

# Anaconda Spyder

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## 1 Installation

To download Anaconda, which includes various tools for Python coding, go to <https://www.anaconda.com>.

## 2 Spyder

After installing it, open it, and select “Spyder” (Figure 1), which is a Python IDE (Integrated Development Environment).

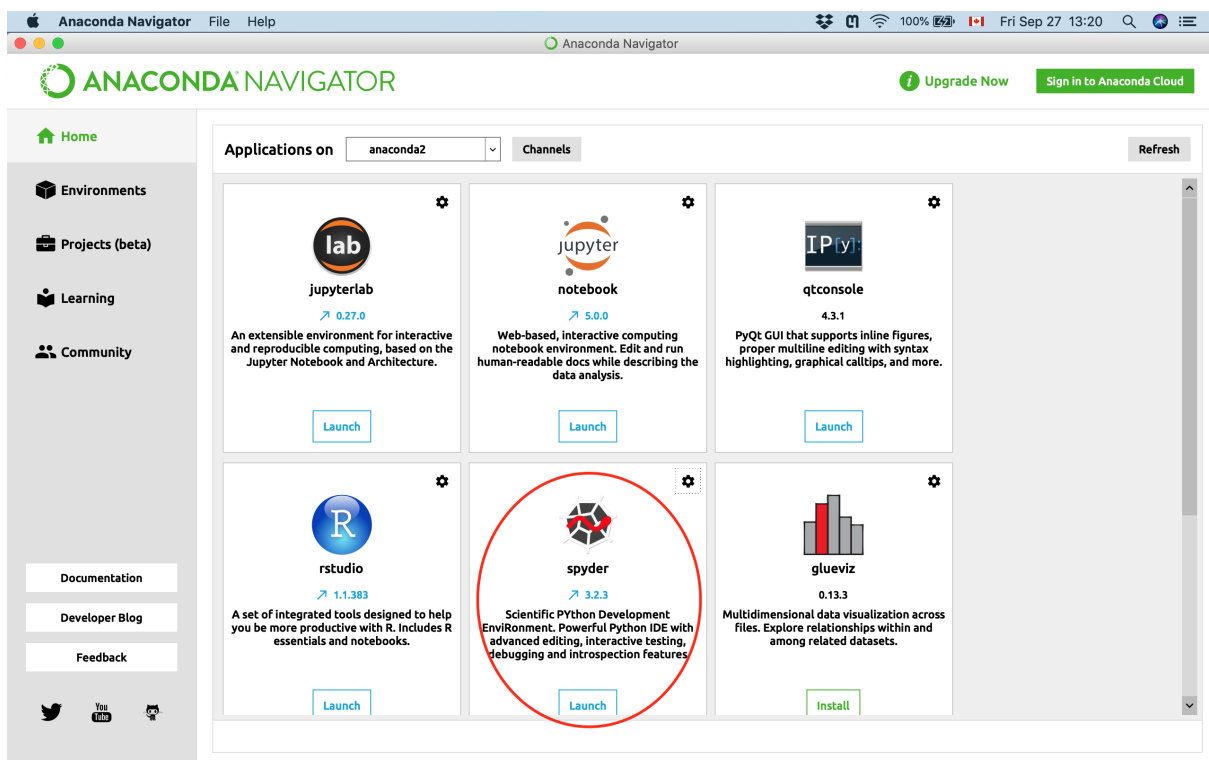


Figure 1: Spyder in Anaconda.

Once you open Spyder, there will be three main buttons to use (Figure 2):

A: Open new file

B: Open a file from your computer

C: Run the code

The button denoted by “C” will run the code and display the output data in the output display of the software, which is seen in Figure 3.

After each run, the code will automatically save, and to do it manually, it is the button next to the B button in Figure 2.

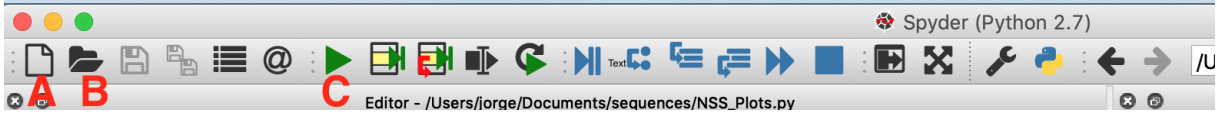


Figure 2: Three main buttons in Spyder.

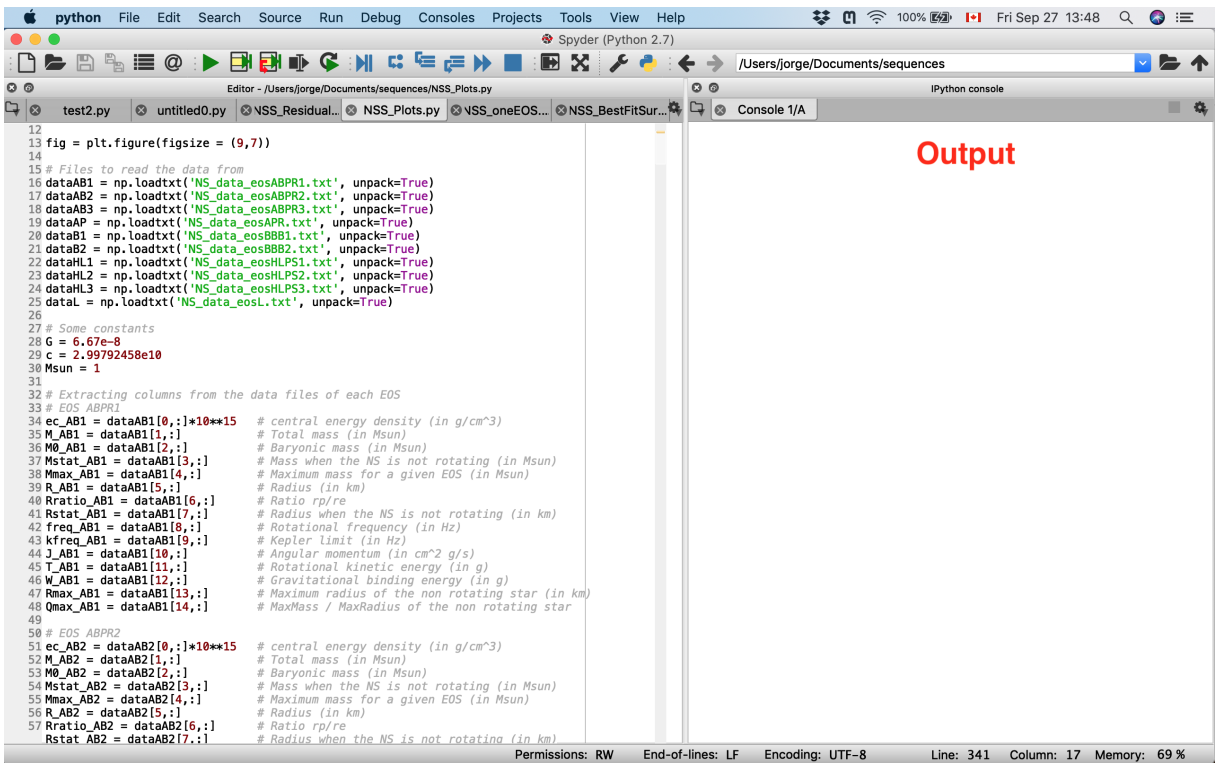
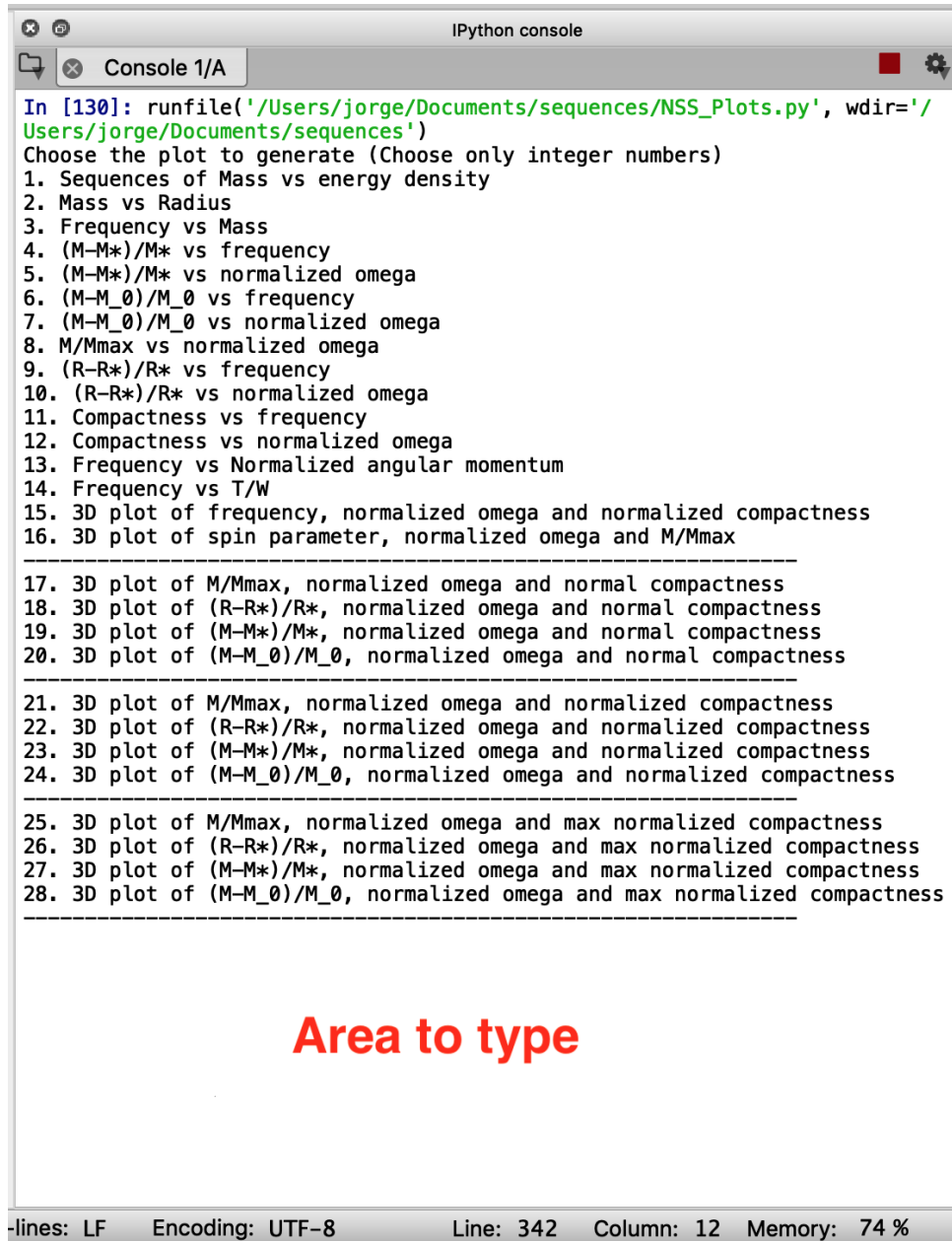


Figure 3: Complete view of Spyder with an example file on the left, and the output console on the right.

### 3 Examples in a plotting code

When running a code, for example the plotting code `NSS_PLOTS`, the list of possible plot will appear in the left panel (Figure 4), where you can type a number, from those given in the list, to plot the chosen plot. The created plot will be saved automatically to the same directory of the code you're working with.



```
In [130]: runfile('/Users/jorge/Documents/sequences/NSS_Plots.py', wdir='/Users/jorge/Documents/sequences')
Choose the plot to generate (Choose only integer numbers)
1. Sequences of Mass vs energy density
2. Mass vs Radius
3. Frequency vs Mass
4. (M-M*)/M* vs frequency
5. (M-M*)/M* vs normalized omega
6. (M-M_0)/M_0 vs frequency
7. (M-M_0)/M_0 vs normalized omega
8. M/Mmax vs normalized omega
9. (R-R*)/R* vs frequency
10. (R-R*)/R* vs normalized omega
11. Compactness vs frequency
12. Compactness vs normalized omega
13. Frequency vs Normalized angular momentum
14. Frequency vs T/W
15. 3D plot of frequency, normalized omega and normalized compactness
16. 3D plot of spin parameter, normalized omega and M/Mmax
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17. 3D plot of M/Mmax, normalized omega and normal compactness
18. 3D plot of (R-R*)/R*, normalized omega and normal compactness
19. 3D plot of (M-M*)/M*, normalized omega and normal compactness
20. 3D plot of (M-M_0)/M_0, normalized omega and normal compactness
-----
21. 3D plot of M/Mmax, normalized omega and normalized compactness
22. 3D plot of (R-R*)/R*, normalized omega and normalized compactness
23. 3D plot of (M-M*)/M*, normalized omega and normalized compactness
24. 3D plot of (M-M_0)/M_0, normalized omega and normalized compactness
-----
25. 3D plot of M/Mmax, normalized omega and max normalized compactness
26. 3D plot of (R-R*)/R*, normalized omega and max normalized compactness
27. 3D plot of (M-M*)/M*, normalized omega and max normalized compactness
28. 3D plot of (M-M_0)/M_0, normalized omega and max normalized compactness
-----

Area to type
```

-lines: LF    Encoding: UTF-8    Line: 342    Column: 12    Memory: 74 %

Figure 4: Left panel in Spyder with some output text.

Another way to run the code is going to the **Run** menu, and then **Profile** (Figure 5). This will output the plot outside of the left panel, and it can be saved manually. When running the code this way, make sure to comment, in the four codes of `NSSPLOTS`, the line (Figure 6)

```
method = input()
```

and to uncomment the line

```
method = 2
```

where the number “2” correspond to the chosen plot to make. So, it can be changed to another number from those in the list. These previous two lines are always located below the section where the print statements show which plot to make.

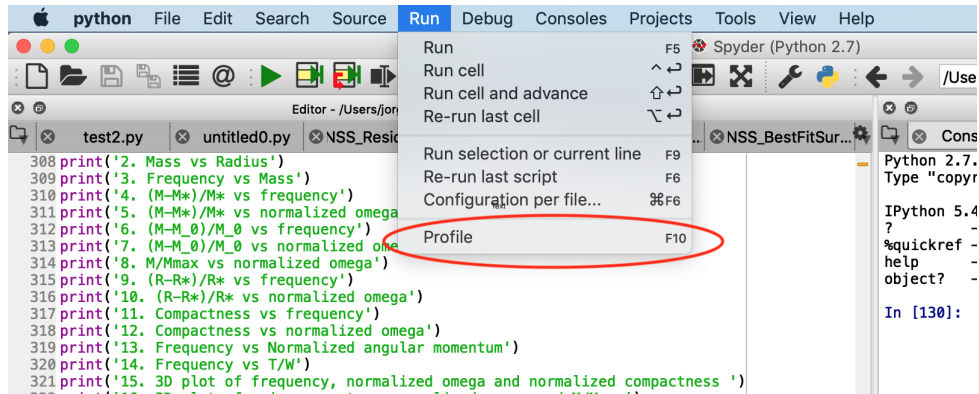


Figure 5: Another way to run the code and display a plot outside the left panel in the software.

```
print('25. 3D plot of M/Mmax, normalized omega and max normalized compactness')
print('26. 3D plot of (R-R*)/R*, normalized omega and max normalized compactness')
print('27. 3D plot of (M-M*)/M*, normalized omega and max normalized compactness')
print('28. 3D plot of (M-M_0)/M_0, normalized omega and max normalized compactness')
print('-----')

# Choose the number of the desired plot
method = input()
#method = 2
```

Figure 6: Example in the code NSS\_PLOYTS.PY.