Py4Science 3 @ UND 2009-06-18

Python "names"

In [1]: a=1
In [2]: id(a)
Out[2]: memory_address

In [3]: a=2
In [4]: id(a)
Out[4]: memory...

In [5]: b = a

[How to think like a Pythonista]

Answer to Robert

```
In [1]: f1header[0]
Out[1]: '83 1001\n'

In [2]: f1header[0].split()
Out[2]: ['83', '1001']

In [3]: f1header[0].split()[0]
Out[3]: '83'
```

Loading the ASCII files - week 2

```
# Open file
f1 = open(sys.argv[1], 'r')

# Need skiprows to read right section of the file
skiprows = int(f1.next()[:2])

f1.seek(0)
f1header = [f1.readline() for lines in range(skiprows)]

# Close the file
f1.close()

# Read whole data and extract needed variables
tarray = np.loadtxt(sys.argv[1], skiprows=skiprows).T
```

Read NASA formatted TXT files

1-) # Check the syntax is correct and open the file

2-) # Need skiprows to read right section of the file

3-) # Extract the header

4-) # How many variables in the file and what they are

5-) # An empty generic dictionary to hold the variables

6-) # Read whole content of data and put into a ndarray

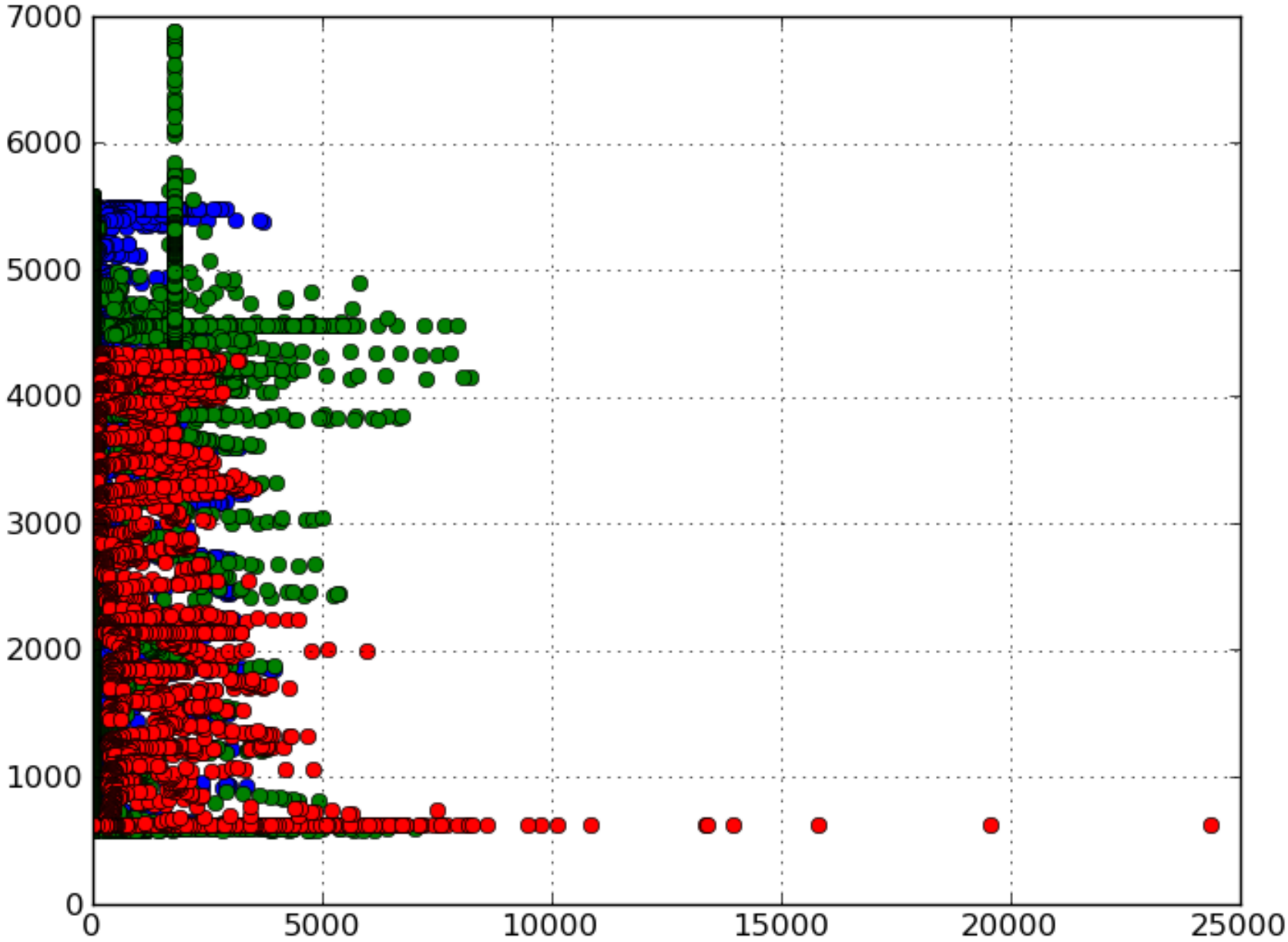
7-) # Separate array content into appropriate variables

Time adjustment

```
from matplotlib.dates import num2date, date2num


num2date(1 + int(sfm)/86400.0)

time_adj = array([num2date(1 + int(Time[i])
/86400.0) for i in range(len(Time))])

plot(time_adj, dccnConc)
```

Run with week3 example

Plotting


7000
6000
5000
4000
3000
2000
1000
0
0
5000
10000
15000
20000
25000

Lottery Time 2

```
import random

lucky = {1:'Lucky1',...}

lucky.pop(random.choice
(lucky.keys()))
```

the luckiest is the last!