Exercise 2b : various

1) JD to Date converter
Write a python code to convert Julian Date to YYYY/MM/DD and vice versa. The input can be accepted through keyboard, or read from a file. Now, try writing a program that can judge whether the input provided by the user is JD or YYYY/MM/DD instead of asking the user to choose which way the conversion should happen.

2) Write a program to do the cross product. (i) Do not use *numpy*. (ii) Find out how to do with *numpy*.

3) Do Matrix multiplication without numpy. Does numpy have a function to do this? Cross check the results.

4) Have a look at *masked arrays*. Create a masked array using arange(9) with a *fill_value* of -999. Mask the 3rd value in the array and see how it has changed.

5) Load the given data file and plot magnitude vs time for both photometric bands (V and I) separately. The y-axis has to be reversed to indicate that increase in the numerical value of magnitude corresponds to lower flux (see the figure below for a demo).

6) Use the random module of numpy or scipy, and learn how to plot histograms using matplotlib.

Fig-1. Exercise 2b-5.