Python Notes

# Comments

“ is the start of a single line comment

“”” begins and ends a multi-line comment

# is also a comment…but I have no idea what is different about these comments

# Run a program from spyder

To execute the program, select Run > Run from the menu (or press F5), and confirm the Run settings if required.

# Documenting stuff

<http://docutils.sourceforge.net/docs/user/rst/quickref.html>

# Debugging

In the IPython console, we can call %debug straight after an exception has been raised: this will start the IPython debug mode, which allows inspection of local variables at the point where the exception occurred as described above. This is a lot more efficient than adding printstatements to the code an running it again.

If you use this, you may also want to use the commands up (i.e. press u at the debugger) and down (i.e. press d) which navigate the inspection point up and down the stack. (Up the stack means to the functions that have called the current function; down is the opposite direction.)

# Plotting

Assuming we use an IPython console with version >= 1.0.0, we can decide whether figures created with matplotlib/pylab will show

1. *inline*, i.e. inside the IPython console, or whether they should
2. appear inside a new window.

Option 1 is convenient to save a record of the interactive session (section [Shortcuts for useful functions](#shortcuts-for-useful-functions) lists a shortcut to save the IPython console to an html file).

Option 2 allows to interactively zoom into the figure, manipulate it a little, and save the figure to different file formats via a menu the window it contains has.

The command to get the figures to appear *inline* in the IPython console is:

In [3]: %matplotlib inline

The command to get figures appear in their own window (which technically is a Qt windown) is:

In [4]: %matplotlib qt

The Spyder preferences can be used to customize the default behavior (in particular Preferences > IPython Console > Graphics >Activate Support to switch into inline plotting).