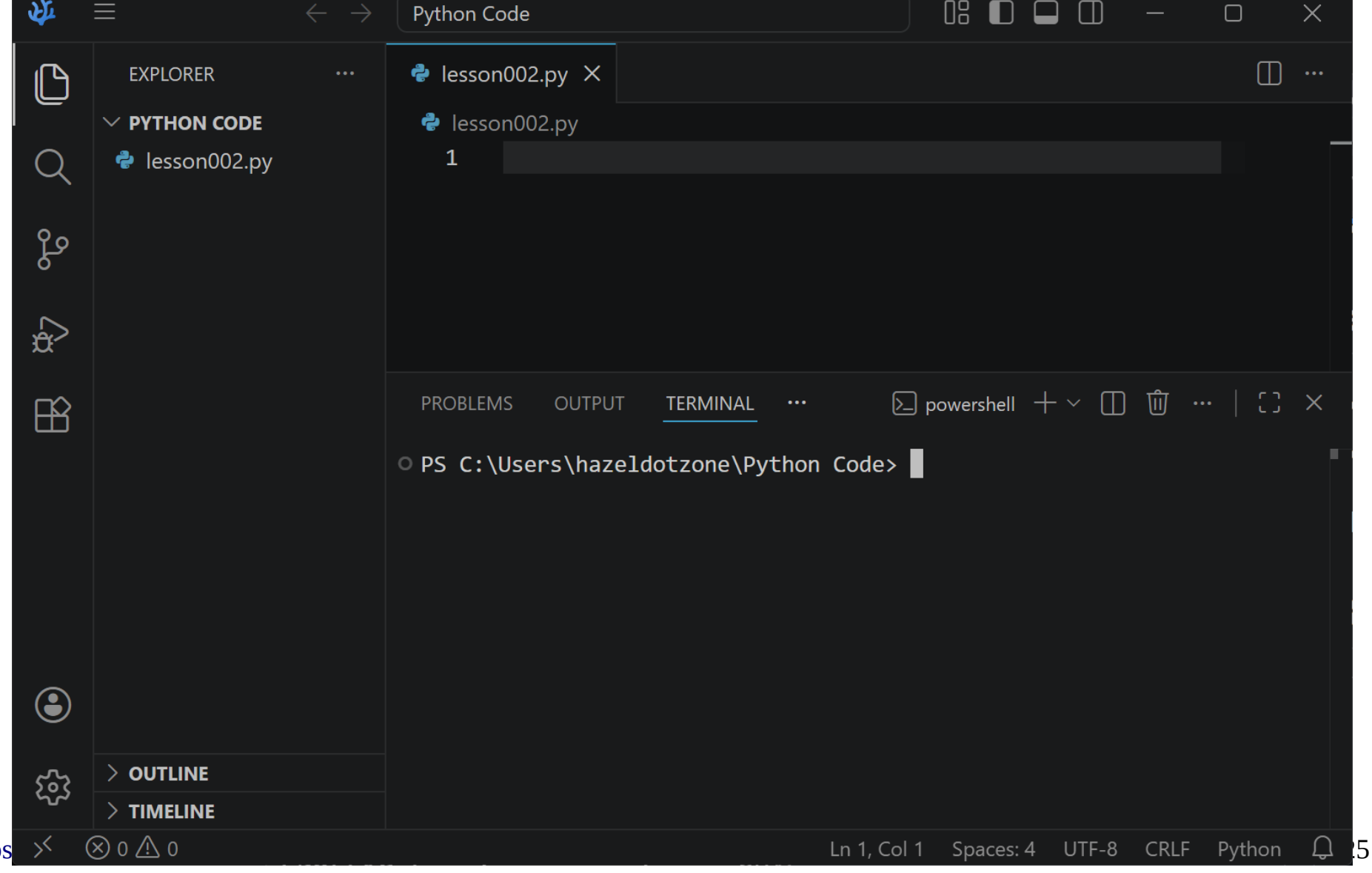
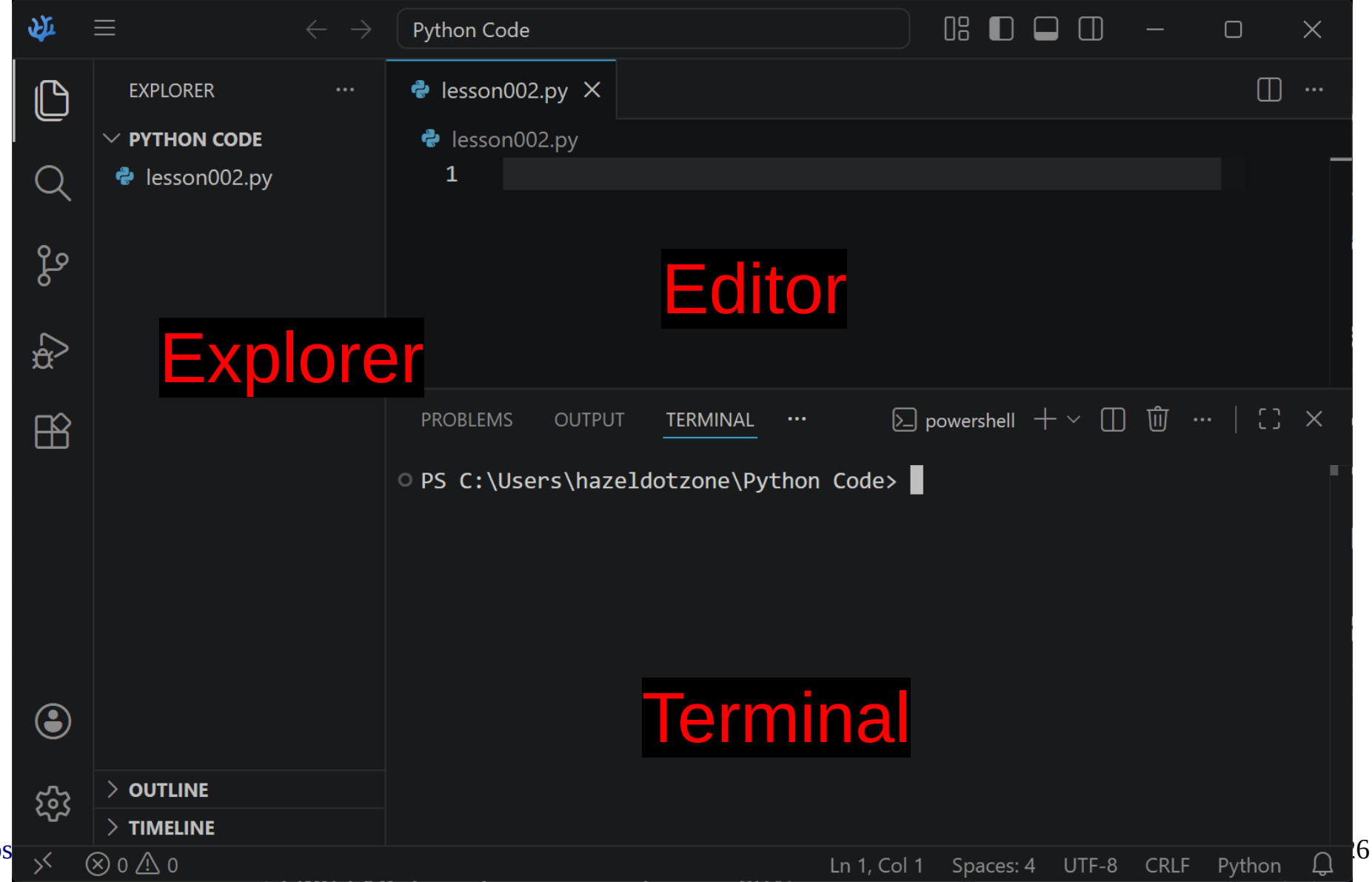

Python Code
File
Edit
Selection
View
Go
Run
Terminal
Help
Command Palette... Ctrl+Shift+P
Open View...
Appearance
Editor Layout
Explorer Ctrl+Shift+E
In the view menu Scroll Down
To terminal
Ctrl+Shift+D
Extensions Ctrl+Shift+X
Browser Ctrl+Alt+/
Problems Ctrl+Shift+M
Output Ctrl+Shift+U
Debug Console Ctrl+Shift+Y
OUTLINE
TIMELINE
0 0
RLF
Python


Python Code
File
Edit
Selection
View
Go
Run
Terminal
Help
Appearance
Editor Layout
Explorer Ctrl+Shift+E
Search Ctrl+Shift+F
Source Control Ctrl+Shift+G
Run Ctrl+Shift+D
In the view menu Scroll Down
To terminal
Ctrl+Alt+/
Problems Ctrl+Shift+M
Output Ctrl+Shift+U
Debug Console Ctrl+Shift+Y
Terminal Ctrl+`
Word Wrap Alt+Z
OUTLINE
TIMELINE
0 0
RLF
Python


Python Code
EXPLORER
PYTHON CODE
lesson002.py
lesson002.py
lesson002.py
1
PROBLEMS
OUTPUT
TERMINAL
powershell
PS C:\Users\hazeldotzone\Python Code>
OUTLINE
TIMELINE
0 0
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
Python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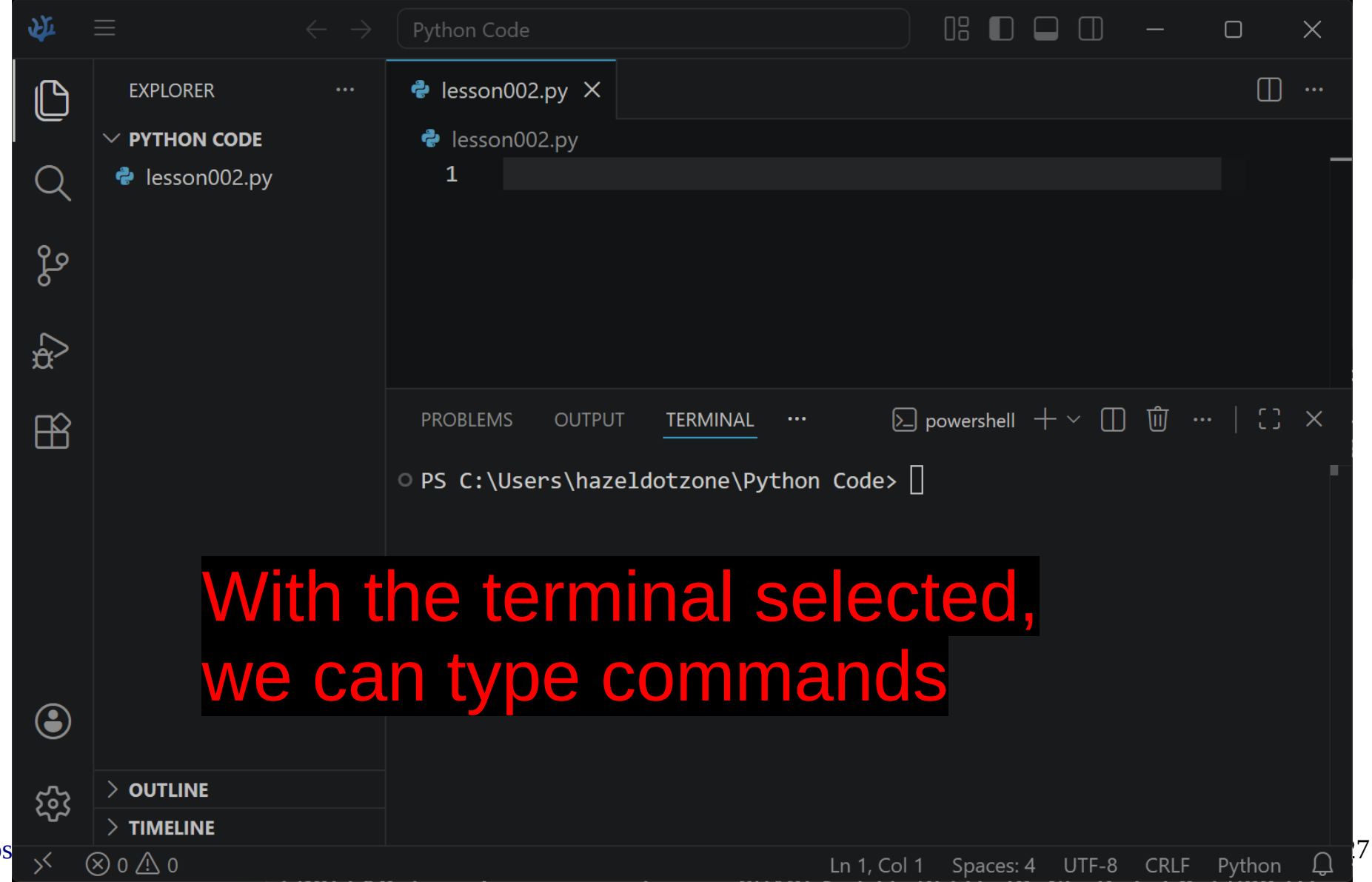
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PROBLEMS
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PS C:\Users\hazeldotzone\Python Code>
With the terminal selected,
we can type commands
OUTLINE
TIMELINE
0 0
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
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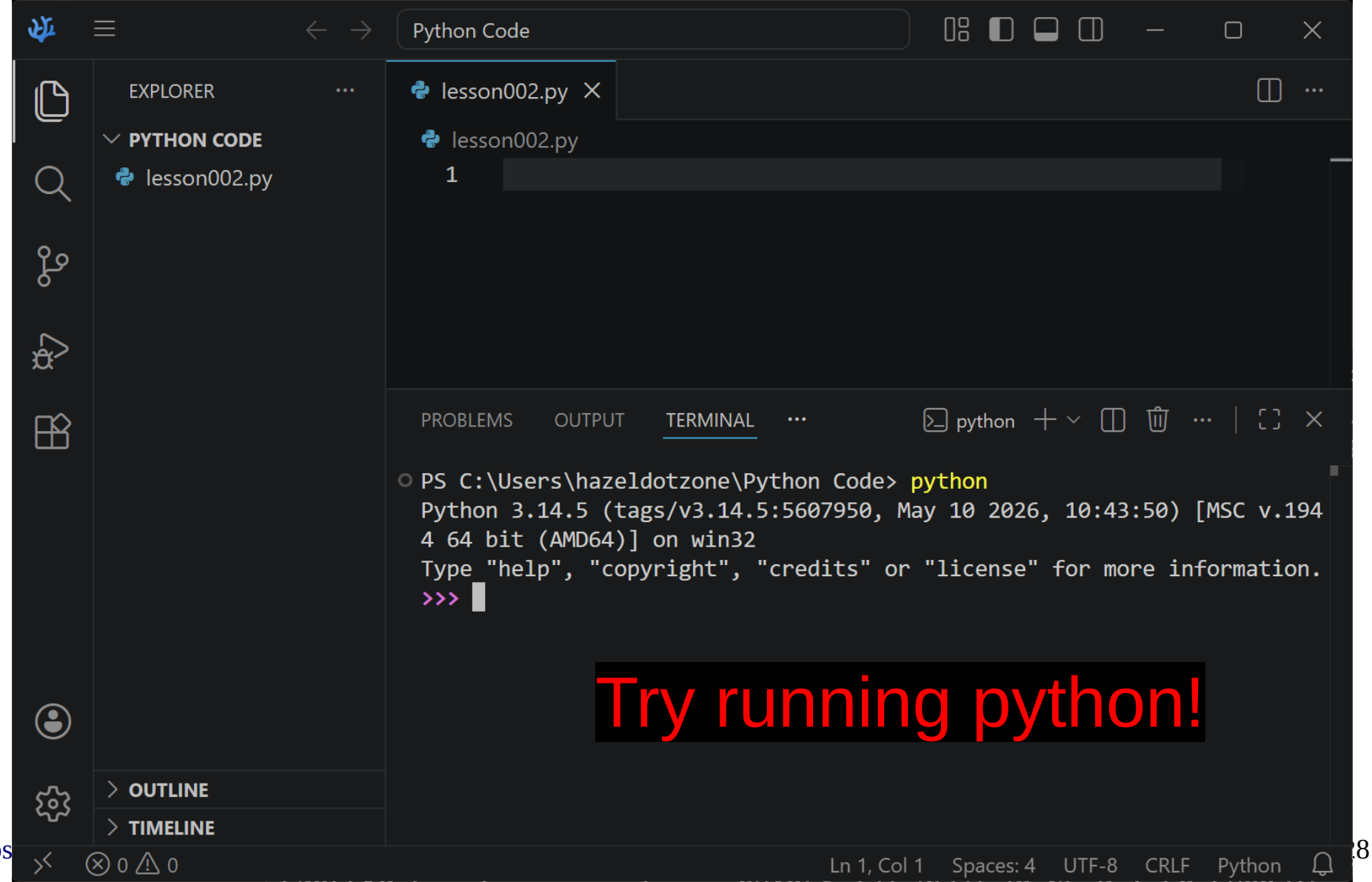
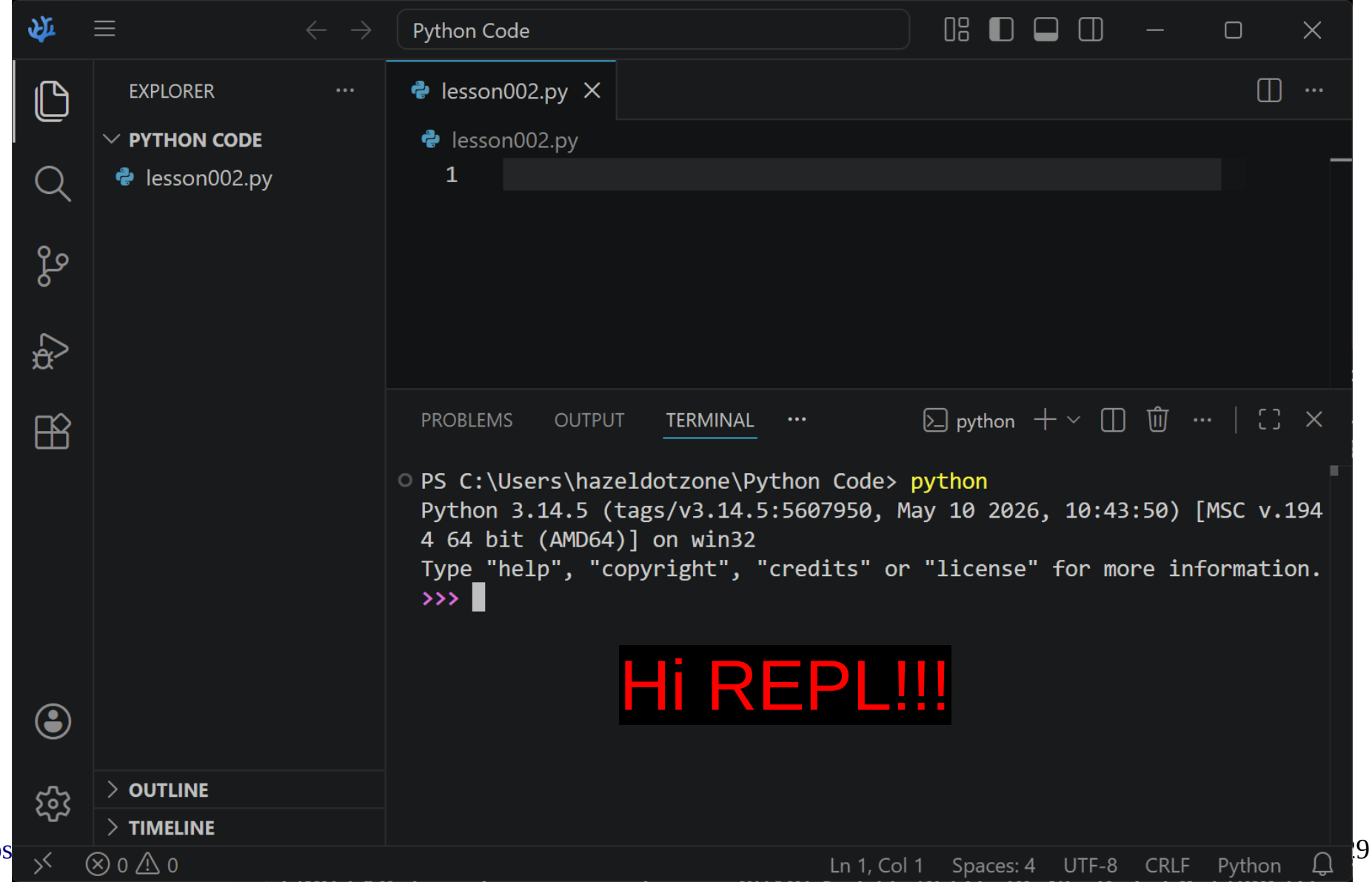

Python Code
EXPLORER
PYTHON CODE
lesson002.py
lesson002.py
1
PROBLEMS
OUTPUT
TERMINAL
python
PS C:\Users\hazeldotzone\Python Code> python
Python 3.14.5 (tags/v3.14.5:5607950, May 10 2026, 10:43:50) [MSC v.194
4 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>>
Try running python!
OUTLINE
TIMELINE
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
Python


Python Code
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lesson002.py
lesson002.py
1
PROBLEMS
OUTPUT
TERMINAL
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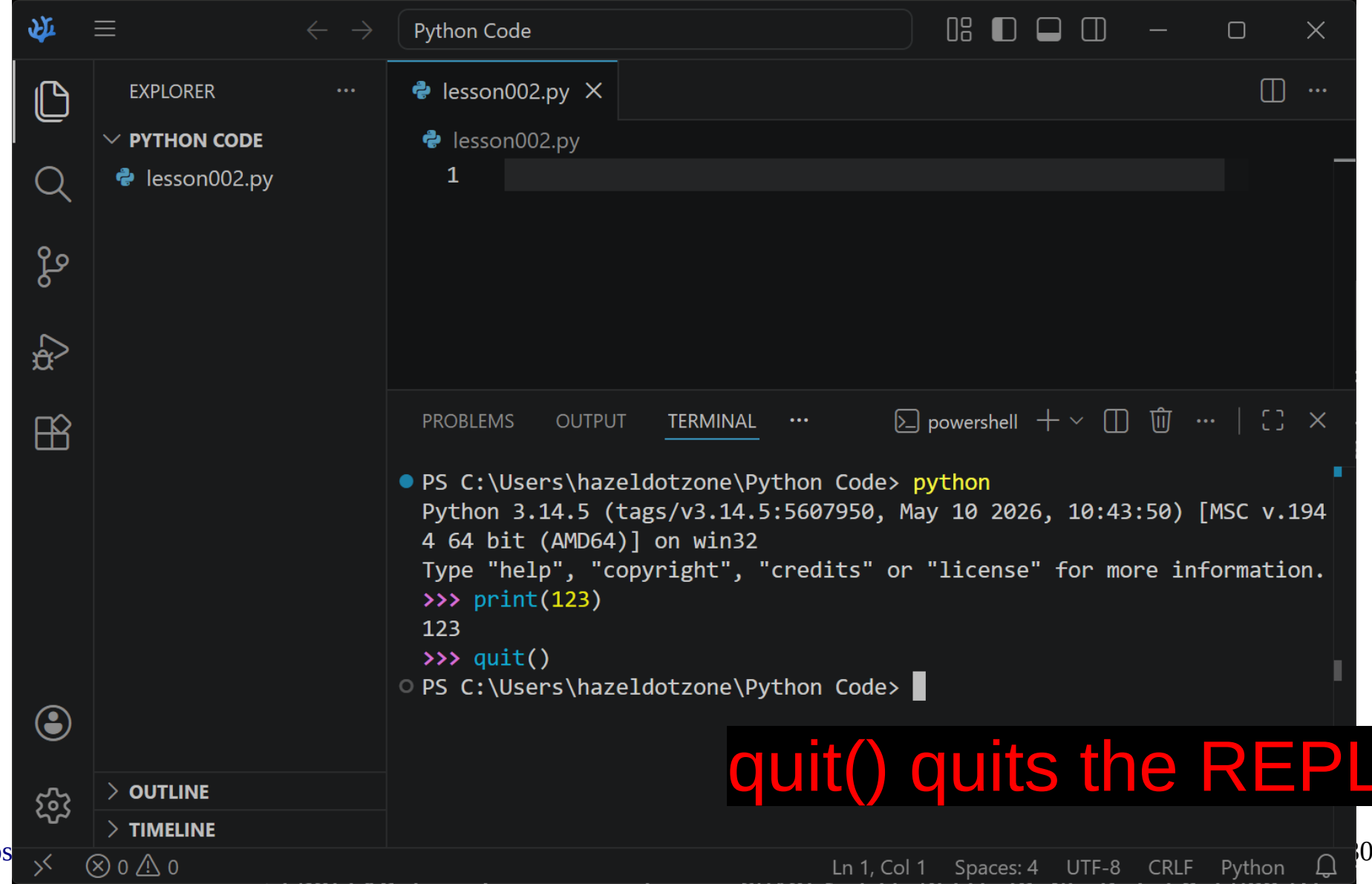
>>>
Hi REPL!!!
OUTLINE
TIMELINE
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
Python


Python Code
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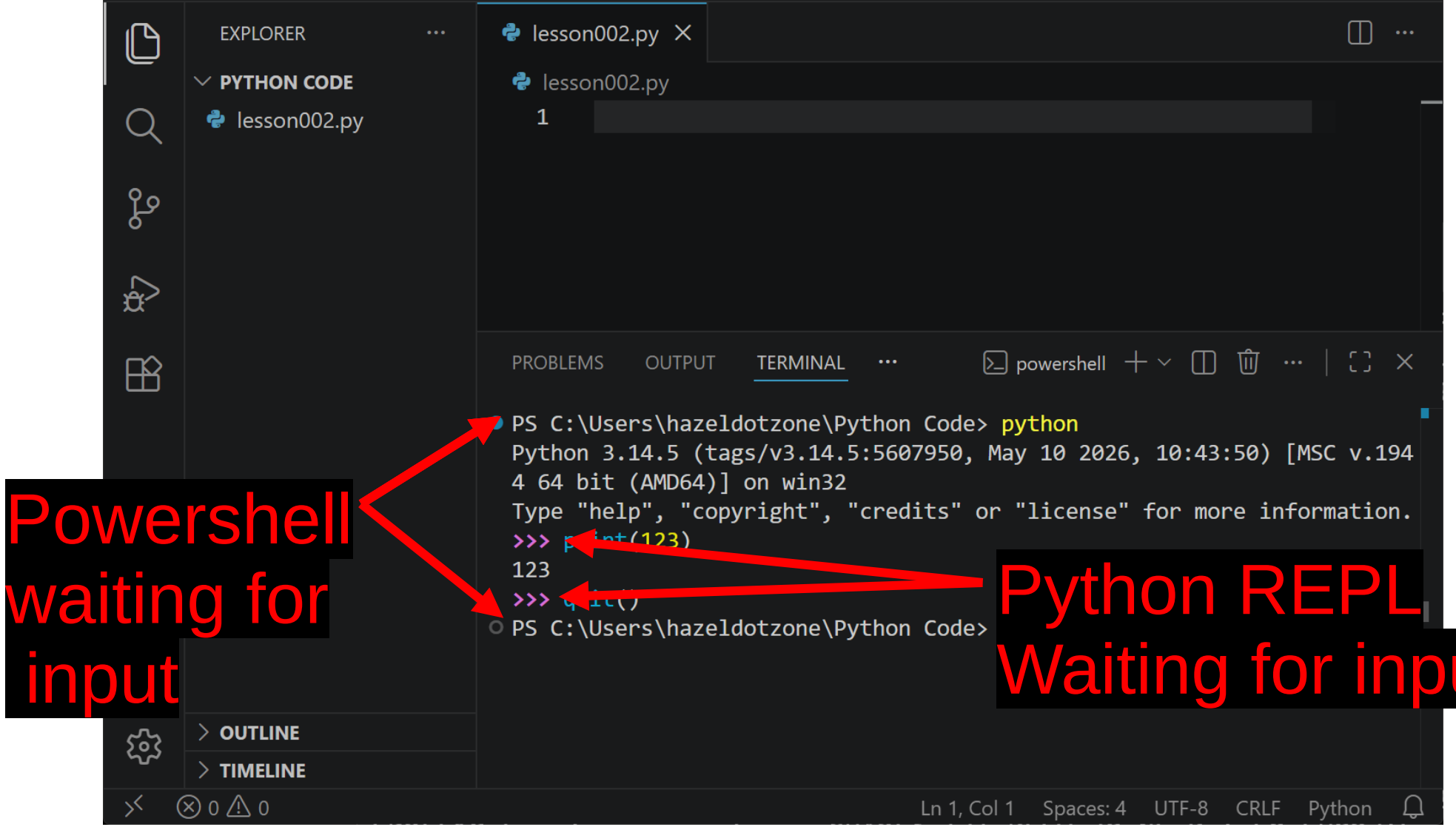
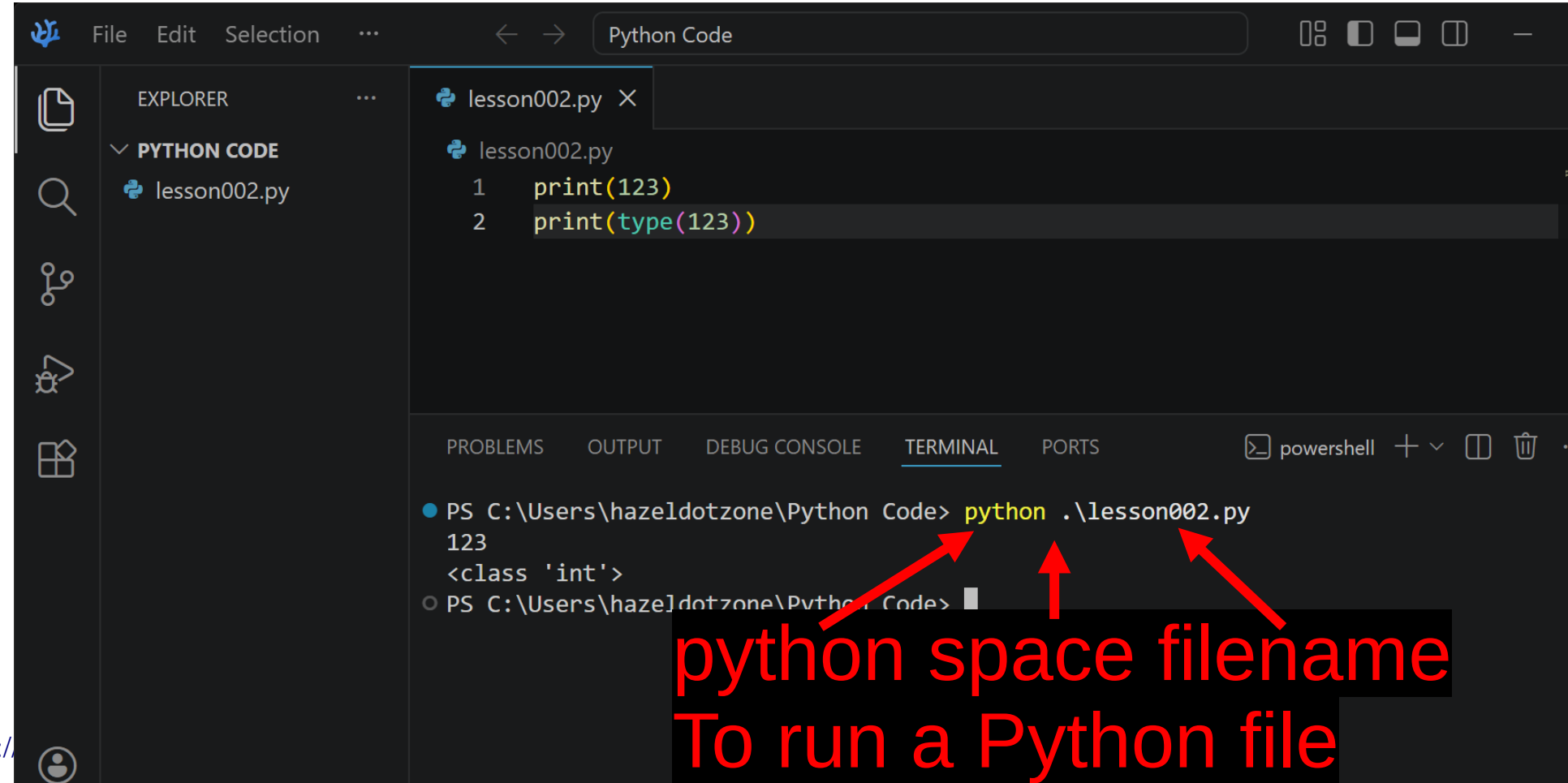
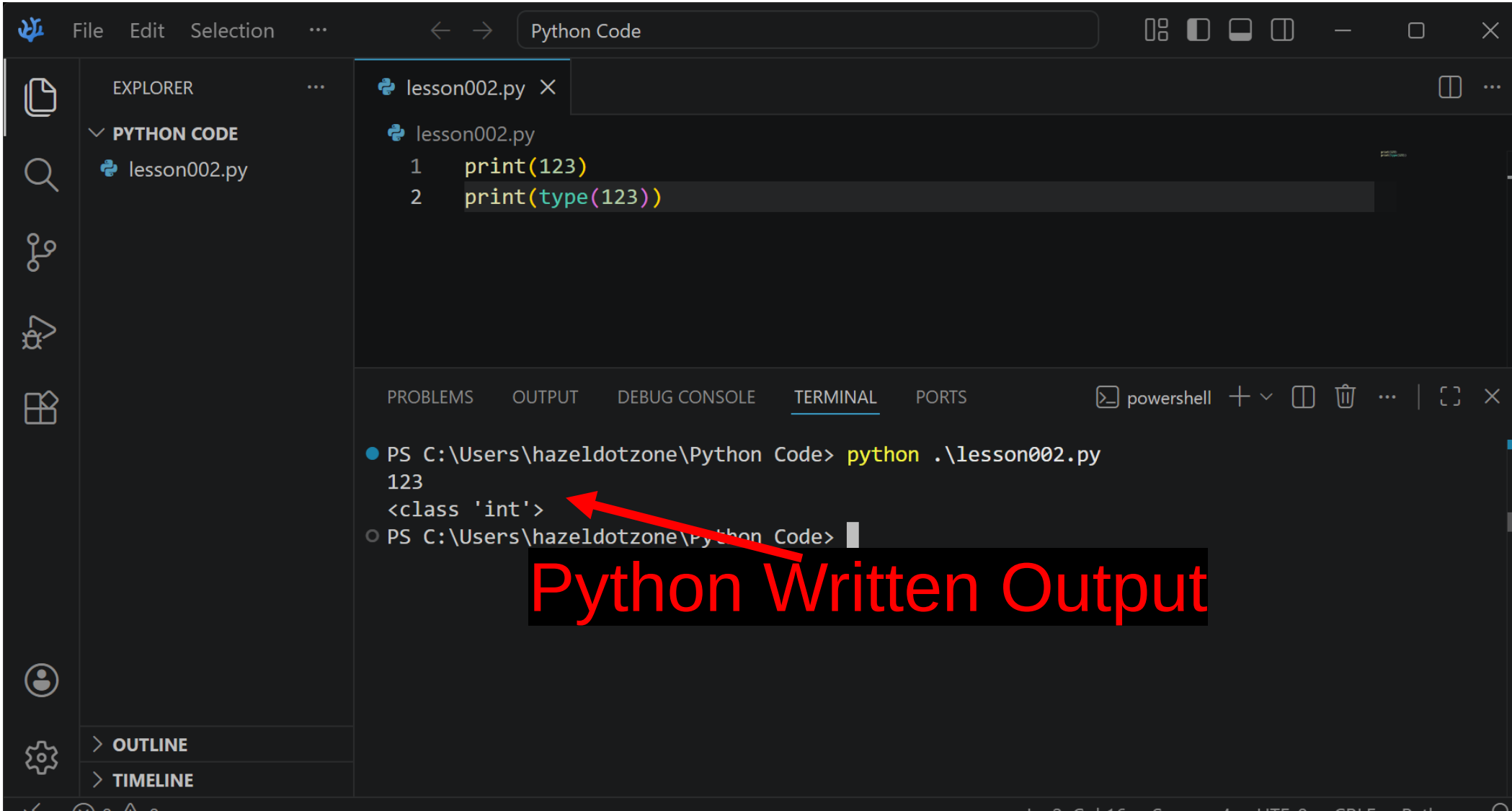
PYTHON CODE
lesson002.py
lesson002.py
lesson002.py
1
PROBLEMS
OUTPUT
TERMINAL
powershell
PS C:\Users\hazeldotzone\Python Code> python
Python 3.14.5 (tags/v3.14.5:5607950, May 10 2026, 10:43:50) [MSC v.1944 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> print(123)
123
>>> quit()
PS C:\Users\hazeldotzone\Python Code>
quit() quits the REPL
OUTLINE
TIMELINE
0 0
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
Python



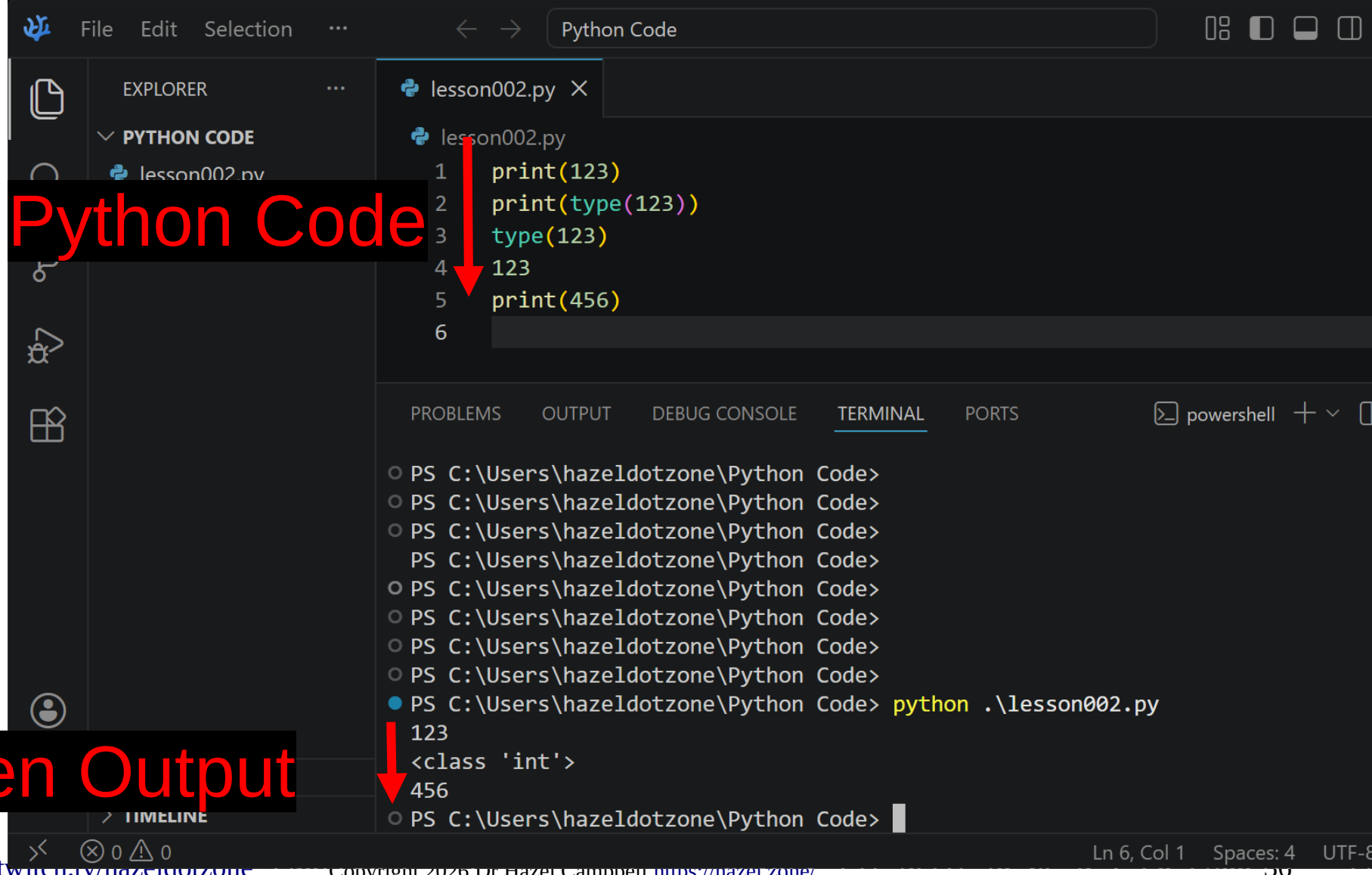

File Edit Selection
Python Code
EXPLORER
PYTHON CODE
lesson002.py
lesson002.py
1 print(123)
2 print(type(123))
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
PS C:\Users\hazeldotzone\Python Code> python .\lesson002.py
123
<class 'int'>
PS C:\Users\hazeldotzone\Python Code>
python space filename
To run a Python file

https://


File
Edit
Selection
Python Code
EXPLORER
PYTHON CODE
lesson002.py
lesson002.py
1 print(123)
2 print(type(123))
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
powershell
PS C:\Users\hazeldotzone\Python Code> python .\lesson002.py
123
<class 'int'>
PS C:\Users\hazeldotzone\Python Code>
Python Written Output
OUTLINE
TIMELINE

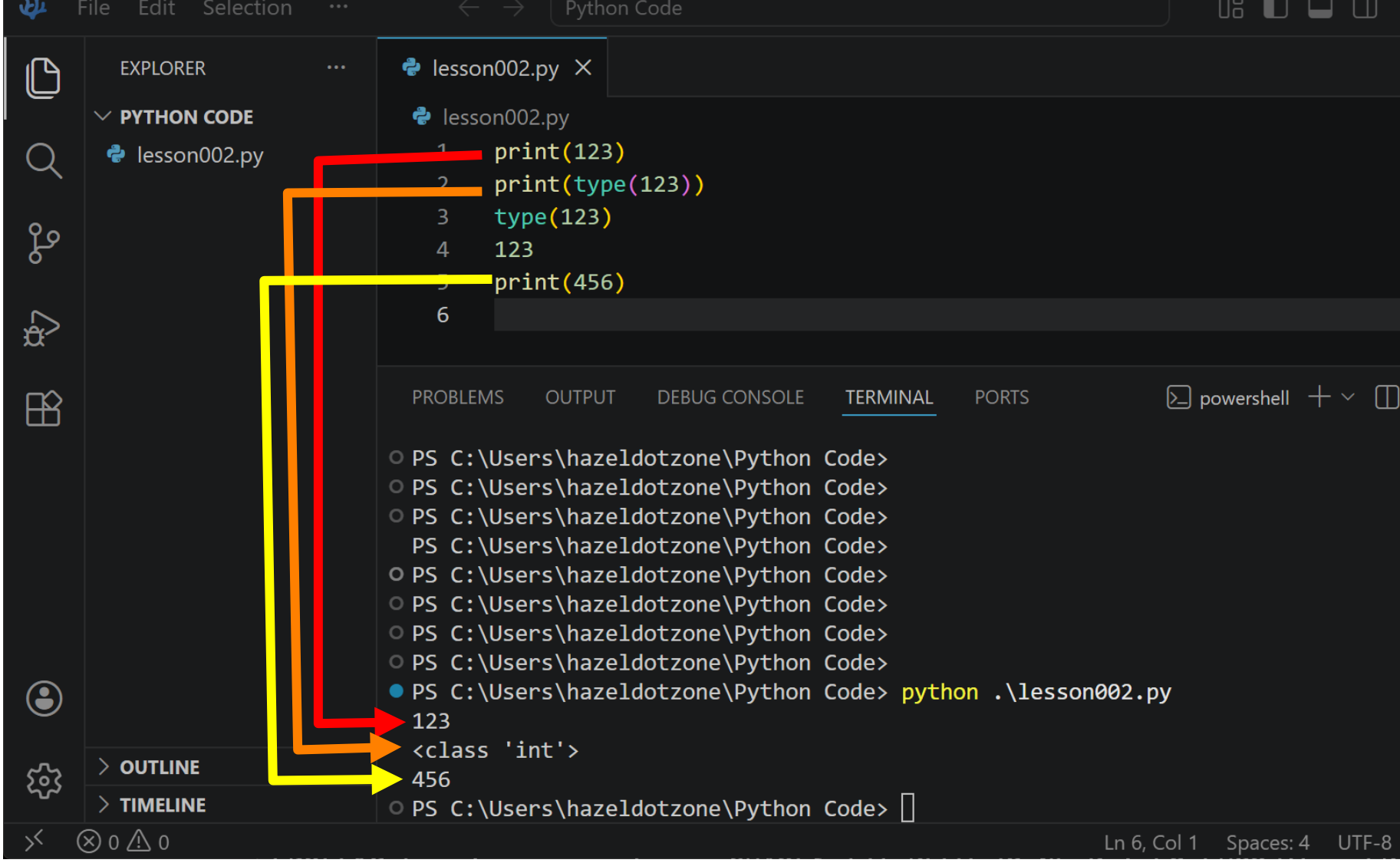
Running Python Files

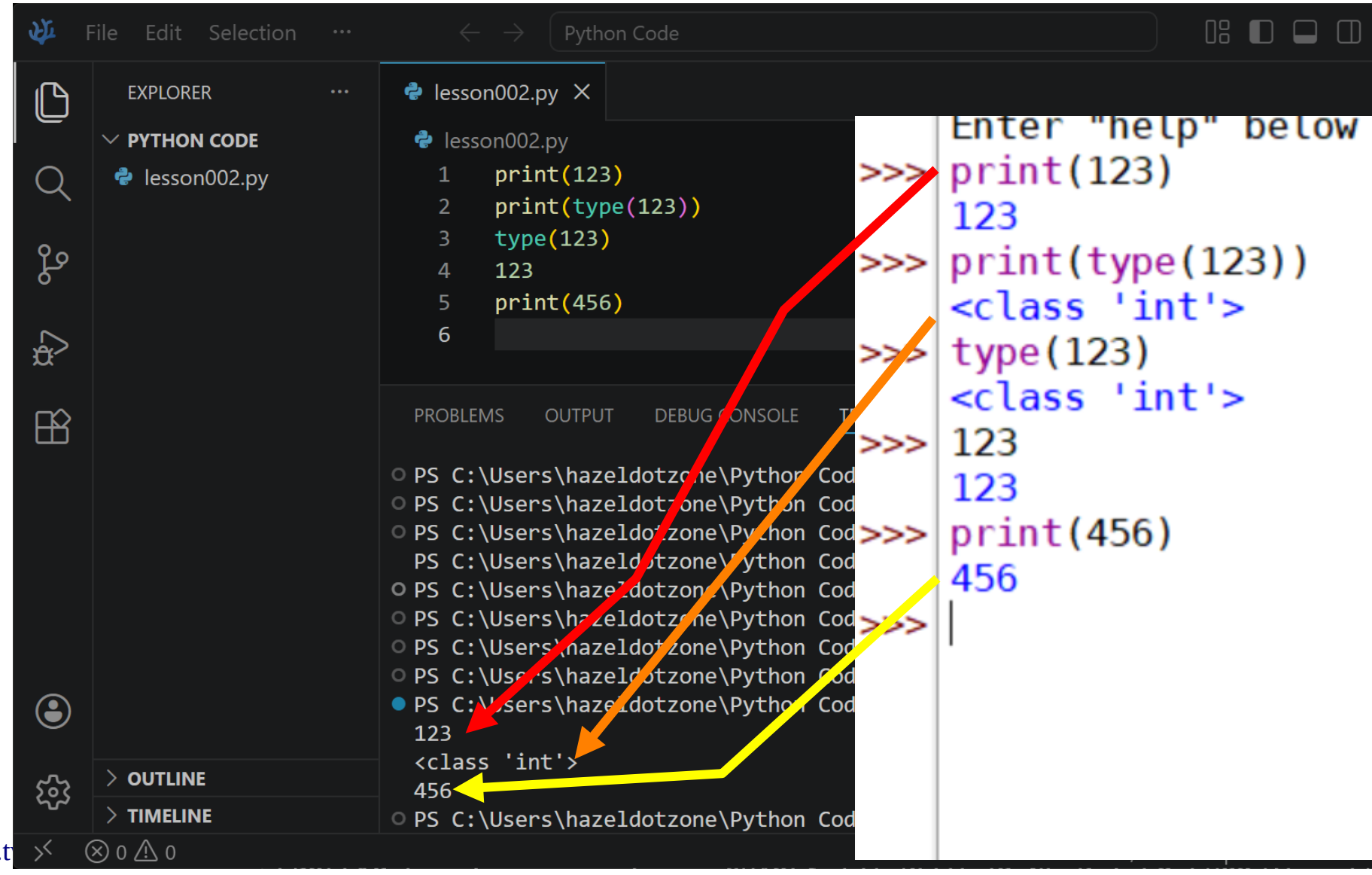
- When we are running a Python code file…
  - no >>>, no REPL
  - Our only written output came from print()
  - Runs the Python code from first line to the last



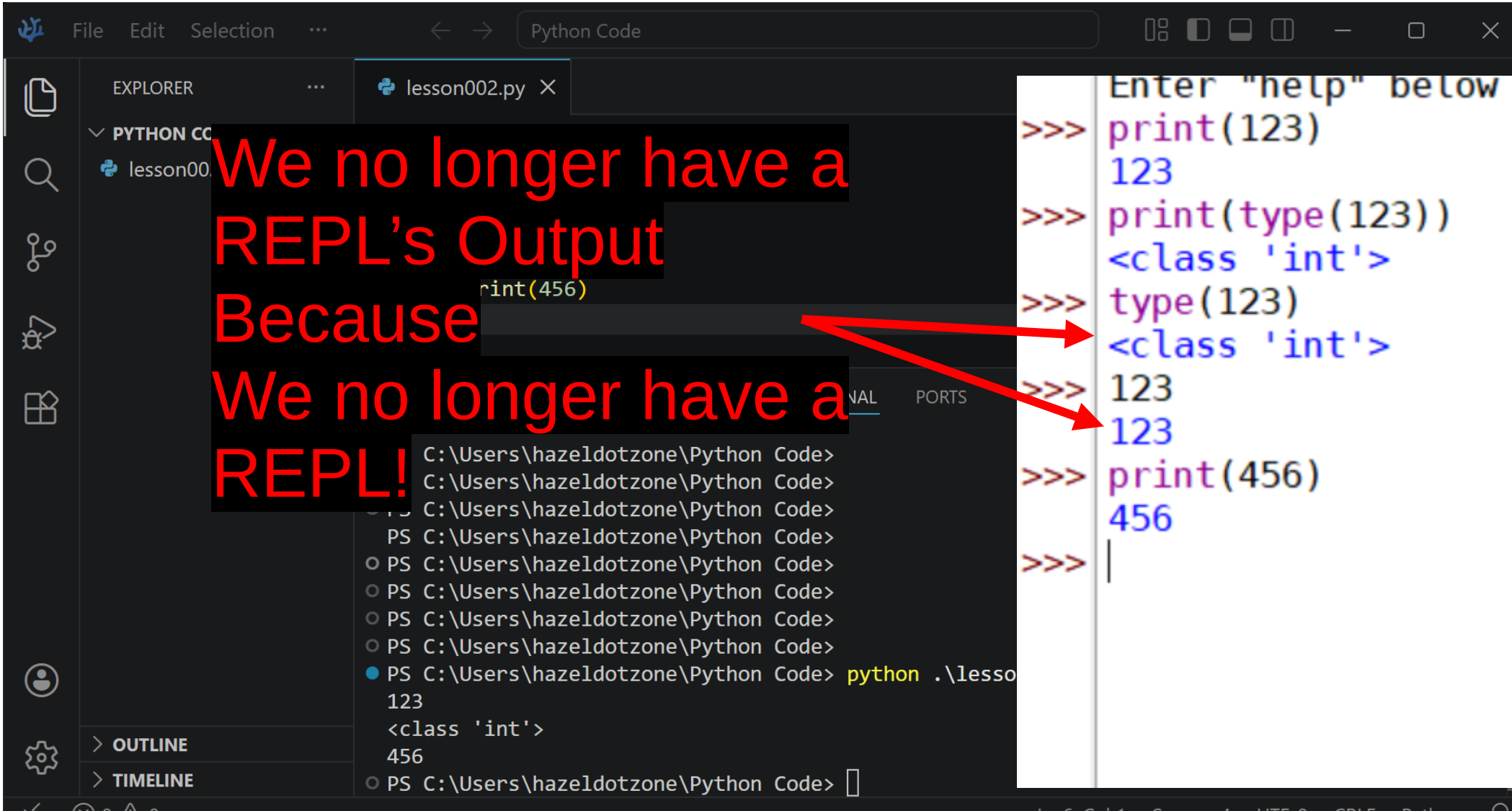
Python Code

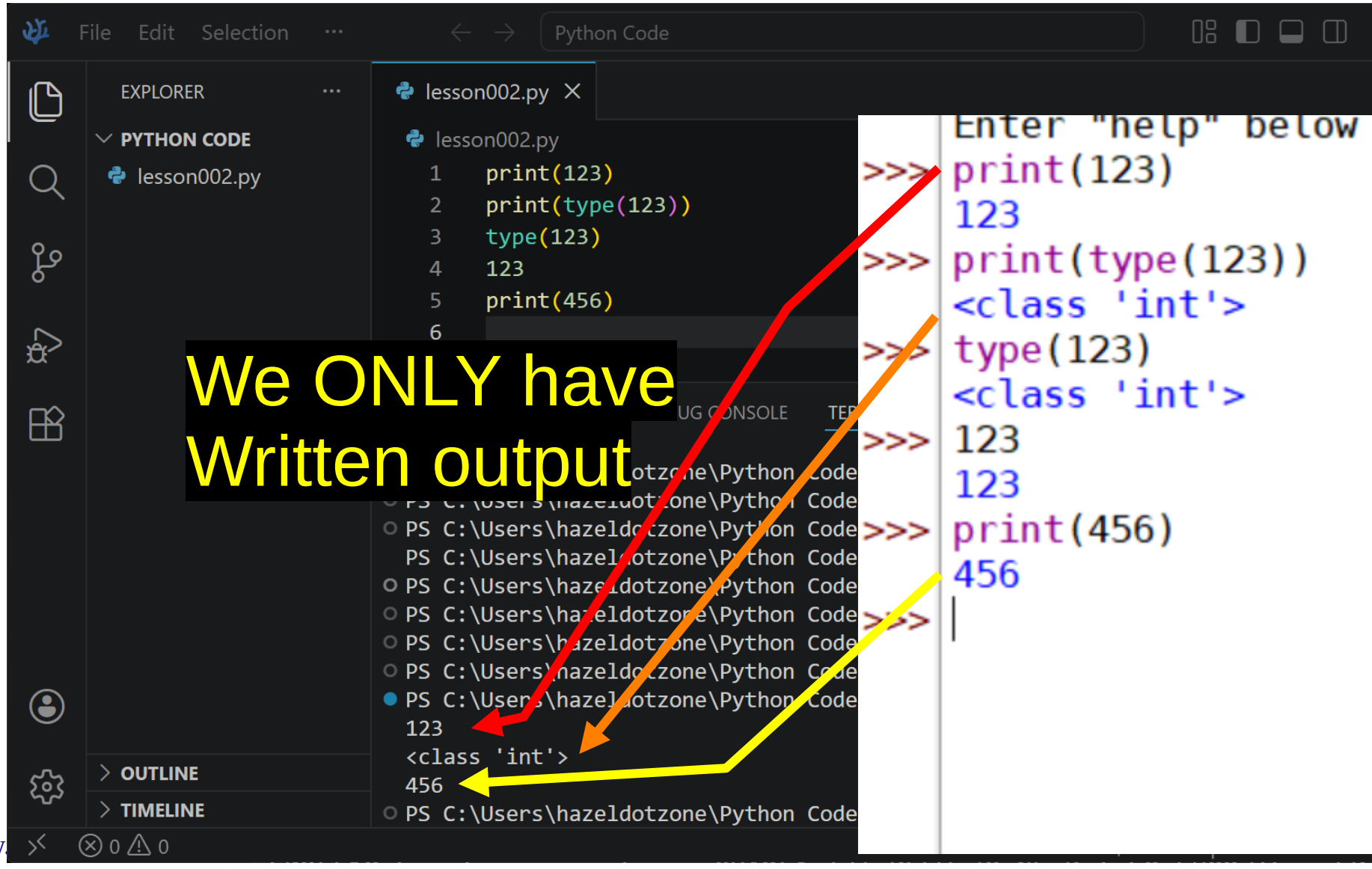
Written Output




File Edit Selection
Python Code
EXPLORER
PYTHON CODE
lesson002.py
lesson002.py
1 print(123)
2 print(type(123))
3 type(123)
4 123
5 print(456)
6
PROBLEMS OUTPUT DEBUG CONSOLE
PS C:\Users\hazeldotzone\Python Cod
123
<class 'int'>
456
OUTLINE
TIMELINE
Enter "help" below
>>> print(123)
123
>>> print(type(123))
<class 'int'>
>>> type(123)
<class 'int'>
>>> 123
123
>>> print(456)
456
>>>

https://www.t


File Edit Selection
Python Code
EXPLORER
lesson002.py
PYTHON CC
lesson00
We no longer have a REPL's Output Because We no longer have a REPL!
rint(456)
NAL PORTS
C:\Users\hazeldotzone\Python Code>
PS C:\Users\hazeldotzone\Python Code>
PS C:\Users\hazeldotzone\Python Code> python .\lesso
123
<class 'int'>
456
PS C:\Users\hazeldotzone\Python Code>
OUTLINE
TIMELINE
Enter "help" below
>>> print(123)
123
>>> print(type(123))
<class 'int'>
>>> type(123)
<class 'int'>
>>> 123
123
>>> print(456)
456
>>>


File Edit Selection
Python Code
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PYTHON CODE
lesson002.py
lesson002.py
1 print(123)
2 print(type(123))
3 type(123)
4 123
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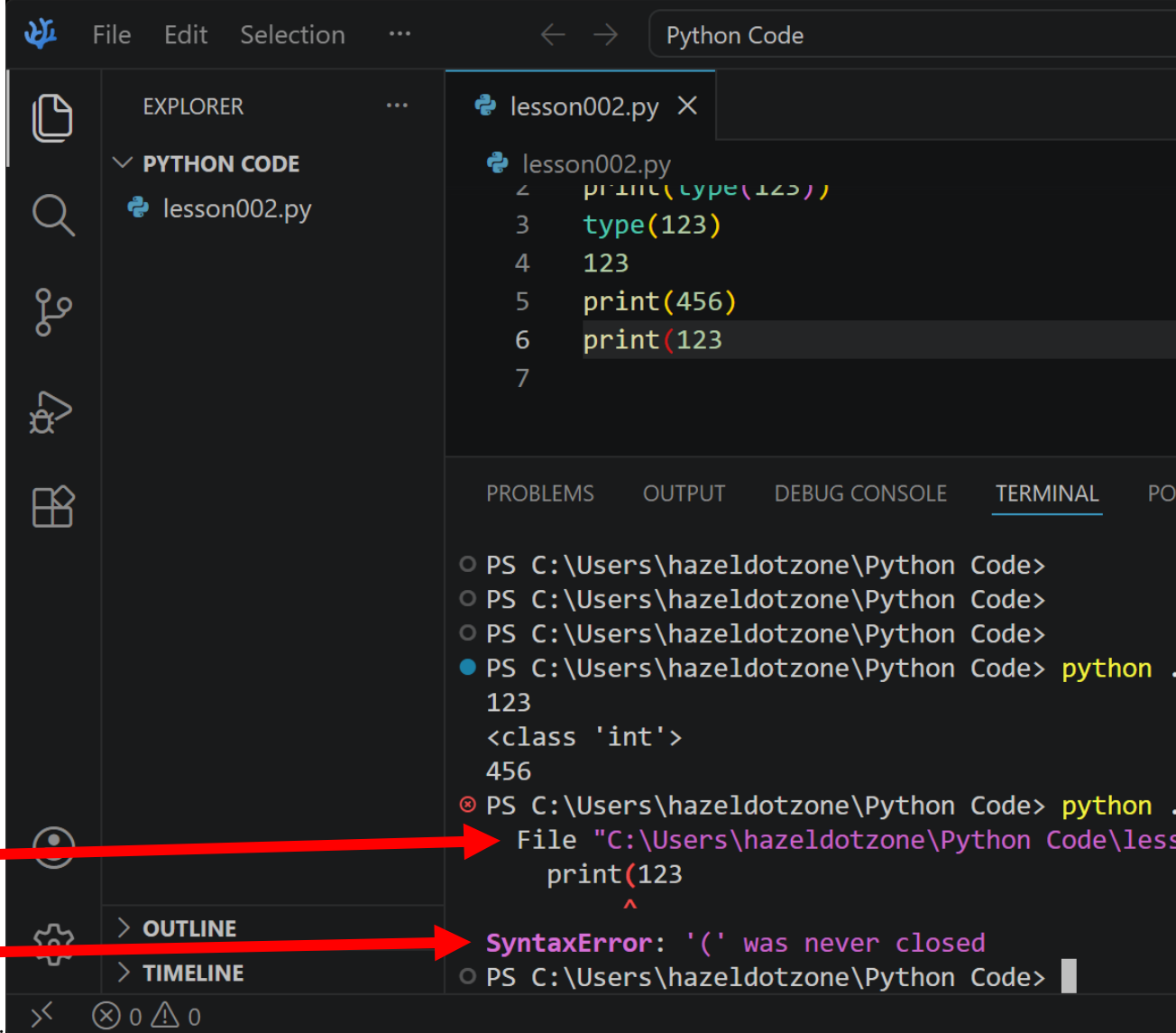
6
We ONLY have
Written output
PS C:\Users\hazeldotzone\Python Code
123
<class 'int'>
456
OUTLINE
TIMELINE
Enter "help" below
>>> print(123)
123
>>> print(type(123))
<class 'int'>
>>> type(123)
<class 'int'>
>>> 123
123
>>> print(456)
456
>>>

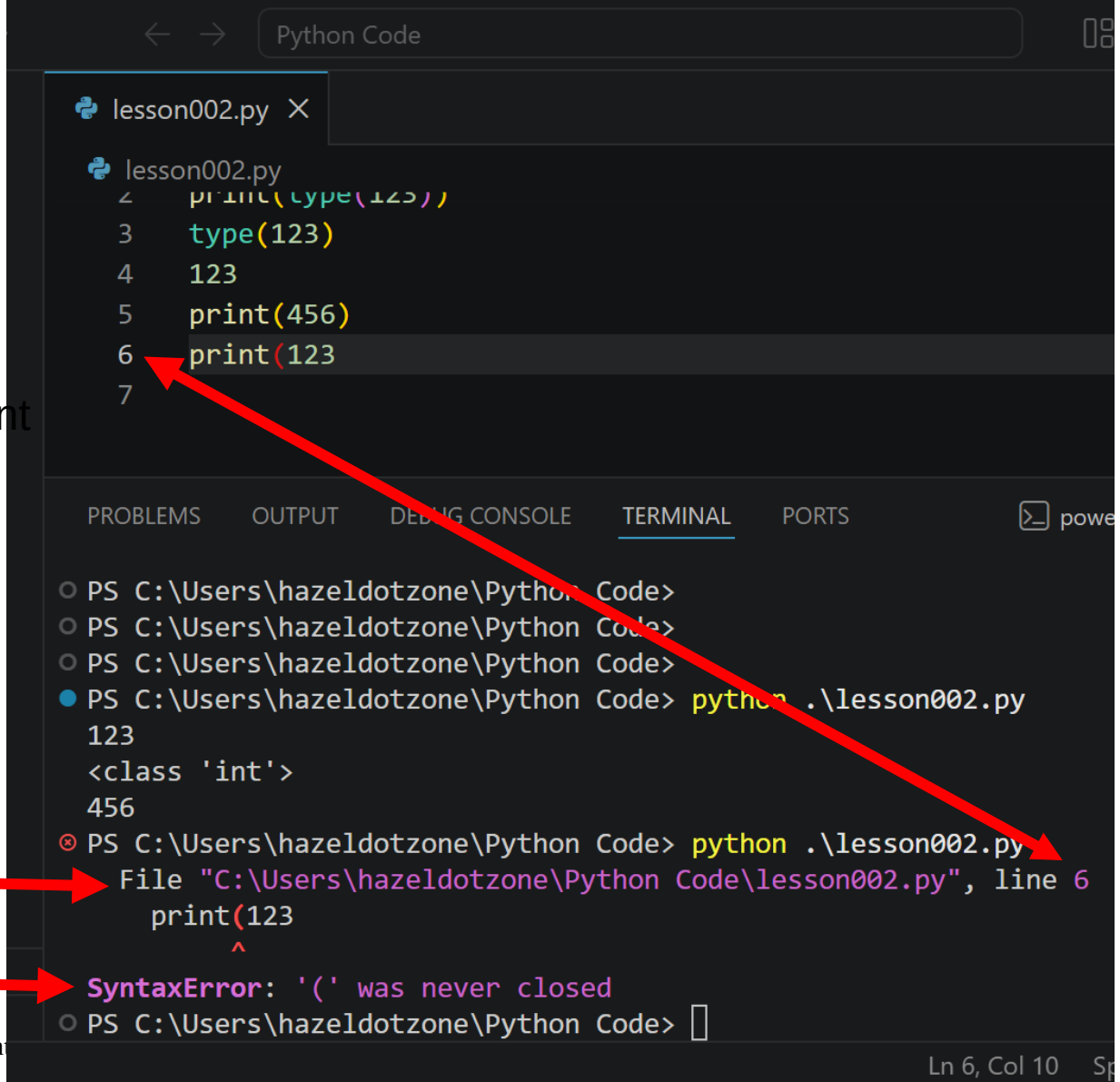
We may still have errors, though

Location

Error



Now the location information
In our error message is more important
Since it will tell us what line
Python thinks the fault is on



We may still have errors, though

Location

Error

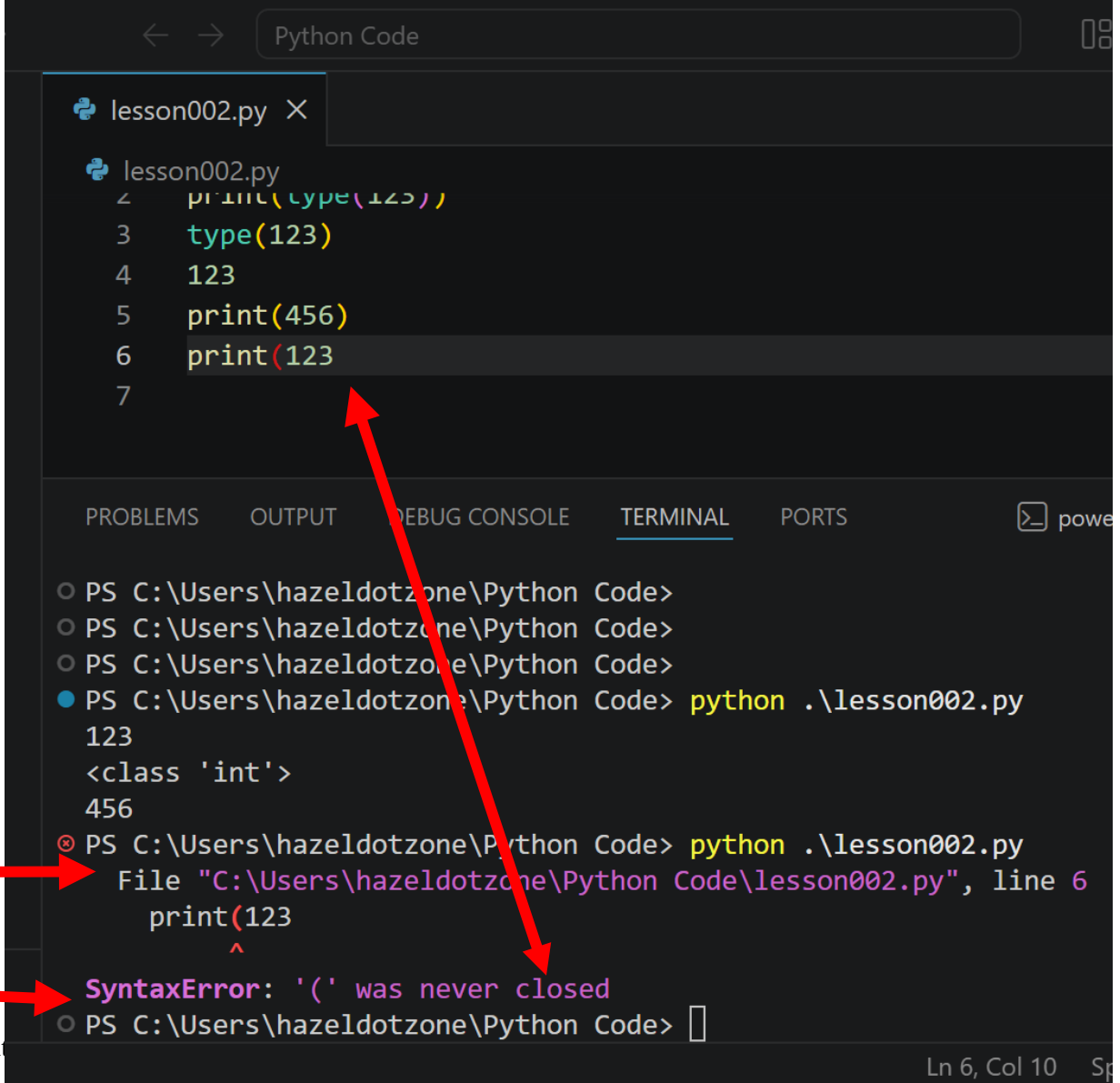
In this example, we forgot the)

Python helpfully tells us about it

We may still have errors, though

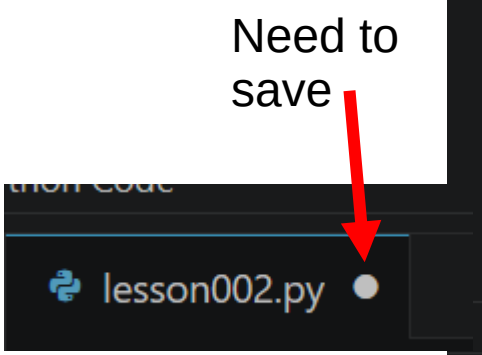
Location

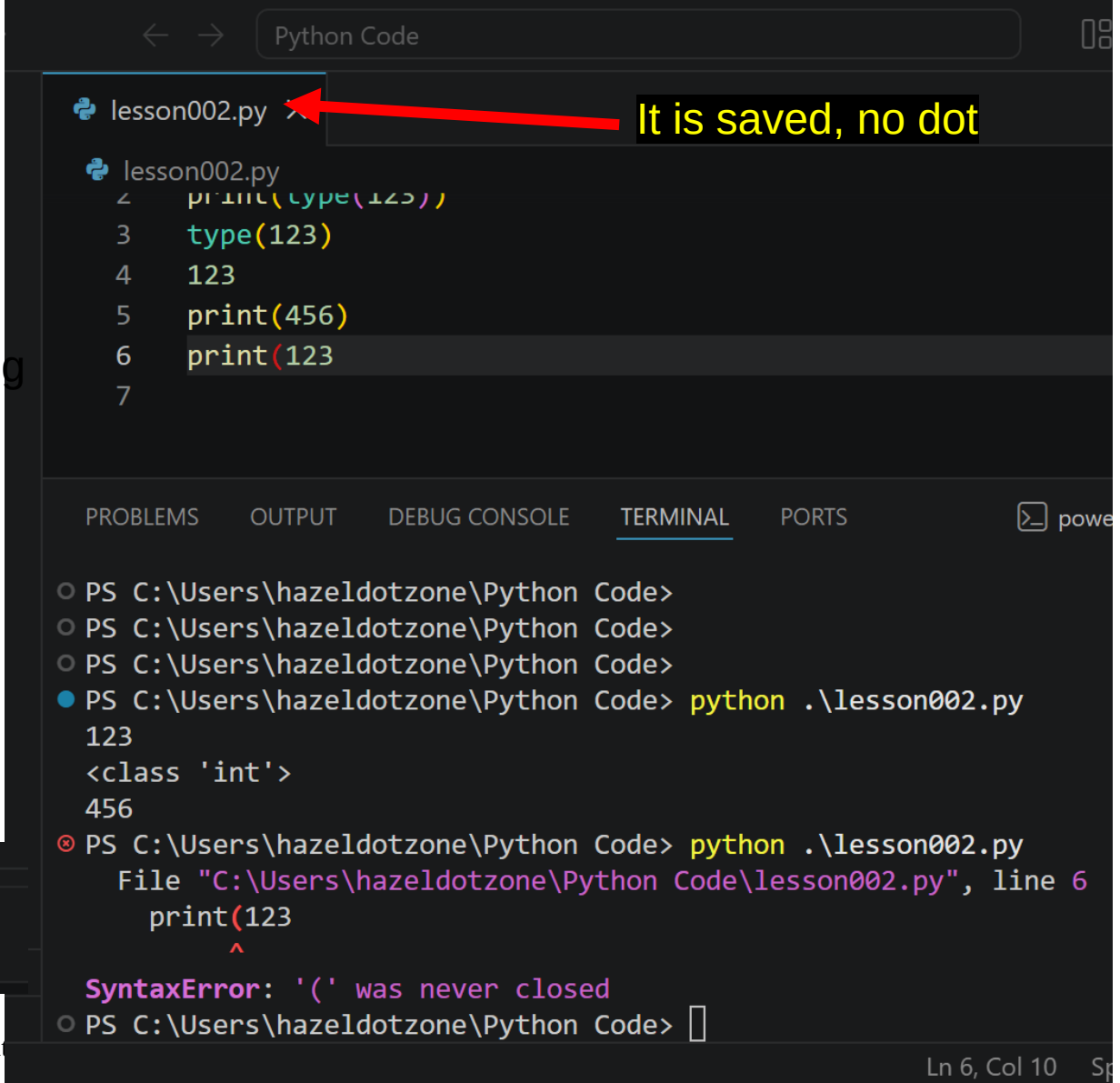
Error



Fixed the code but Python is still giving
The same error message?

We forgot to save!



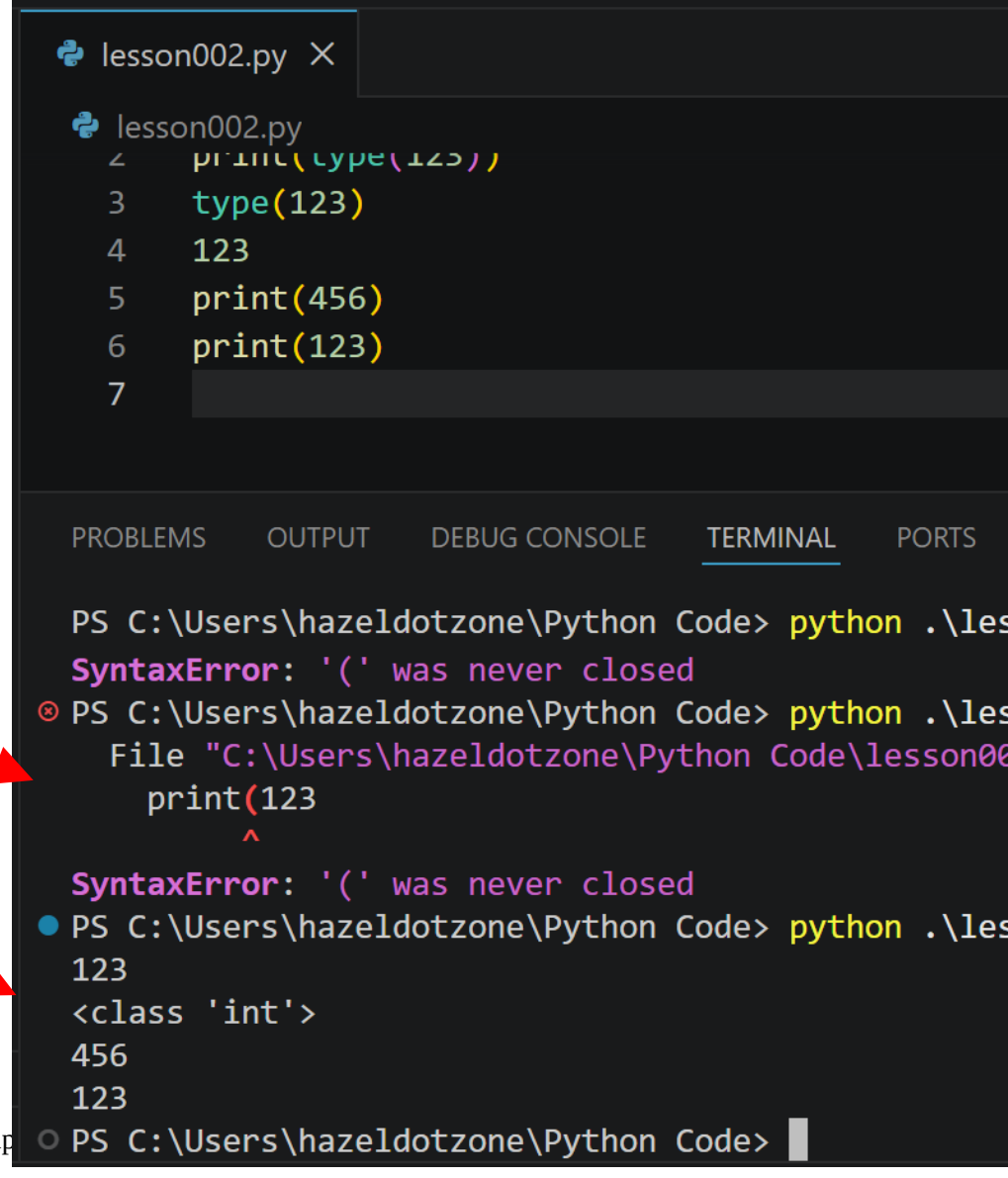


Make sure you're always looking at

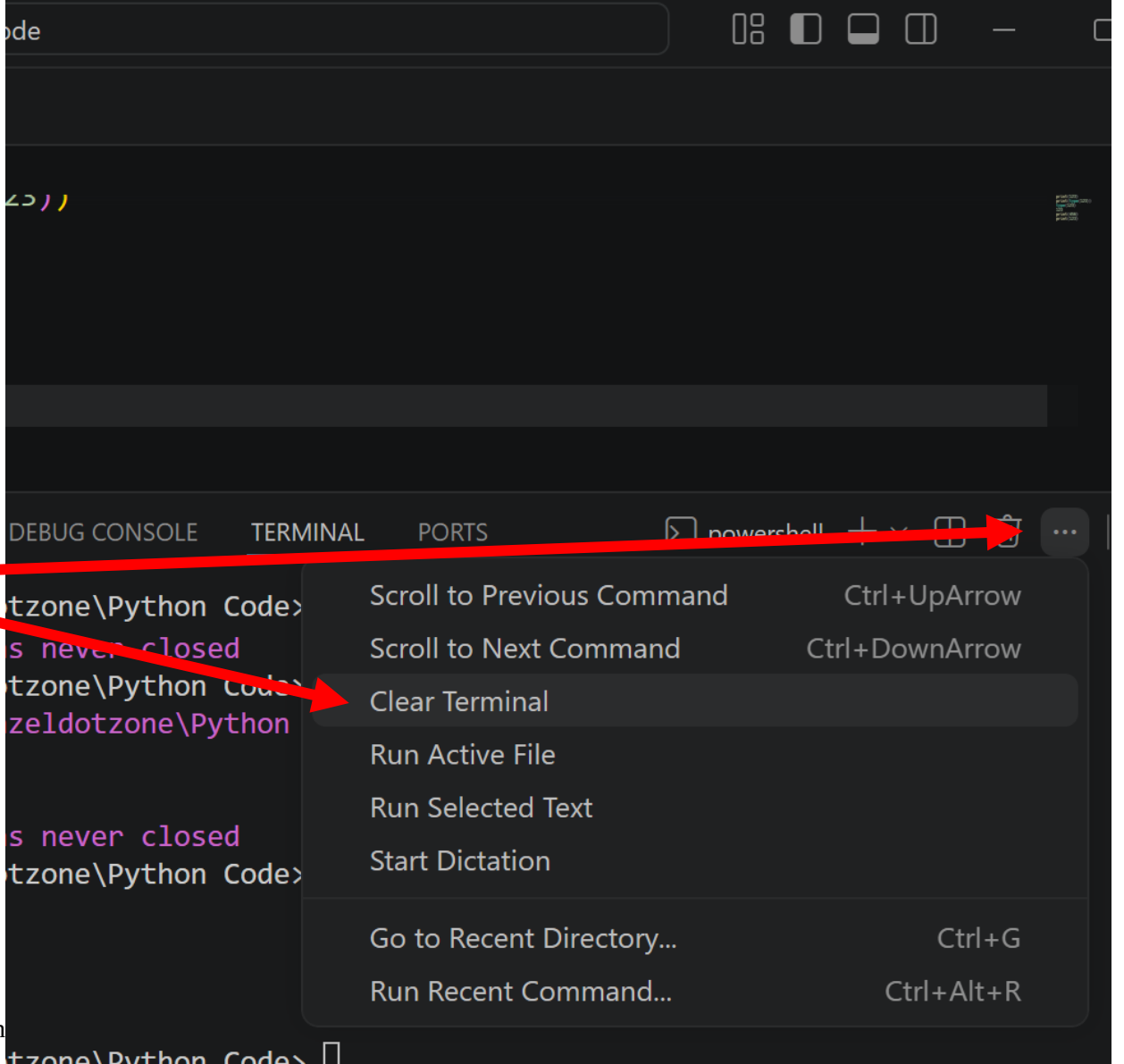
- The output of your last run
- From after you saved

Output of our previous run

Output of our last run



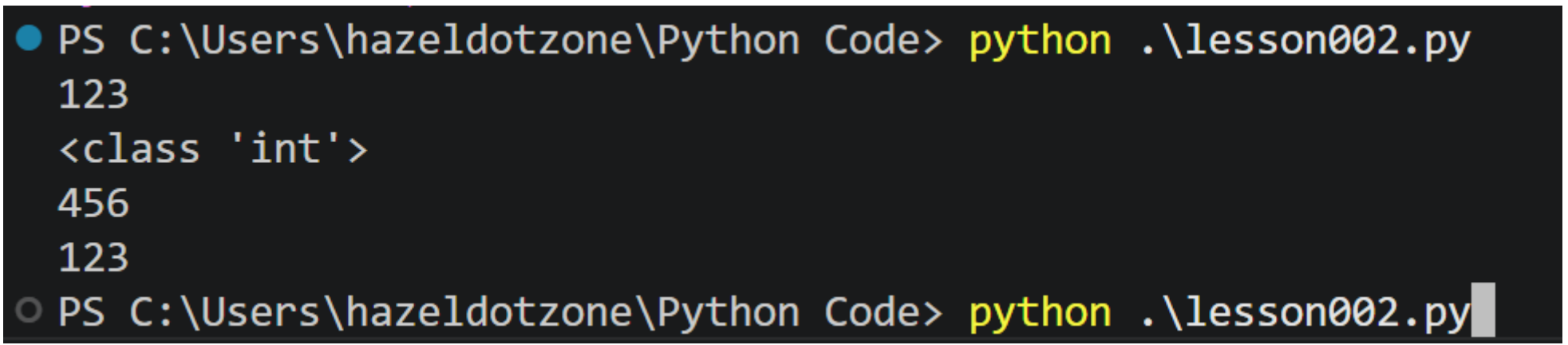
We can always clear our Terminal if it gets too Cluttered!



Terminal Pro Tips

Since we are running the same command a lot of times, typing it out each time is annoying.

Instead, we can press the up arrow key to recall the previous command.
(Works in PowerShell and bash)



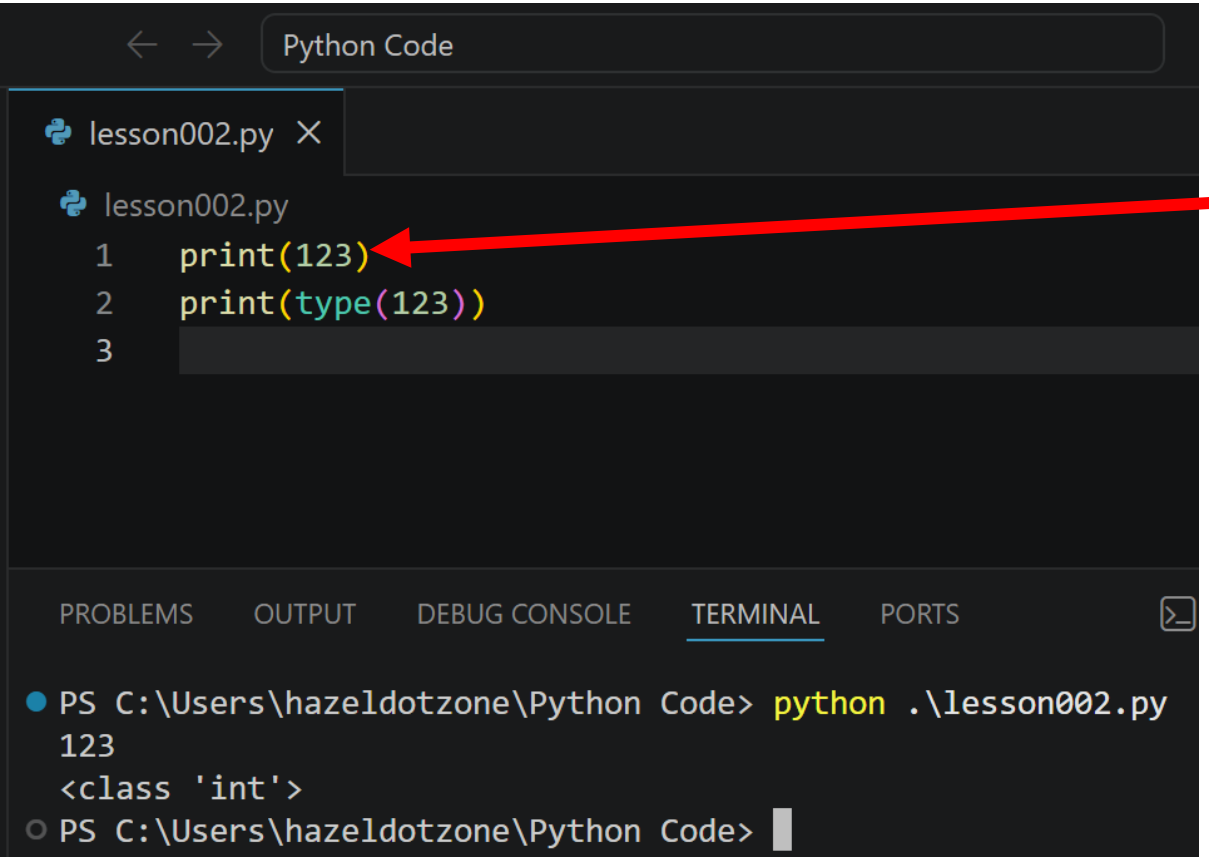
Codium Pro Tips

Since we are running the same command a lot of times, typing it out each time is annoying.

Instead, we can press the up arrow key to recall the previous command.
(Works in PowerShell and bash)

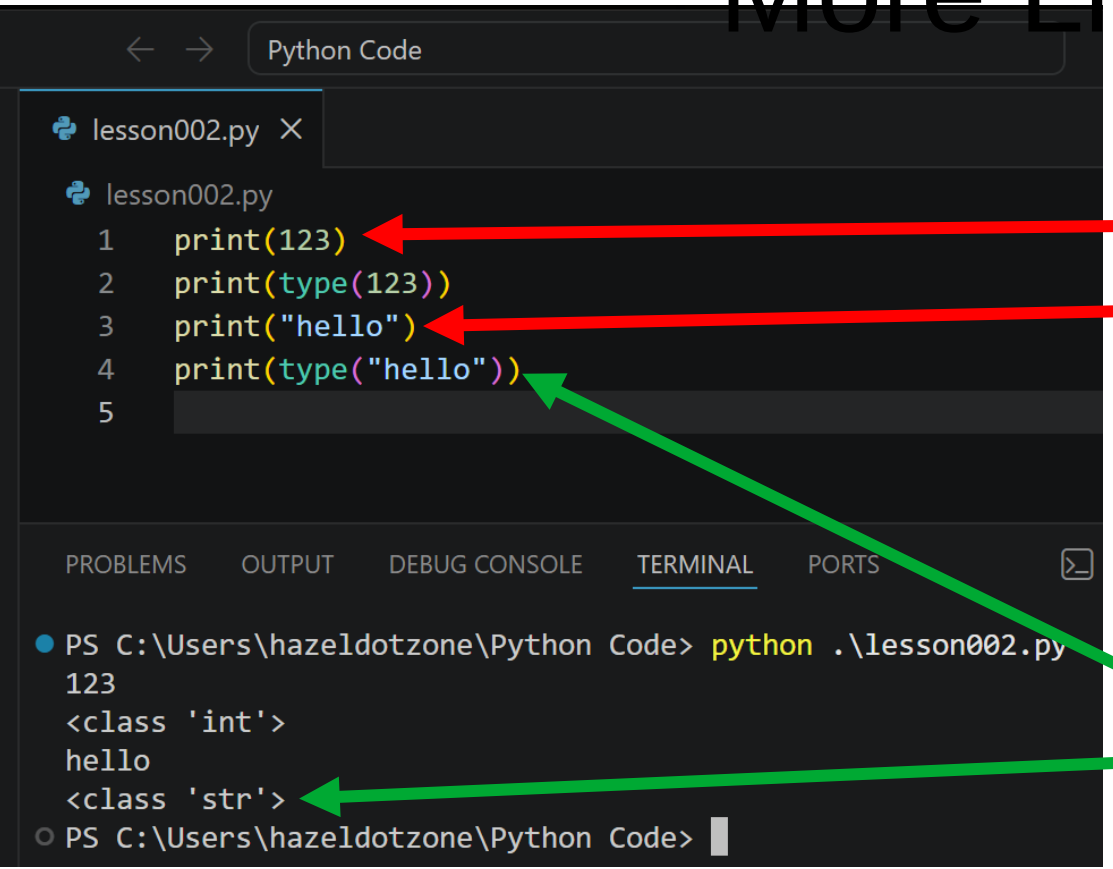
We can also use ctrl shift + to increase font size in all of VSCodium
ctrl shift - to decrease font size

More Literals



int Literal

More Literals



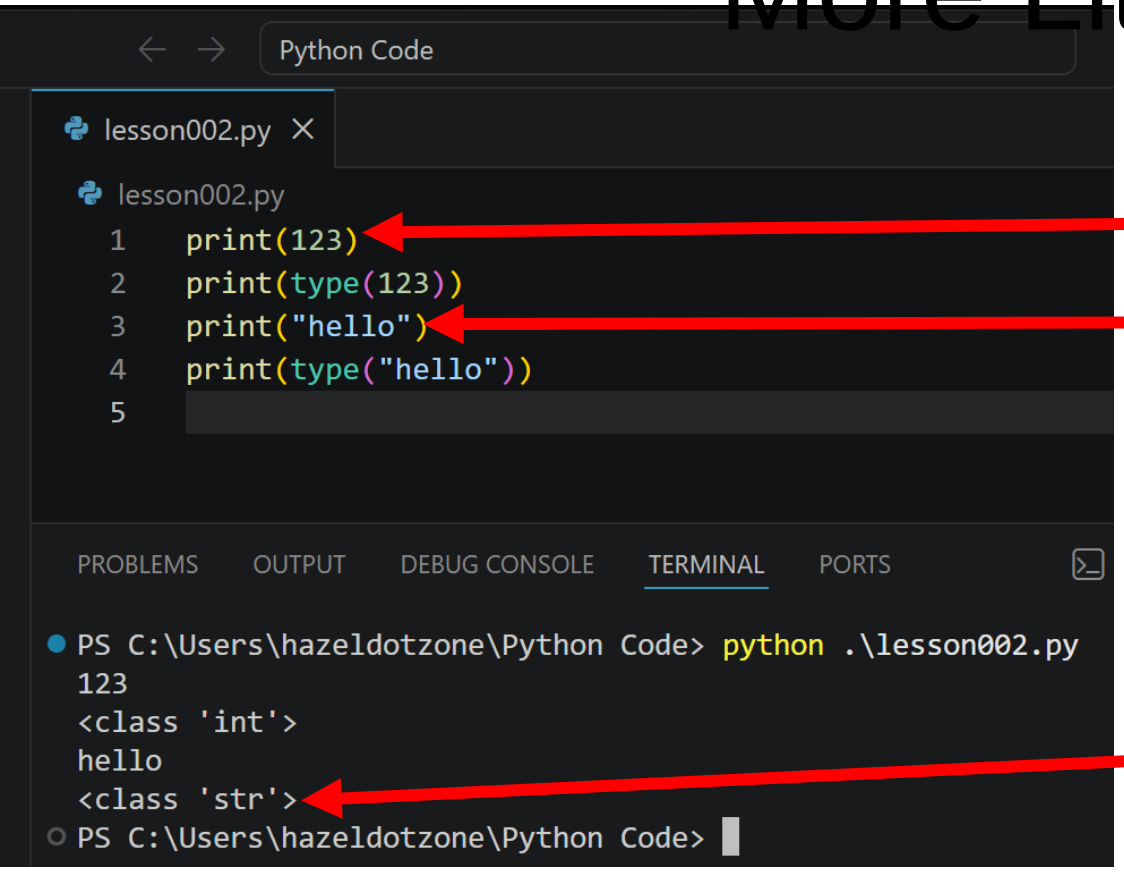
int Literal

str Literal

Type of “hello” is printed

(of course since we’re using the `print` function it’s written output, REPL Isn’t running!)

More Literals

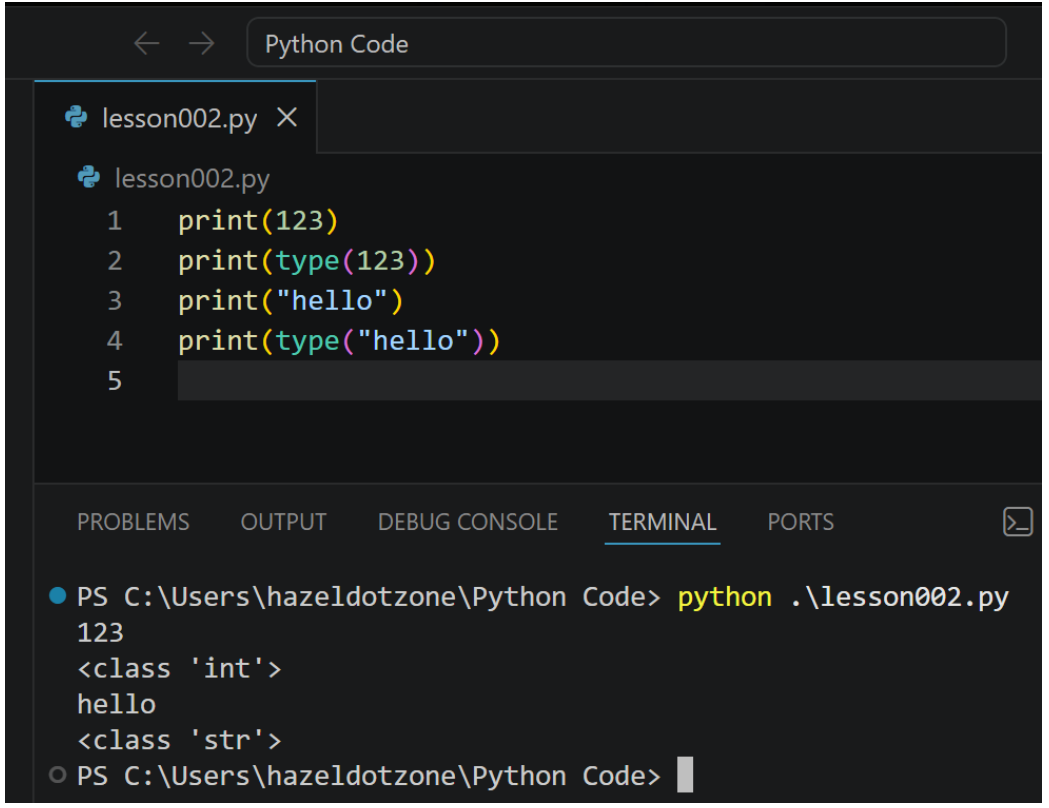


int Literal

str Literal

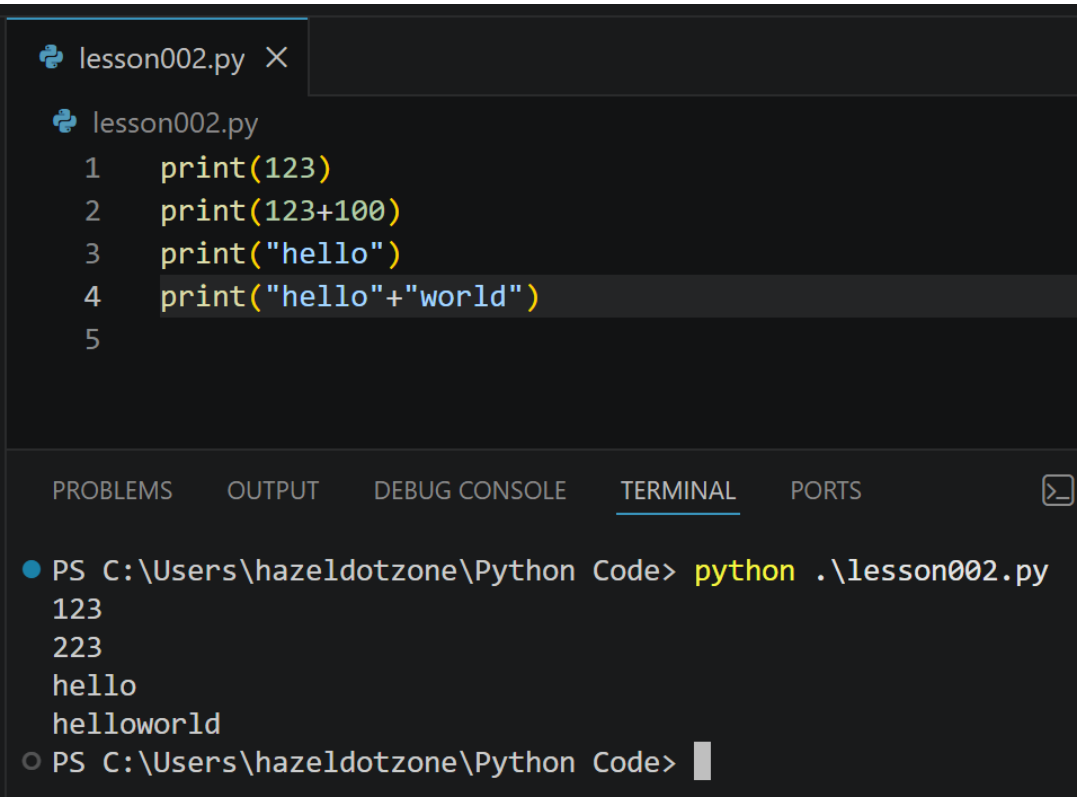
Type of “hello” is printed

Addition



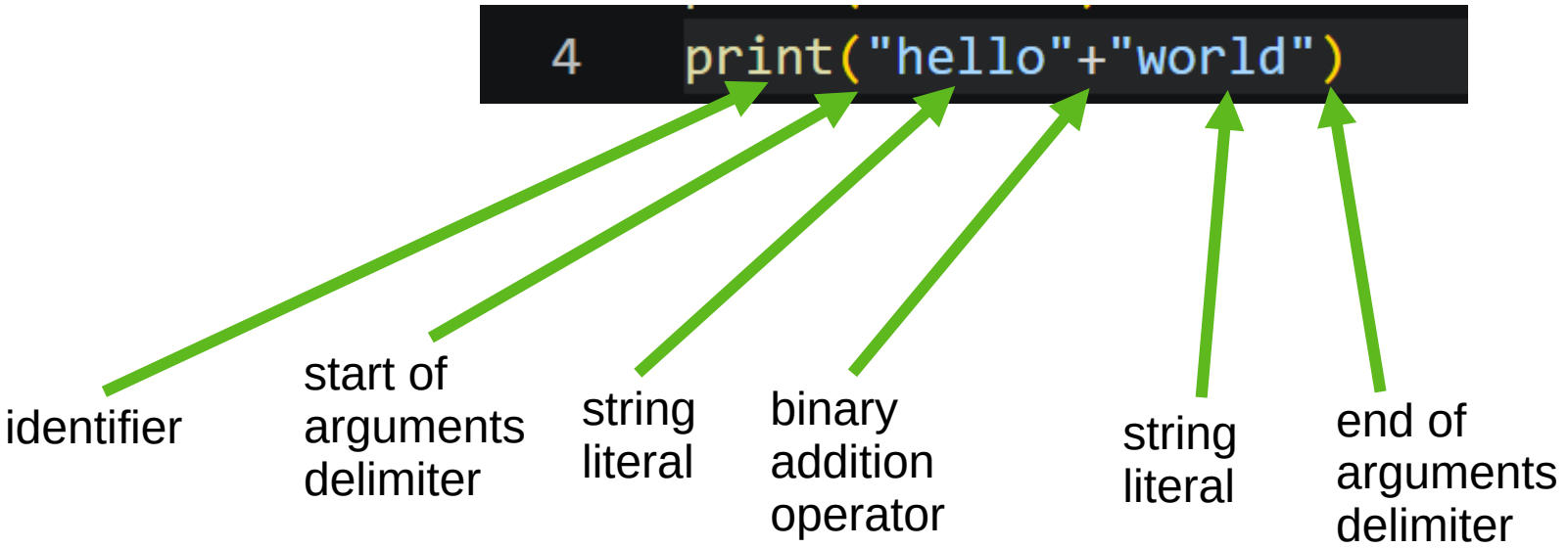
- We can add `int`

Addition



- We can add `int`
- We can add `str`?

Syntax Review



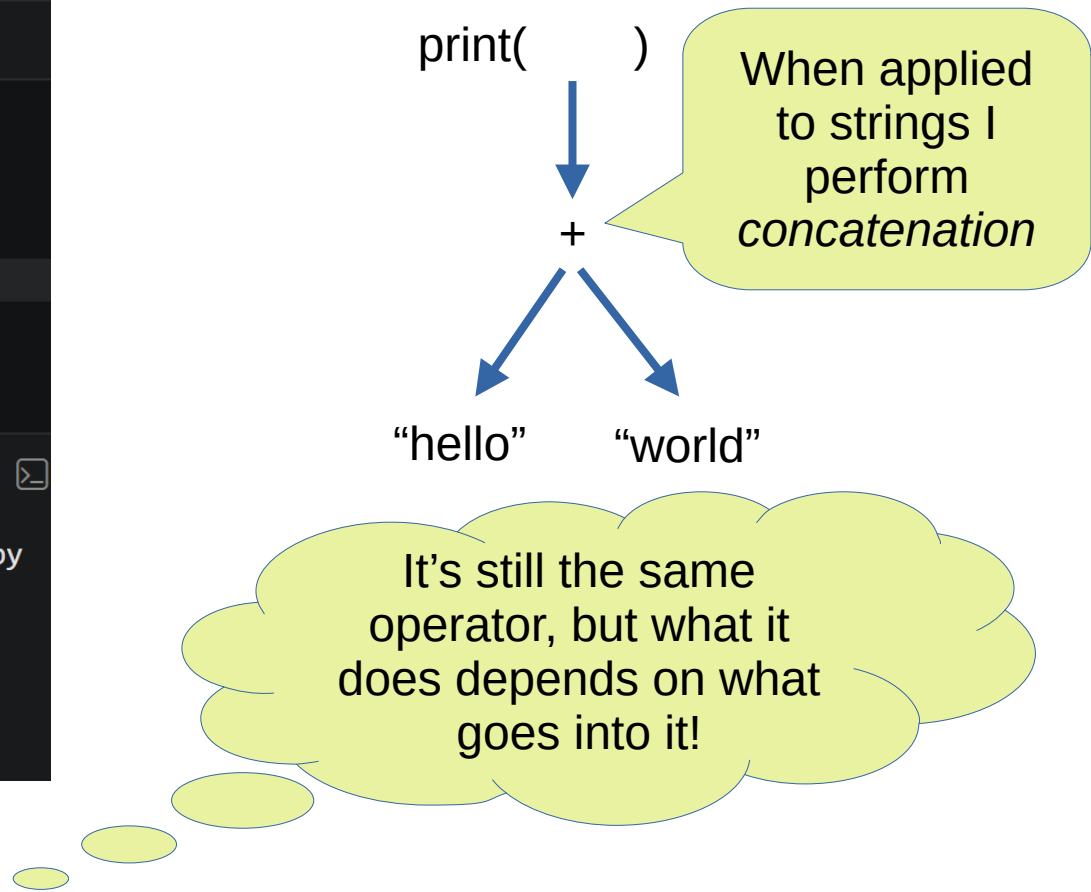
Addition – Diagram Review

lesson002.py

```
1  print(123)
2  print(123+100)
3  print("hello")
4  print("hello"+"world")
5
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\hazeldotzone\Python Code> python .\lesson002.py
123
223
hello
helloworld
PS C:\Users\hazeldotzone\Python Code>
```



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123
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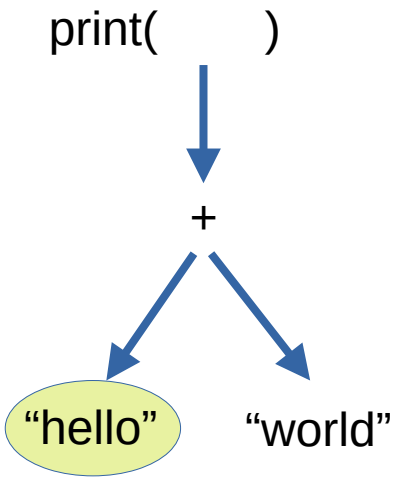

Evaluation goes from left to right bottom up

Addition – Diagram Review

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PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

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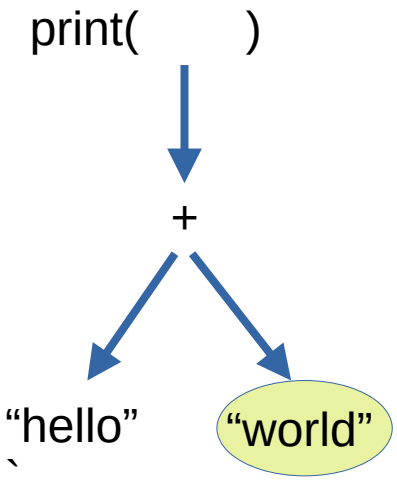
```



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Addition – Diagram Review

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```

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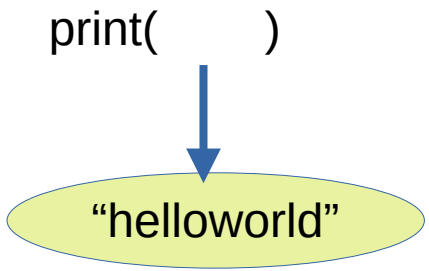
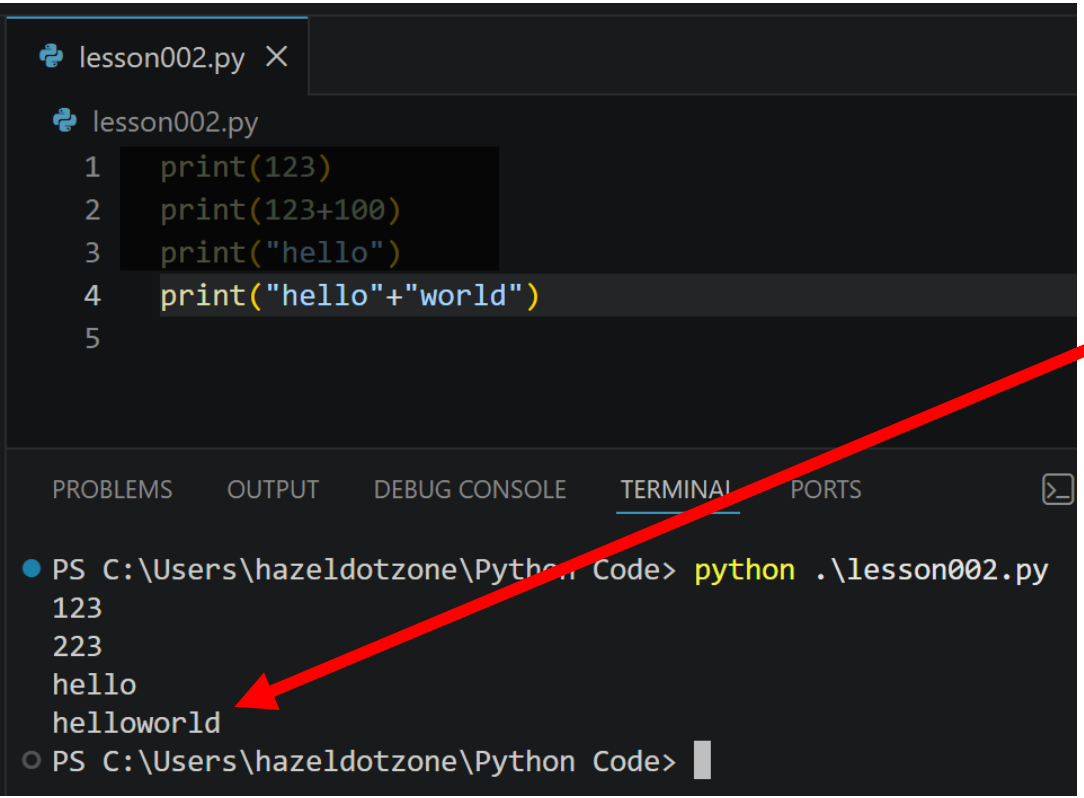
```
PS C:\Users\hazeldotzone\Python Code> python .\lesson002.py
123
223
hello
helloworld
PS C:\Users\hazeldotzone\Python Code>
```



Evaluation goes from left to right bottom up

Addition – Diagram Review

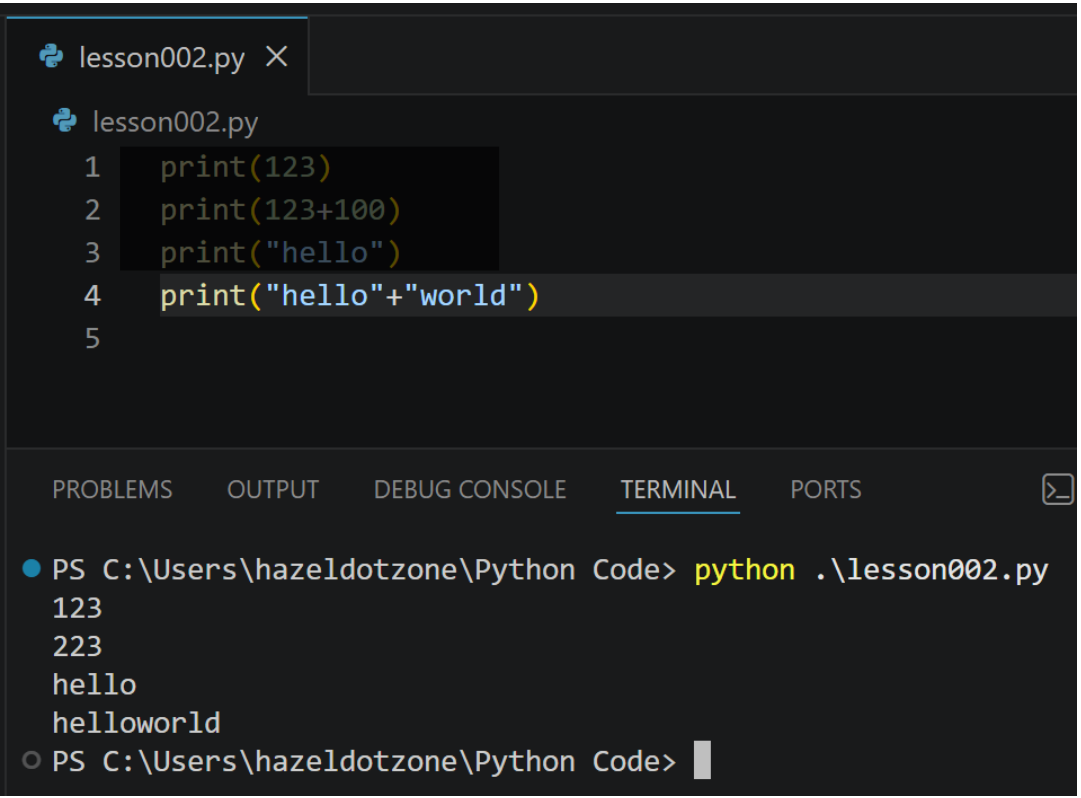


print( )

Run the call
With one argument
“helloworld”

Evaluation goes from left to right bottom up

Addition – Diagram Review

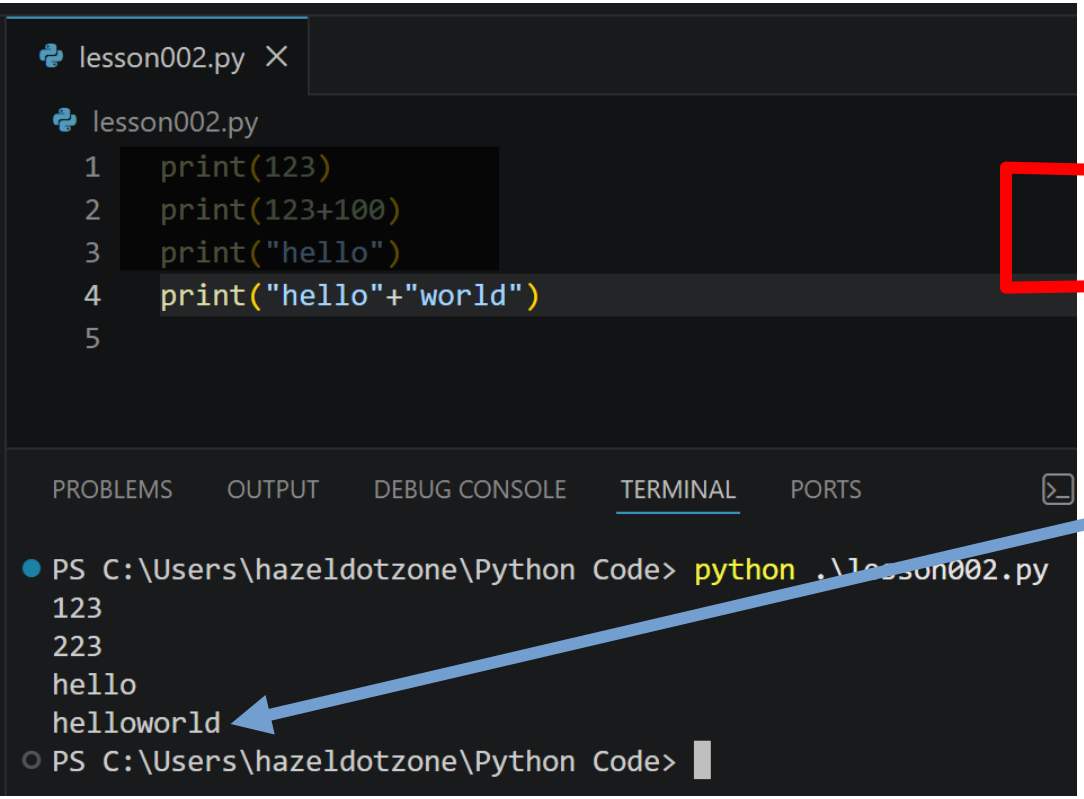


None

Evaluation goes from left to right bottom up

Addition – Evaluation Order

Remember… they're literals!



1)"hello" → "hello"

2)"world" → "world"

3) + → "helloworld"

4)print( )

5)None