

PBQ01: Lecture Objectives & Prerequisites

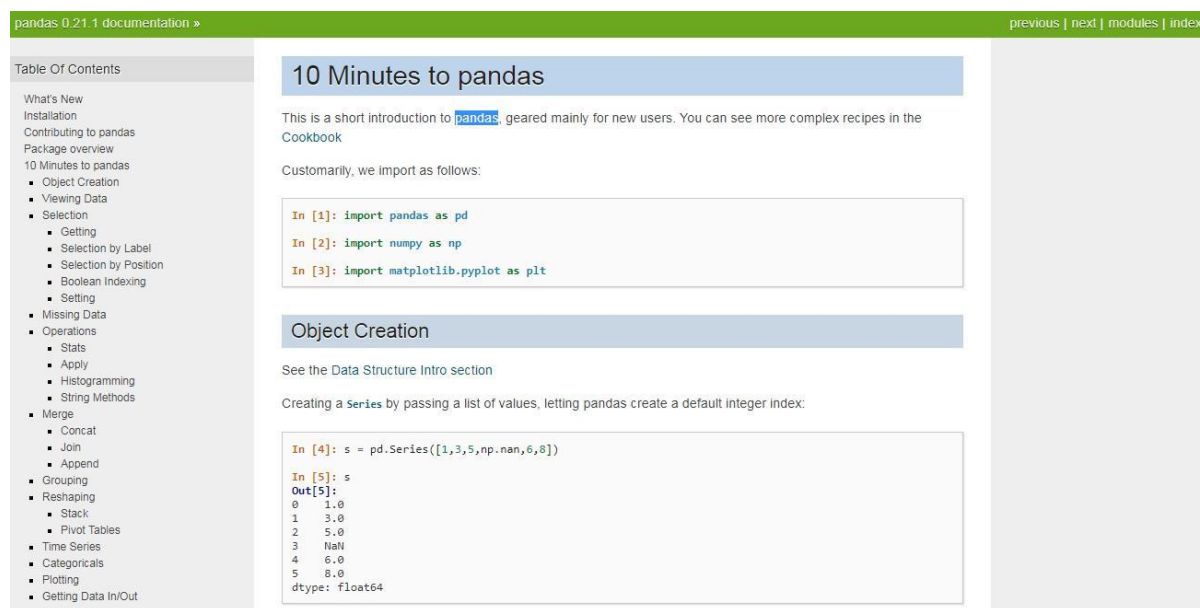
Key takeaways

- Write simple Python programs where you use
 - Different data structures
 - Mathematical and logical operations
 - Loops and conditional statements
- Use basic functionalities of the NumPy, pandas and matplotlib libraries for preliminary data analysis

The below links take you to the official documentation of NumPy and pandas. These are excellent (and humongous!) sources to understand these libraries. I go back to these libraries every now and then to clarify newer methods and operations.

NumPy: <https://numpy.org/doc/stable/user/basics.html>

Pandas: <https://pandas.pydata.org/pandas-docs/stable/10min.html>



pandas 0.21.1 documentation »

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10 Minutes to pandas

This is a short introduction to [pandas](#), geared mainly for new users. You can see more complex recipes in the Cookbook

Customarily, we import as follows:

```
In [1]: import pandas as pd
In [2]: import numpy as np
In [3]: import matplotlib.pyplot as plt
```

Object Creation

See the Data Structure Intro section

Creating a **Series** by passing a list of values, letting pandas create a default integer index:

```
In [4]: s = pd.Series([1,3,5,np.nan,6,8])
In [5]: s
Out[5]:
0    1.0
1    3.0
2    5.0
3    NaN
4    6.0
5    8.0
dtype: float64
```

Pre-reading/Pre-lecture tasks

Please complete the Python Primer and try to spend at least a couple of hours going through the file (PBQ-01-Files) shared with you (which will be used in class). You will then be able to benefit more from the class.

- Anaconda Installation for **MAC**: <https://docs.anaconda.com/anaconda/install/mac-os/> and **Windows**: <https://docs.anaconda.com/anaconda/install/windows/>
- Please read about Jupyter Notebook here: <http://jupyter-notebook-beginner-guide.readthedocs.io/en/latest/>
- Please read the note “Advice for beginner level programmers”.

Please also ensure that

- 1. You have completed the Anaconda installation before the lecture begins**
- 2. You have all the requisite files downloaded and open at your computer before the lecture begins**

In case you have any issue during installation please get in touch with the support team 24 hours before the lecture.

Recommendations/Post-reading:

Please go through the references/links below for further reading:

- Python Basics: With Illustrations from the Financial Markets by Krishnamoorthy, V, Parmar, J and Pena, P, M.
- <http://www.learnpython.org/>
- <https://www.codecademy.com/learn/python>
- <https://docs.python.org/3.6/tutorial/>

Downloadable Files

- PBQ-01-Files.zip

Additional Read:

Blog: [Basic Operations On Stock Data Using Python](#)

Recommended time for the session & related coursework - 10 hours