

Starting with Python

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Starting Python

- IDLE (integrated Development and Learning Environment)
 - Found in your Python folder
 - Programmed in Python (with tkinter)
 - Cross-platform
 - Small differences between different platforms
 - Open by clicking on the icon
 - Or use a terminal / cmd window and type in IDLE / IDLE3

Starting Python

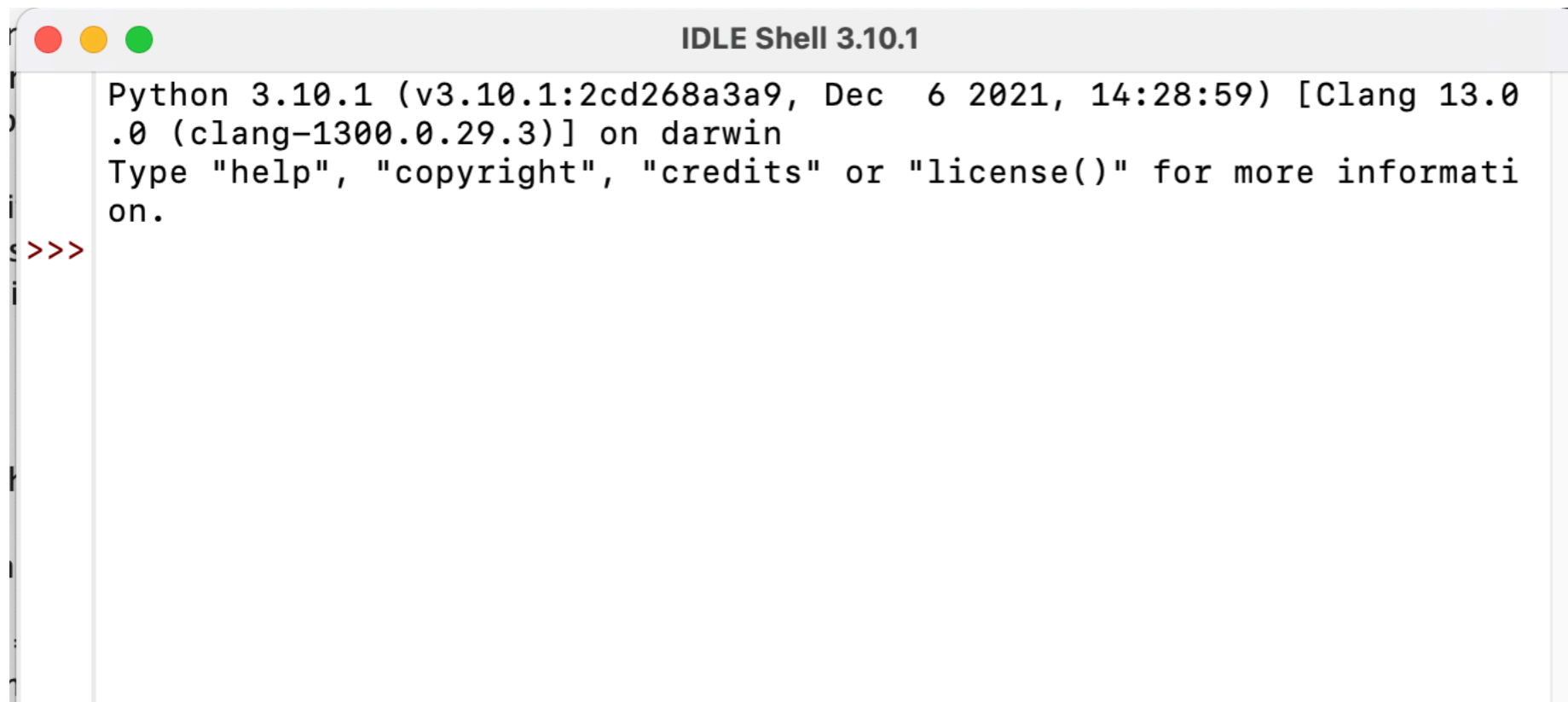
- IDLE has two window types
 - Shell window:
 - Execute python statements directly or respond to execution of Python scripts
 - Editor window:
 - Use to generate and edit Python scripts

Starting Python

- There are many alternatives to IDLE
 - Anaconda, PyCharm, ...
- But we use IDLE for this class

Starting Python

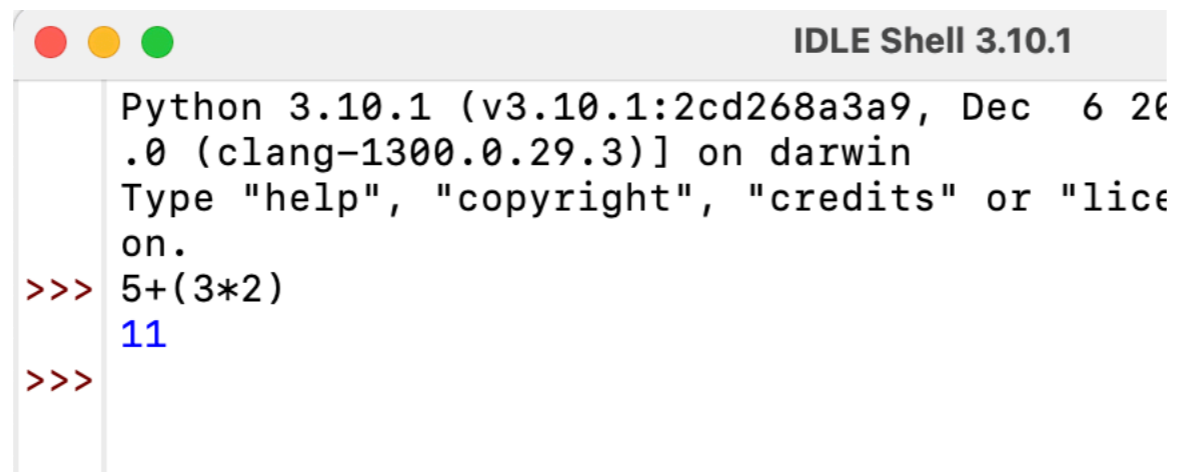
- Mac (see below): menu in the top bar
- Windows: menu in the top of window



```
Python 3.10.1 (v3.10.1:2cd268a3a9, Dec 6 2021, 14:28:59) [Clang 13.0.0 (clang-1300.0.29.3)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>>
```

Starting Python

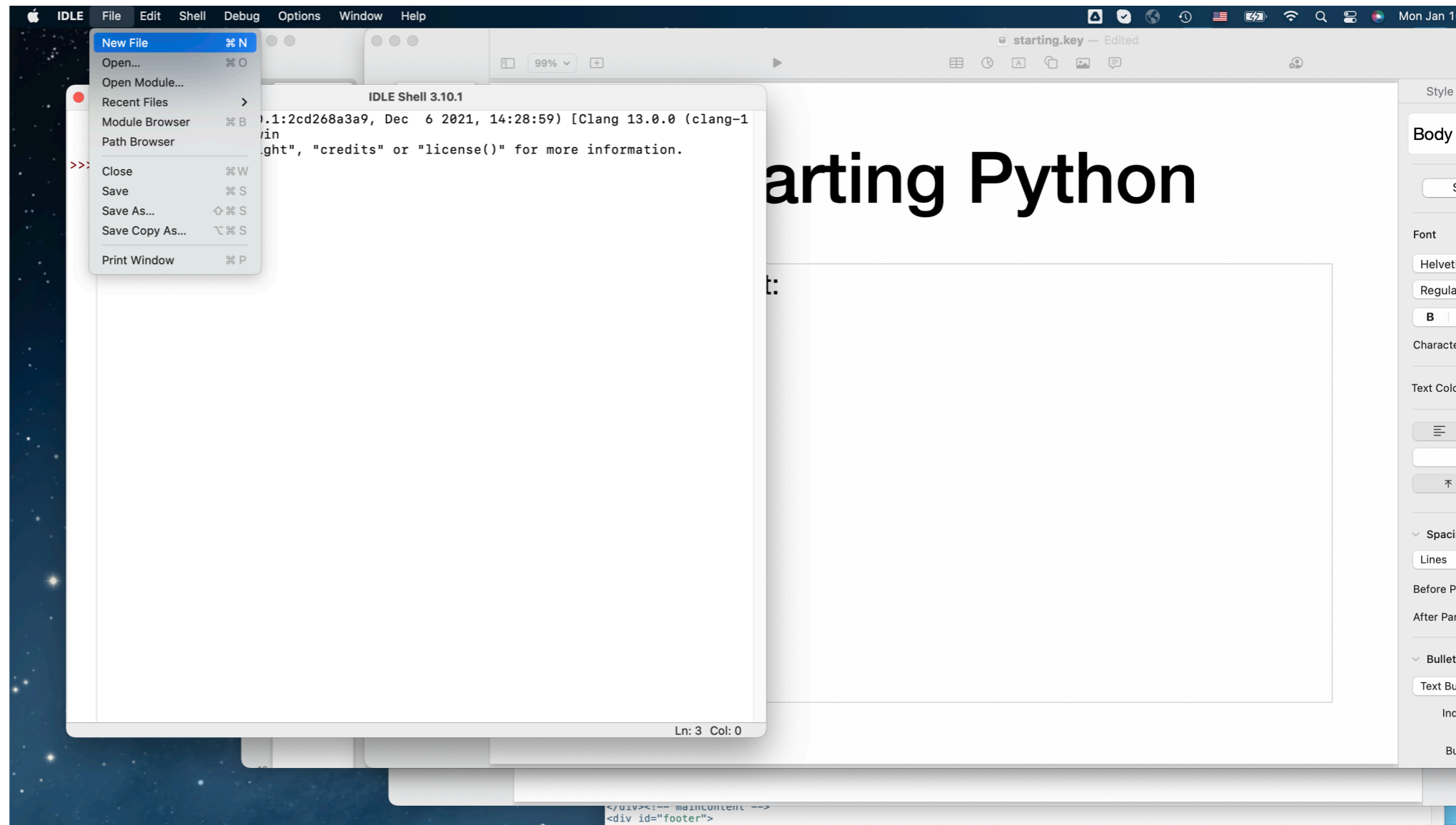
- Try out the IDLE shell by putting expressions at the prompt



```
Python 3.10.1 (v3.10.1:2cd268a3a9, Dec 6 2020) [AMD64] on win32
Type "help", "copyright", "credits" or "license()" for more
>>> 5+(3*2)
11
>>>
```

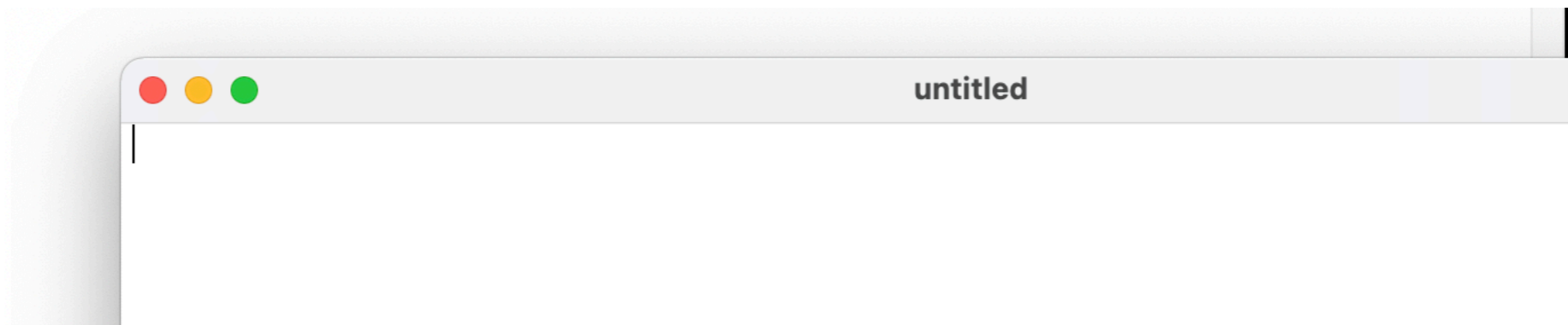
First Python Script

- Our first script:
 - Select File → New File in the IDLE Menu

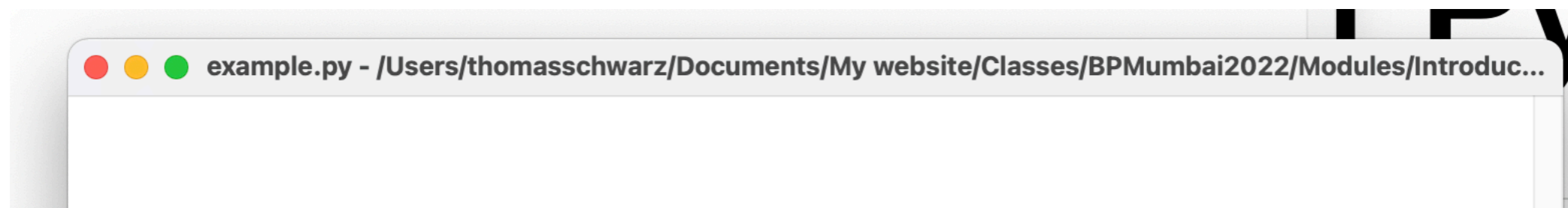


First Python Script

- An additional “edit window” appears



- Before we can execute anything, we need to save it
 - Keyboard shortcut with CMD-S (Mac) or CTR-S (Win)
- Afterwards, the file name is displayed

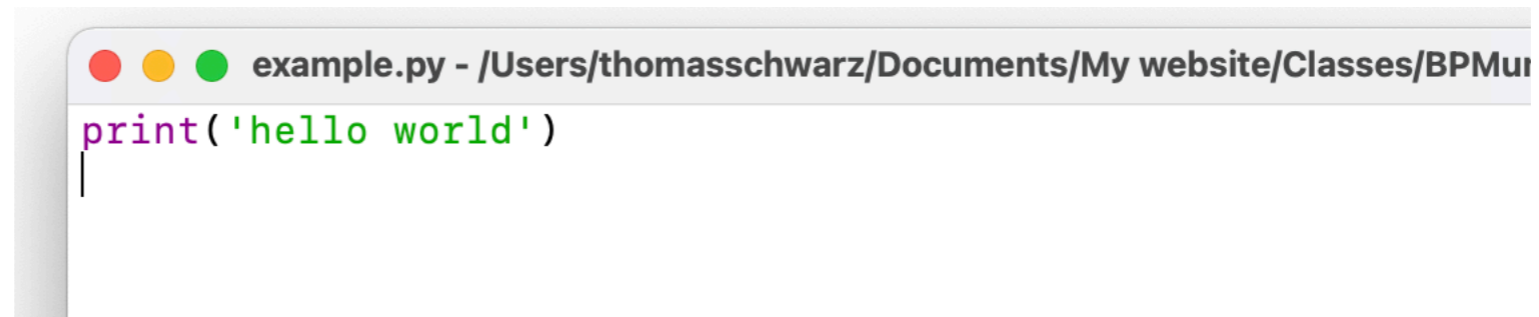


First Python Script

- Now we write our script
 - We want to print out to the Shell
 - Use `print`
 - This is a function
 - Arguments are in brackets / parentheses ()
 - Argument can be a string
- Complete statement:
 - `print('hello world')`

First Python Script

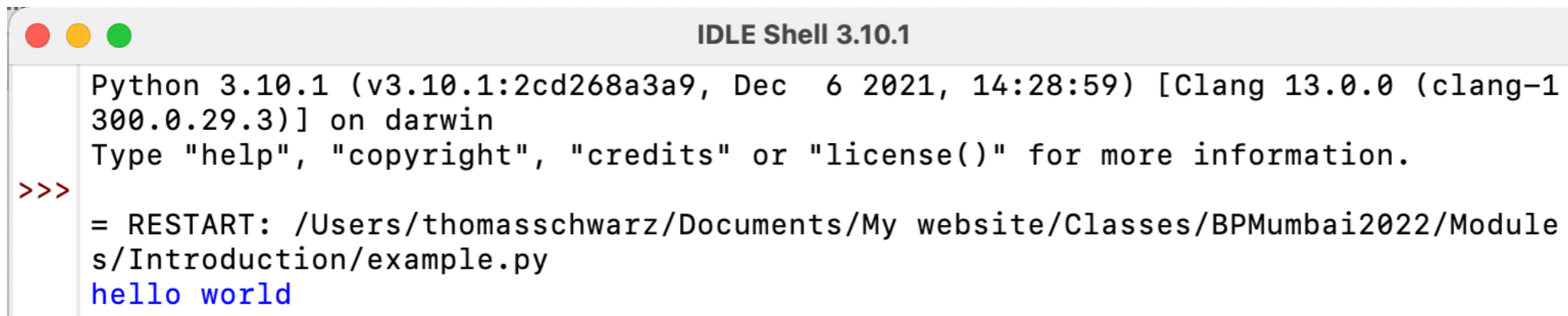
- Your edit window now looks like

A screenshot of a Python script editor window. The window title bar shows the filename 'example.py' and the full path: '/Users/thomasschwarz/Documents/My website/Classes/BPMur'. The code area contains a single line of Python code: `print('hello world')`. The code is color-coded: 'print' is purple, the opening quote is green, 'hello world' is green, and the closing quote is green. A vertical cursor is positioned at the end of the line.

- Now we can execute it
 - In the IDLE menu: Run → Run Module
 - Or use Function key F5

First Python Script

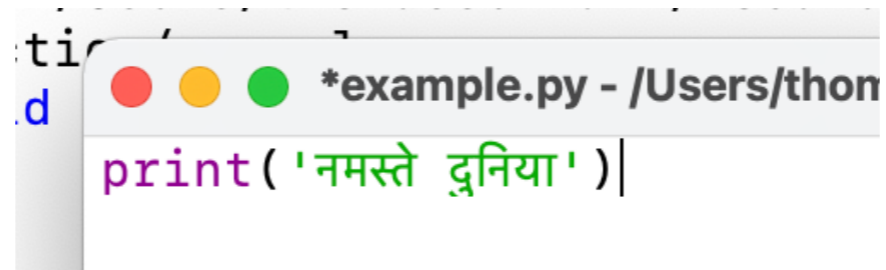
- In the shell window, we see the result:



```
Python 3.10.1 (v3.10.1:2cd268a3a9, Dec 6 2021, 14:28:59) [Clang 13.0.0 (clang-1300.0.29.3)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Modules/Introduction/example.py
hello world
```

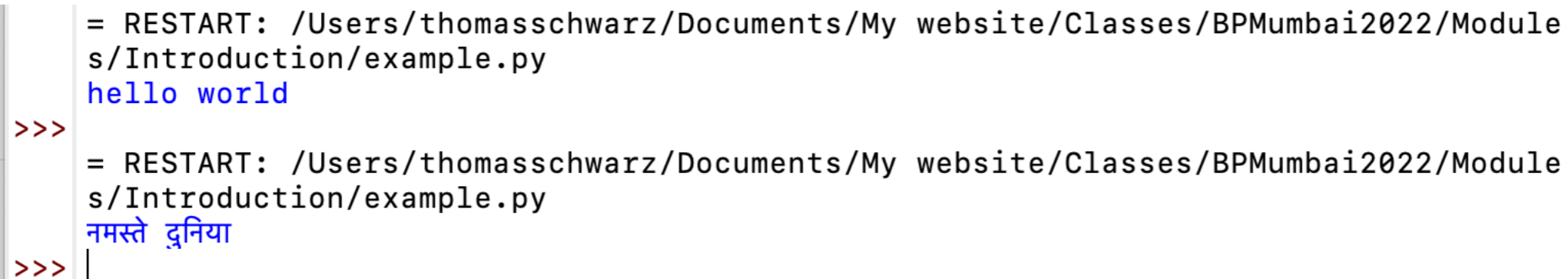
First Python Script

- Python is very good with internationalization
 - E.g.: You can use Devanagari letters

A screenshot of a terminal window with a title bar that reads "*example.py - /Users/thom". The terminal shows a single line of Python code: `print('नमस्ते दुनिया')`. The text is color-coded: `print` is purple, `(` is green, `'नमस्ते दुनिया'` is green, and `)` is purple. A vertical cursor is positioned at the end of the line.

```
print('नमस्ते दुनिया')
```

- After F5:

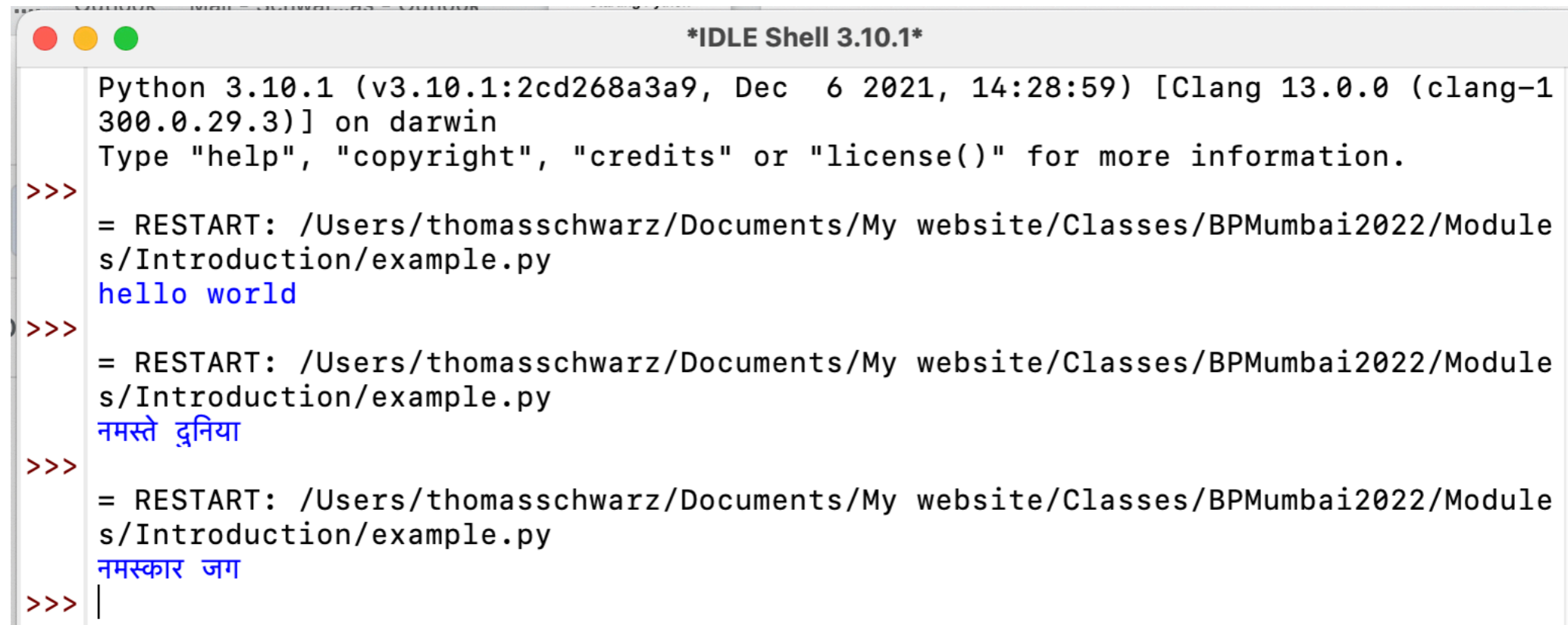
A screenshot of a terminal window showing the output of a Python script after a restart. The terminal displays the following text:

```
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Module  
s/Introduction/example.py  
hello world  
>>>  
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Module  
s/Introduction/example.py  
नमस्ते दुनिया  
>>> |
```

The text is color-coded: `=` is red, `RESTART:` is blue, the file path is black, `hello world` is blue, `>>>` is red, `नमस्ते दुनिया` is blue, and the final `>>>` is red with a vertical cursor to its right.

First Python Script

- Congratulations: your first Python script



```
*IDLE Shell 3.10.1*
Python 3.10.1 (v3.10.1:2cd268a3a9, Dec 6 2021, 14:28:59) [Clang 13.0.0 (clang-1300.0.29.3)] on darwin
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Modules/Introduction/example.py
hello world
>>>
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Modules/Introduction/example.py
नमस्ते दुनिया
>>>
= RESTART: /Users/thomasschwarz/Documents/My website/Classes/BPMumbai2022/Modules/Introduction/example.py
नमस्कार जग
>>> |
```