

todo

add

- renaming something in jupyter with strg f r which is a common variable name like i might change it in unintended places
- get all lecturers to say their setup

breaking up with jupyter
= finding a good setup

all setups are equal

all setups are equal

...but some are more equal than others

test038_dual_targets.ipynb	2 months ago
test039_show_tell0.ipynb	a month ago
test04.ipynb	4 hours ago
test040_pos240.ipynb	a month ago
test041_pos240.ipynb	a month ago
test042_pos240.ipynb	22 days ago
test043.ipynb	19 days ago
test044_pycaret.ipynb	a month ago
test045_pycaret_anomaly01.ipynb	a month ago
test046_lockdowns.ipynb	a month ago
test046_lockdowns02.ipynb	a month ago
test046_lockdowns03.ipynb	a month ago
test047_holidays.ipynb	a month ago
test047_holidays02.ipynb	13 days ago
test047_locks_results.ipynb	21 days ago
test047_locks_results02.ipynb	20 days ago
test047_locks_results03.ipynb	19 days ago
test05.ipynb	a year ago
test050_NEWE-9660_fetch_segments004.ipynb	16 days ago
test051_events_data.ipynb	8 days ago
test052_bigquery.ipynb	6 days ago
test052_bigquery02.ipynb	6 days ago
test052_bigquery03.ipynb	6 days ago
test052_bigquery04.ipynb	6 days ago
test052_bigquery05.ipynb	6 days ago
test052_bigquery06.ipynb	6 days ago
test06.ipynb	a year ago
test07.ipynb	a year ago
test08.ipynb	a year ago
test09.ipynb	a year ago
test10.ipynb	a year ago
test11aga.ipynb	a year ago
test12.ipynb	3 months ago
test13.ipynb	3 months ago
test14.ipynb	3 months ago
test15.ipynb	a month ago
test16.ipynb	a month ago

... the equal

the equal than others

Jupyter

advantages

Jupyter/script+ipython

advantages

- access to variables, develop plots
- present text + interactive visualisation
- specific jupyter-magic

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disadvantages

- difficult to have clean git history (lecture)
- difficult to test your code with pytest (lecture)
- impossible to keep code organised well without duplicates (lecture)
- uncomfortable to debug (lecture)
- difficult to write functions and classes (lecture)

Demo: problems

Examples in jupyter

- Namespace
-

Demo IDE abilities

Examples in IDE (my personal setup!)

- advanced debugging + accessing variables + plotting figure
- navigating code (walk, usages, last place)
- renaming variables, function signatures (rename increase)
- testing integration
- git integration (diff, diff per line, filename colorx)
- code completion / error detection / formatting / indentation

Jupyter

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- present text + interactive visualisation
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editors/IDE

advantages

- fixes all jupyter disadvantages
- easy to navigate code
- easy and reliable to refactor code (make changes everywhere etc)
- alerts you to errors
- comfortable and helpful debugging
- automatic formatting checks (including automatic indentation)
- in-built profiling (no need to add code/separate out functions)

all setups are equal, so
...find one that works for you

Pycharm Settings (Pamela)

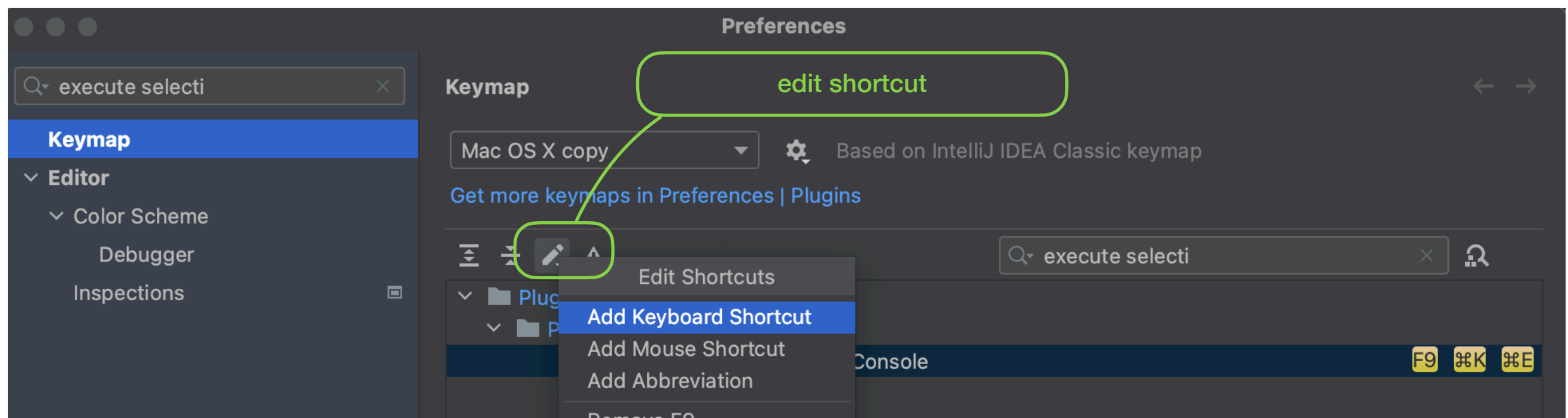
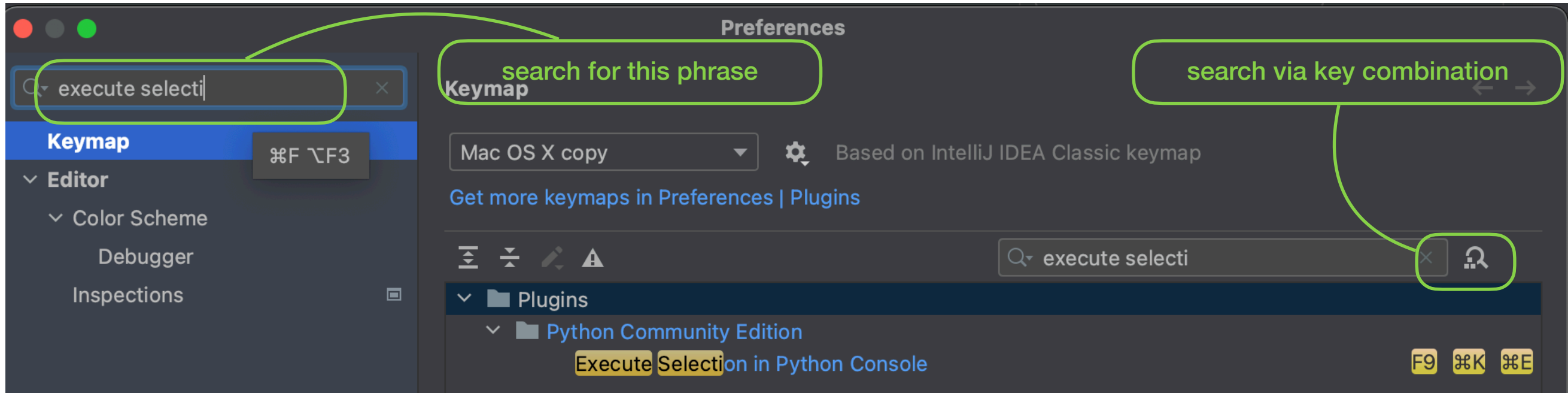
**Pycharm 2023.2.1 (Mac Intel)
Community Edition**

Pycharm 2023.2.1 (Mac Intel)

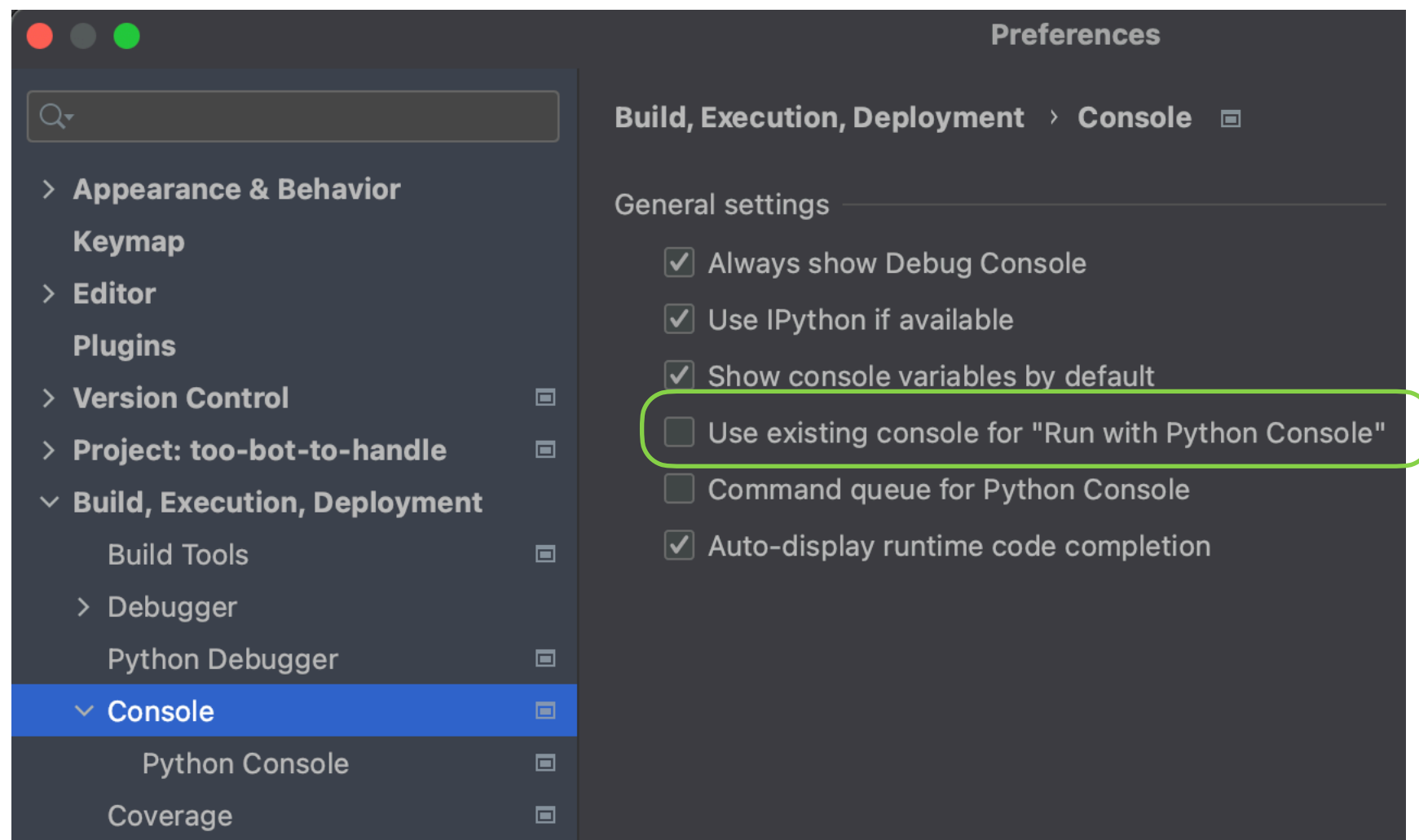
Useful Commands + Keyboard Shortcuts (Default)

- Go back to last place you were in your code: cmd + option + left arrow
- Search for a name/code/ in all files: cmd + shift + N
(shows you all instances of a variable or all usages of a function when you search for it)
- Search through all actions (including settings): cmd + shift + A
- Get settings: cmd + ,
- Go to function definition / show all usages: cmd + click (on function name)
- See documentation for function: hover over it
- Rename / move file: right click on function/variable —> Refactor

- **Execute highlighted (selected) variable in Python console**
(also while debugging)
- Settings —> search for “execute selection”



- **Tell Debugging to execute highlighted text** (setting from previous slide) **in Debugging Console**
- Use existing console for “Run with Python Console” should be switched off (I think)



Debugging

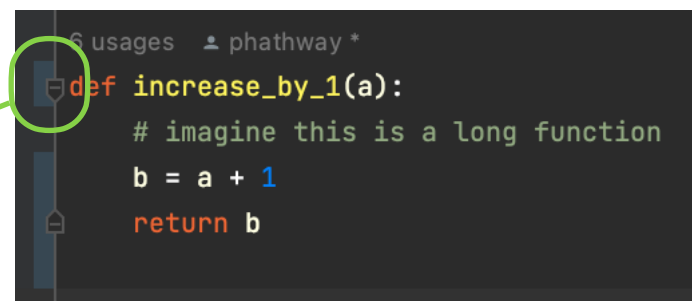
- execute single lines
- create figures iteratively
- see all variables (also displayed in the code)

```
3 usages new *
def assess_path_safety(bot, state, path=None):  bot: blue (you) vs red.
    dangerous_positions = []  dangerous_positions: [(8, 3), (8, 3)] ✓
    danger_level_list = []  danger_level_list: [0, 1]
    danger_level = 1000  danger_level: 1000
    path_is_safe = False  path_is_safe: False
```

Git integration

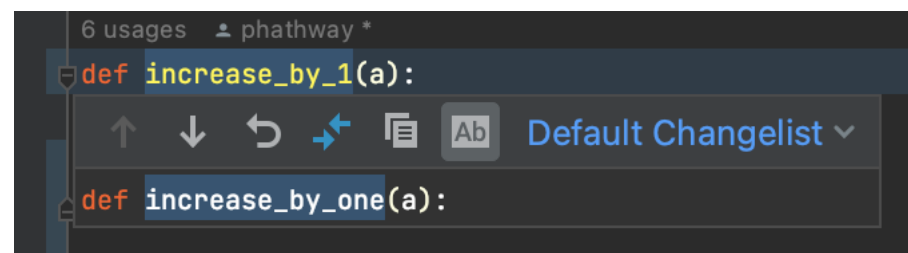
- ability to commit hunks
- ability to see which files changed (color of their name in project folder)
- ability to see differences between files easily
- see which line changed, and what the change was by clicking on the color highlight to the left of the line. Can change it back by clicking on arrow pointing backwards

click



```
6 usages  phathway *  
def increase_by_1(a):  
    # imagine this is a long function  
    b = a + 1  
    return b
```

A screenshot of a code editor with a dark theme. The file name is 'phathway *' and it has '6 usages'. The code shows a function 'def increase_by_1(a):' with a comment '# imagine this is a long function', followed by 'b = a + 1' and 'return b'. A green circle highlights a small icon in the left margin next to the function definition line.

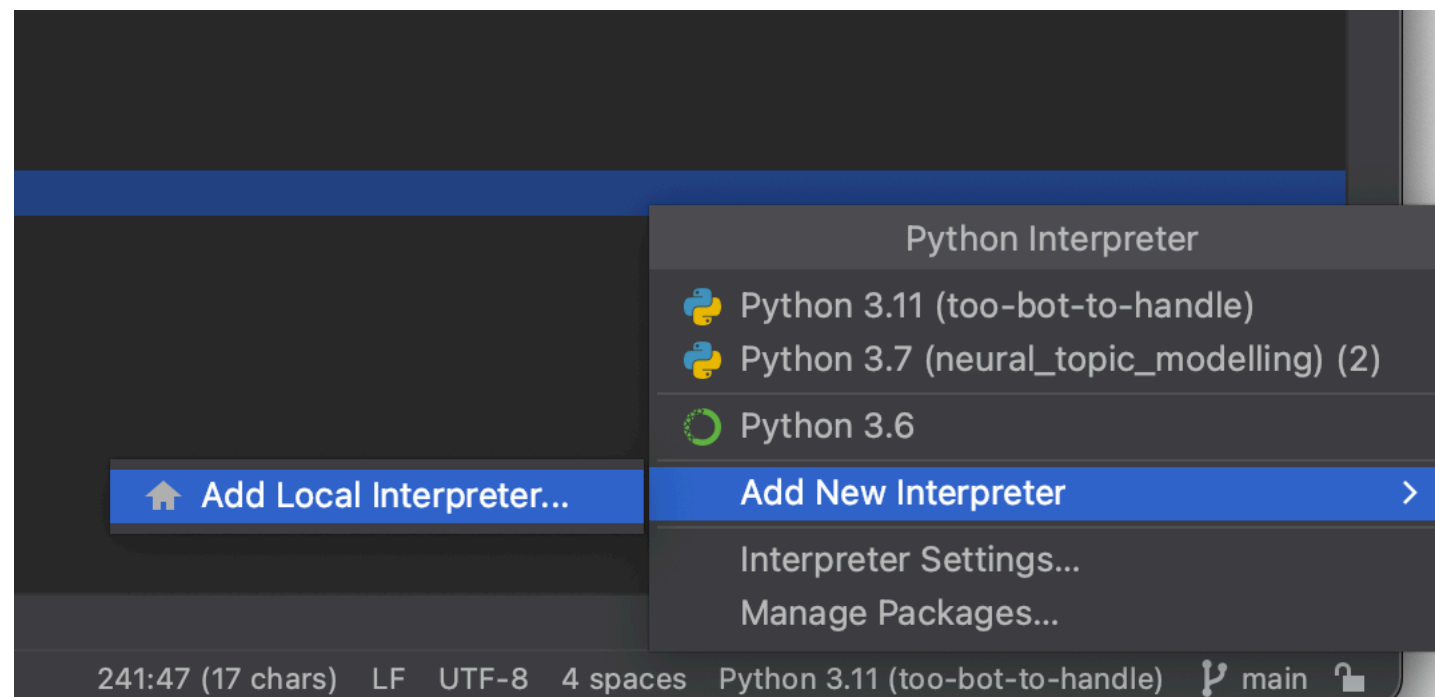


```
6 usages  phathway *  
def increase_by_1(a):  
    ↑ ↓ ↶ ↷ 📄 Ab Default Changelist  
def increase_by_one(a):
```

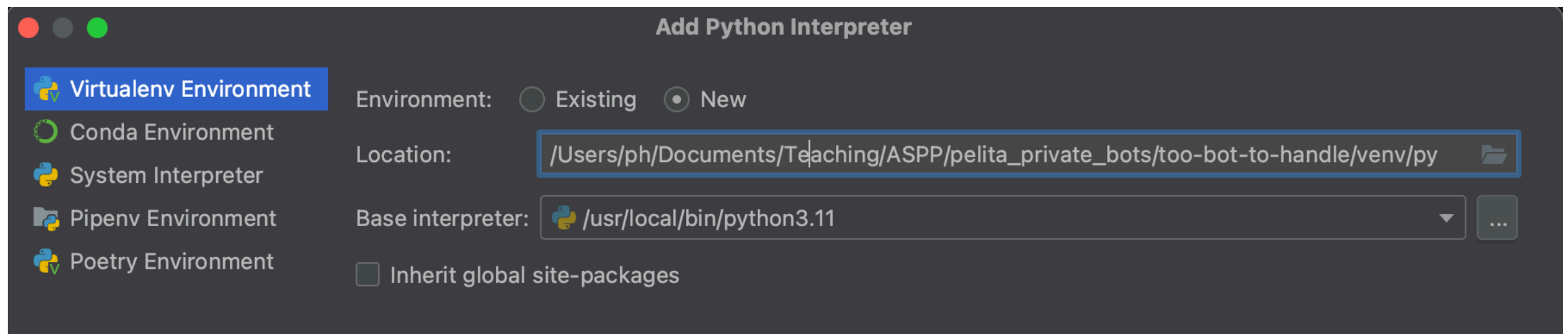
A screenshot of a code editor showing a diff view. The file name is 'phathway *' and it has '6 usages'. The code shows a function definition 'def increase_by_1(a):' which is highlighted in blue. Below it, there is a diff view with a 'Default Changelist' dropdown menu. The diff view shows a change from 'increase_by_1' to 'increase_by_one'.

Environment Management

- bottom right corner: display which environment is active



- you can change it to an existing env (by giving the path) or create a new one using a selection of env managers



Additions in Professional Edition

- Profiling