Directions for completing the ObsAstro data analysis exercise:

1) in the U3 computer lab, download the jupyter notebook and supporting fits files to your home directory. All necessary files are available on Learn under "Data Analysis Exercise".

2) take a look at the two fits files using ds9, eg. at the command line:

ds9 cube_f1.fits &

This file is a data cube, with a stack of four images. You should be able to move between the images with the data cube dialogue that will pop up as soon as you open the fits file. You may need to adjust the scale some -- just choose the scale menu, scroll down and choose "scale parameters", then adjust the scale in the scale parameter dialogue that will pop up. You should be able to see both the star and the brown dwarf companion in each of the individual images. These are adaptive optics-enabled images taken with the NaCo instrument at the VLT – there are some artifacts in the images from the adaptive optics, which is why the star looks a bit “square”.

3) start up the jupyter notebook server by typing the following on the command line in your home directory:

jupyter notebook

This will pop up the jupyter notebook server. Select ObsAstro_data_reduction_exercise.ipynb in the browser window to open the relevant notebook.

4) copy the notebook using File-->Make a Copy. Rename as ObsAstro_data_reduction_exercise_<your last name>.ipynb

5) code up your answer in this notebook. For more on jupyter notebooks and other sample notebooks to check out, see: https://github.com/jupyter/jupyter/wiki/A-gallery-of-interesting-Jupyter-Notebooks

6) The hand-in date is 14 February (end of the day). To turn in your results, you have a couple options:

a) submit the notebook directly:
-- Make sure it works correctly by: Cell ⇒ All Output ⇒ Clear and then Cell ⇒ Run all
-- submit the .ipynb file via the ‘SUBMIT WORK HERE’ page in the course Learn pages

b) submit an html version of your results:
-- download as html: file --> download as --> html
-- check the html file to make sure it looks the way you expect it to look
-- submit the html file via the ‘SUBMIT WORK HERE’ page in the course Learn pages