some more python and virtualenv

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python libraries

- python is a general purpose language
- but the standard library in itself does not provide us with enough capabilities to do scientific and numeric computing, or
- web applications, or
- graphical user interfaces, for that matter

python libraries

- since libraries are written targeting specific but quite large set of problems
- numpy and scipy for numerical computing
- pandas for statistical analysis
- they can be imported as required
- with very few lines of code, you can achieve a lot, with significant gains in time and performance

using libraries -- titanic example

- google can give us a hint
- reading of the documentation is important
- pandas as example
- the pattern
  - parameters,
  - attributes, and
  - member functions

using libraries -- titanic example

- classes/containers (DataFrame), with
- member variables (e.g. labeled arrays), and
- member functions
- default arguments
- import pandas as pd, or more specifically
- from pandas import read_csv, DataFrame

introduction to virtual environments

- to create isolated python environment
- dependencies and versions
- one application works with one version, while
- another works with another of the same library
- or you can accidentally upgrade a library you were not supposed to upgrade at system level
- permission issue; no installation allowed on a shared host

installation of virtualenv and virtualenvwrapper

- installation is pretty simple
  - pip install virtualenv virtualenvwrapper, or
  - with sudo, if you are a sudoer
  - details on respective websites
- here, we are using one virtual environment for the whole brainhack
- you can have one virtual environment for each of your projects

some useful virtualenvwrapper commands

- once you have virtualenvwrapper installed as directed on the website, you can run
- mkvirtualenv <environment name> to create
- workon <environment name> to activate, and
- deactivate to deactivate the environment.
- you can have one for each of your projects.

Thanks

Questions?