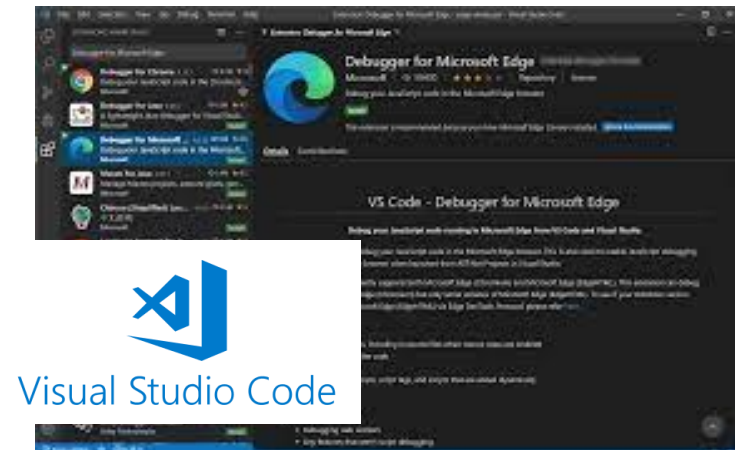
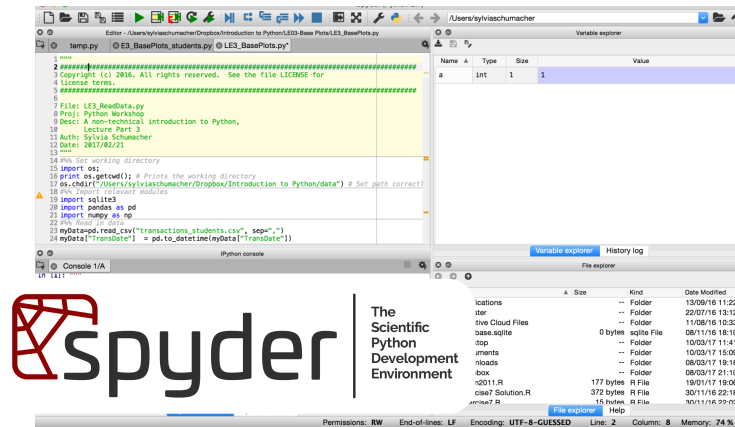


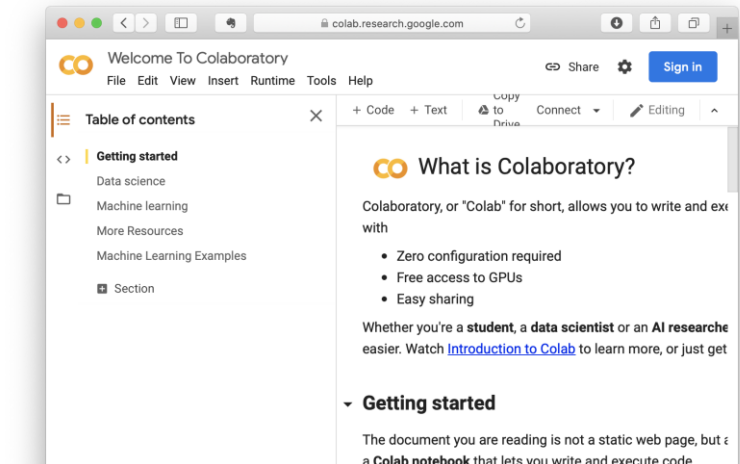
Working with a local code editor

Online versus offline programming environments

Local development



Cloud-based development



What is Spyder?

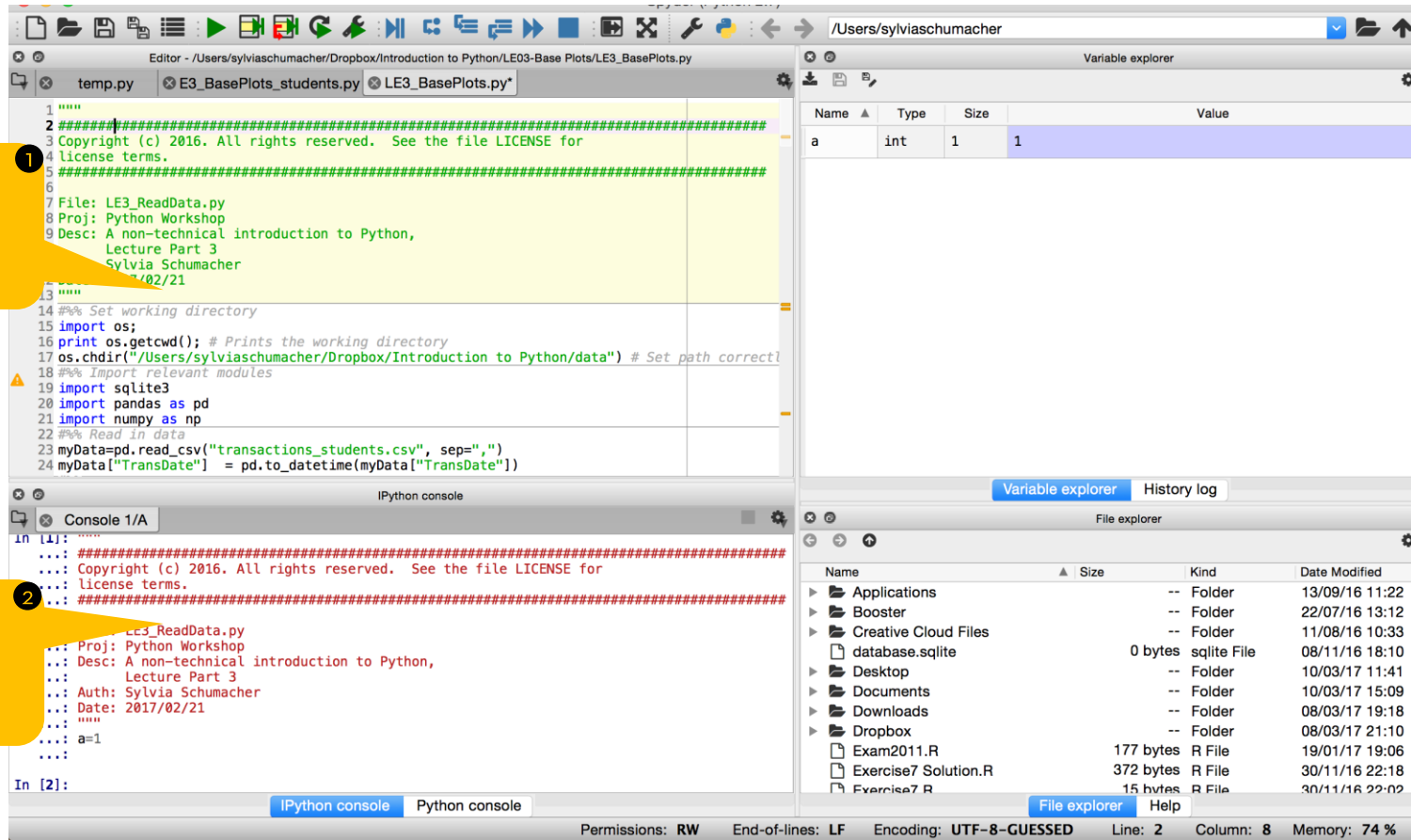
Spyder is an open-source IDE for Python

- Spyder is an acronym for "Scientific **P**Ython **D**evelopment **E**nviRonment"
- Spyder is an integrated development environment (IDE).
- It provides tools for writing Python code:
 - Python Console
 - Enhanced editor
 - Workspace manager
 - Debugging Tool
- Available for all operating systems.



What is Spyder?

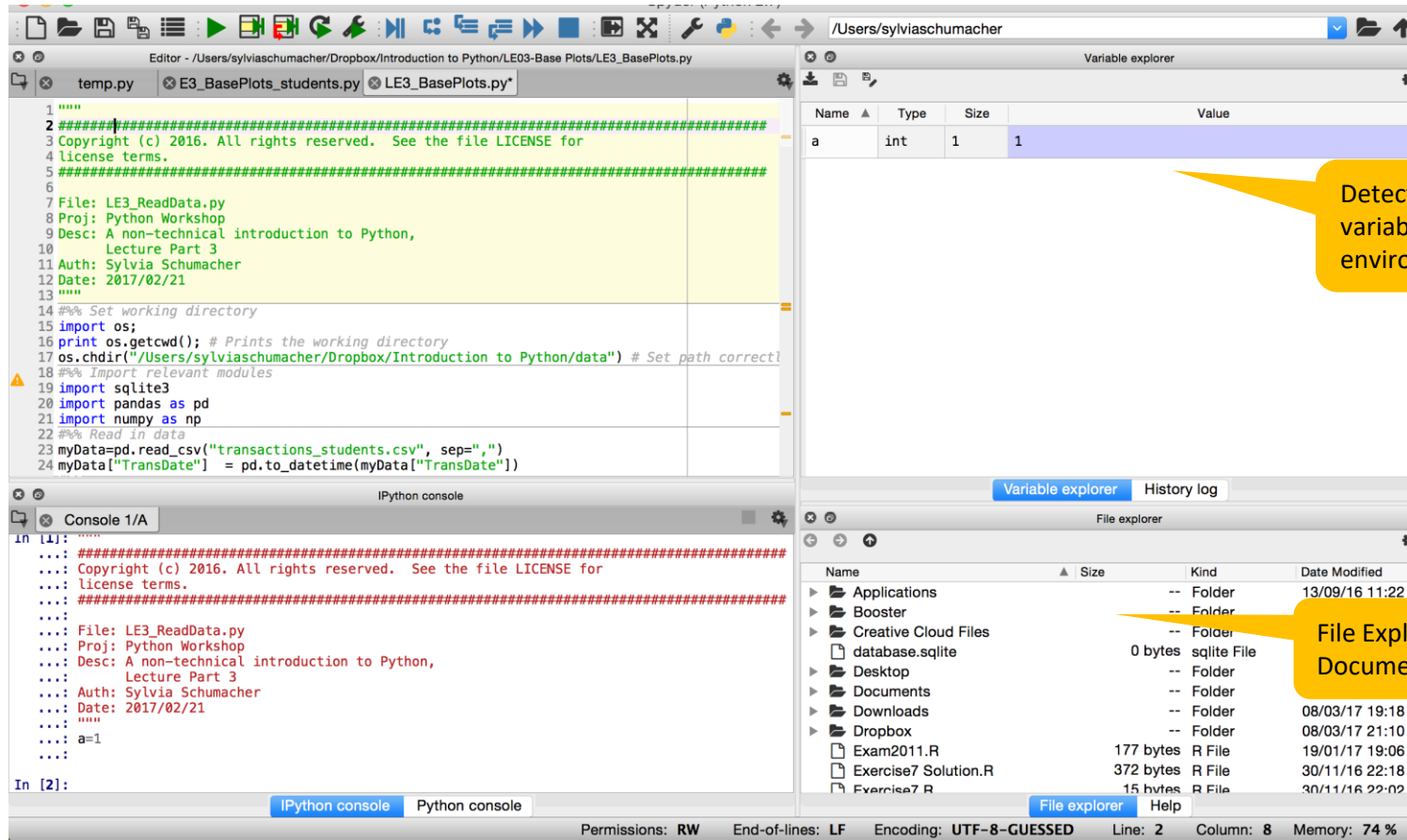
Spyder makes it easy to write Python code



Note: Activate the following option: View > Window Layout > Rstudio Layout

What is Spyder?

Spyder makes it easy to write Python code



Note: Activate the following option: View > Window Layout > Rstudio Layout

What is Spyder?

If you don't like Spyder, alternatives exist

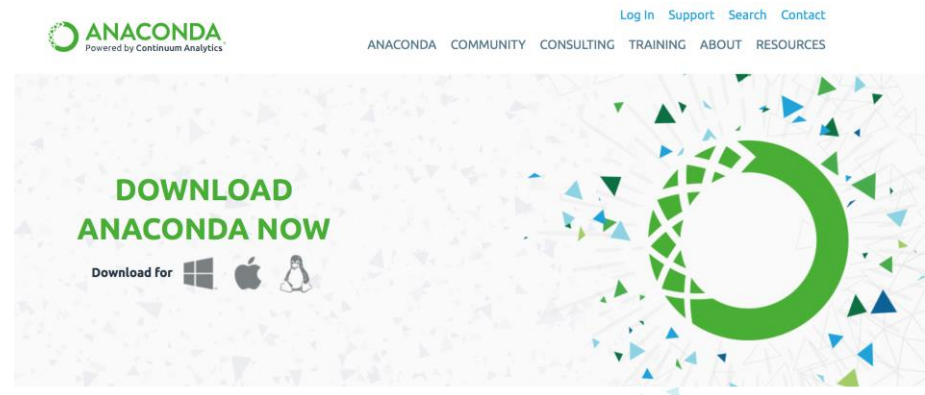
Other Python compatible IDEs include:

1. Eclipse / Visual Studio / ...
2. Text editors, e.g.:
 - Visual Studio Code
 - Sublime
 - Emacs
 - TextWrangler
3. PyCharm / Ninja IDE / ...

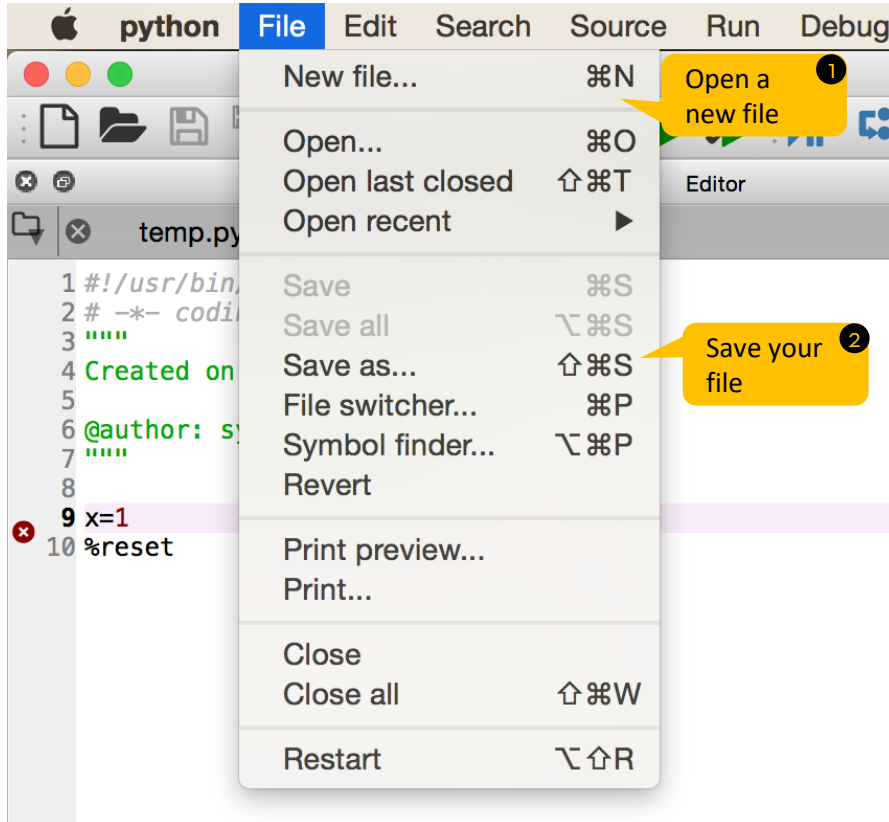


Alternative Python distributions such as Anaconda can make your life easier

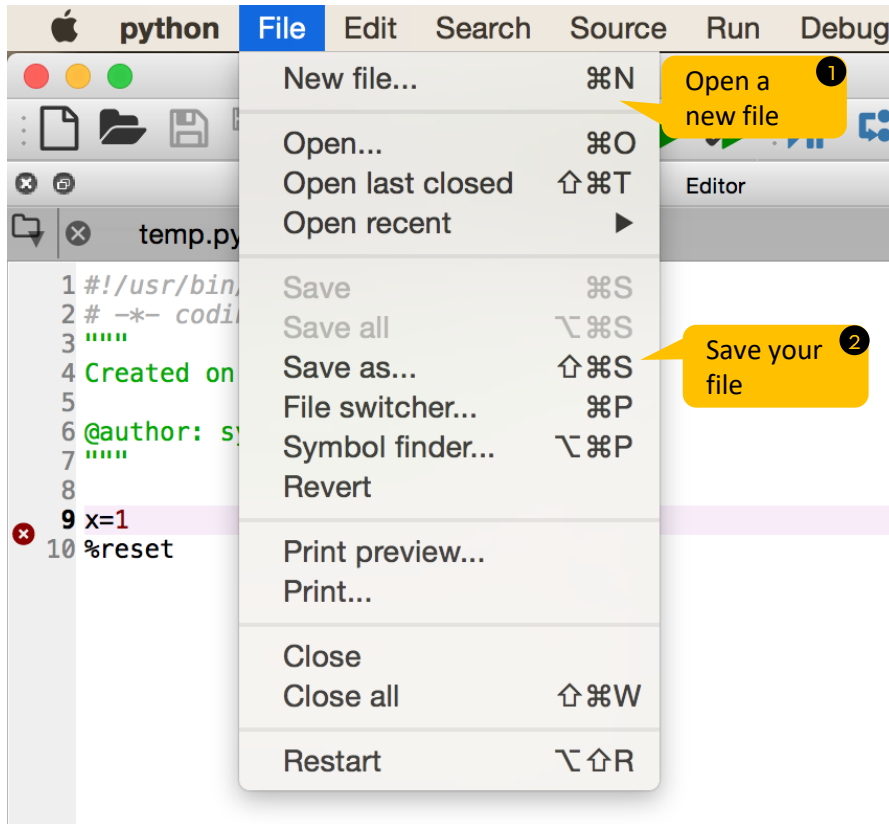
- Instead of the standard Python distribution (<https://www.python.org/>), you can use an alternative Python distribution such as Anaconda. These make the installation process and access to additional functionalities easier.
- Anaconda (<https://www.anaconda.com/>) includes over 100 of the most popular Python, R, and Scala packages for data science (size >3 GB!).
- Part of Anaconda is "**Conda**", a **package, dependency and environment manager**, which allows easy installation of >700 of the most important packages.



Use the code editor in Python to run Python code



Use the code editor in Python to run Python code

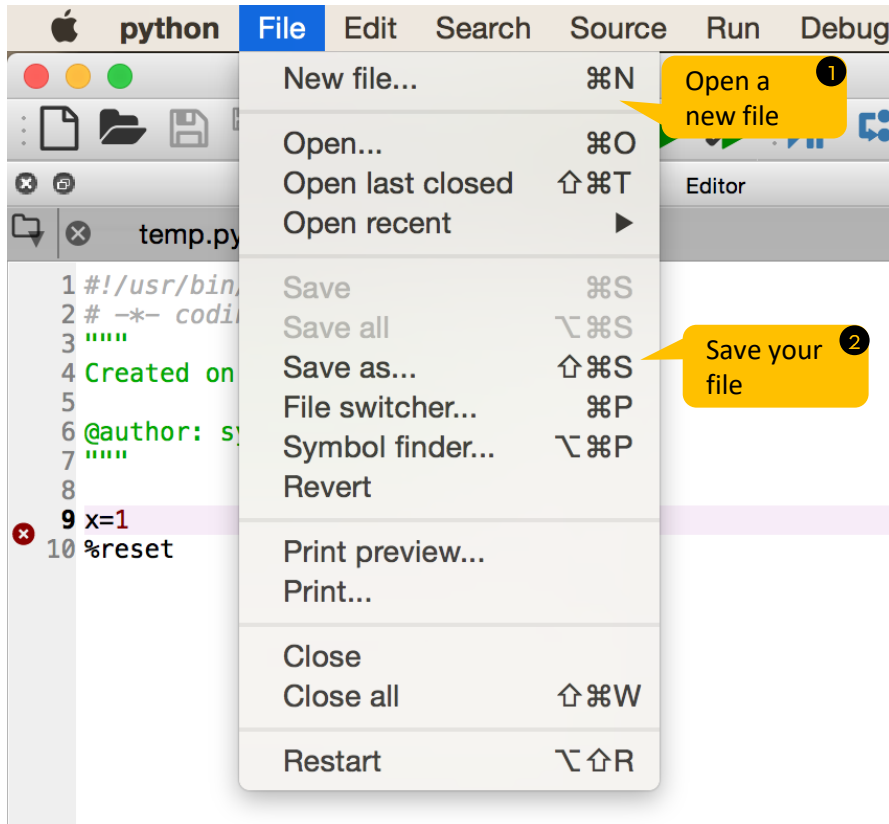


Write and run the following code:

%%
 print("This is my first line of
 code.")
 # %%

"#%" introduces cells allowing to run your code cellwise

Use the code editor in Python to run Python code



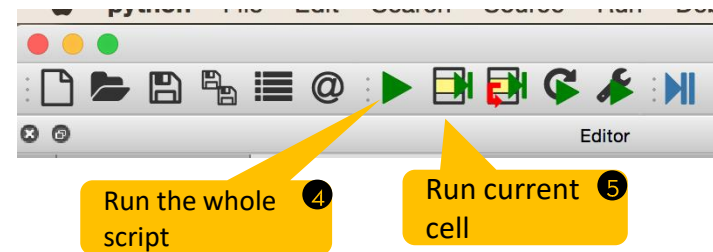
Write and run the following code:

Callout 3: "#%%" introduces cells allowing to run your code cellwise

```

#%%
print("This is my first line of
      code.")
#%%
  
```

Run your code (and watch what happens in the console):



- Shortcuts for running a cell:
 - Windows: Shift + Enter
 - Mac: Ctrl + Enter

Spyder offers further functionalities

The image shows the Spyder IDE interface. On the left, the 'Variable explorer' panel displays a table with columns: Name, Type, Size, and Value. The variable 'myData_pandas' is highlighted with a red circle and a blue arrow pointing to it, labeled with a blue circle containing the number '2'. Below this, the 'Variable explorer' button in the bottom toolbar is also highlighted with a red circle and a blue arrow pointing to it, labeled with a blue circle containing the number '1'. A yellow callout bubble points to this button with the text: 'Opens a new tab with your data represented as a table'. A large blue arrow points from the 'myData_pandas' variable in the Variable explorer to a preview window on the right. The preview window, titled 'myData_pandas - DataFrame', shows a table with 13 rows and 6 columns: Index, Customer, TransDate, Quantity, PurchAmount, and Co. The data is as follows:

| Index | Customer | TransDate | Quantity | PurchAmount | Co |
|-------|----------|------------|----------|-------------|------|
| 0 | 149332 | 15.11.2005 | 1 | 200 | 107 |
| 1 | 172951 | 29.08.2008 | 1 | 200 | 108 |
| 2 | 120621 | 19.10.2007 | 1 | 100 | 49 |
| 3 | 149236 | 14.11.2005 | 1 | 40 | 18.9 |
| 4 | 149236 | 12.06.2007 | 1 | 80 | 35 |
| 5 | 140729 | 19.11.2009 | 1 | 130 | 59 |
| 6 | 140729 | 19.11.2009 | 1 | 80 | 39.2 |
| 7 | 140729 | 19.11.2009 | 1 | 24.9 | 11.5 |
| 8 | 140729 | 19.11.2009 | 1 | 7.95 | 2.96 |
| 9 | 140729 | 28.04.2012 | 1 | 90 | 35 |
| 10 | 140729 | 28.04.2012 | 1 | 70 | 26.4 |
| 11 | 180970 | 19.06.2009 | 1 | 120 | 58.5 |
| 12 | 180970 | 19.06.2009 | 1 | 27.9 | 12.5 |

At the bottom of the preview window, there are buttons for 'Format', 'Resize', 'Background color', 'Column min/max', 'Cancel', and 'OK'. A yellow callout bubble points to the 'OK' button with the text: 'Check if your dataset has been loaded properly'.

Working with a local code editor