

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>

This screenshot shows the pandas 0.21.1 documentation page. The top navigation bar includes links for 'pandas 0.21.1 documentation »', 'previous', 'next', 'modules', and 'index'. The main content area has a title '10 Minutes to pandas'. Below the title is a paragraph about this being a short introduction to pandas, geared mainly for new users. It mentions the Cookbook and provides code snippets for importing pandas, numpy, and matplotlib.pyplot. The 'Object Creation' section follows, with a note about creating a Series from a list of values. A code snippet shows the creation of a Series and its output. The left sidebar contains a 'Table Of Contents' with many categories like Installation, Contributing to pandas, Package overview, 10 Minutes to pandas, Object Creation, Viewing Data, Selection, Getting, Selection by Label, Selection by Position, Boolean Indexing, Setting, Missing Data, Operations, Stats, Apply, Histogramming, String Methods, Merge, Concat, Join, Append, Grouping, Reshaping, Stack, Pivot Tables, Time Series, Categoricals, Plotting, and Getting Data In/Out.

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