INSY 6500
Information Systems for Operations

Our Toolkit

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Video Modules

Analytics Courses

http://jsmith.co/node/244

Submitted by jsmith on Mon, 05/14/2018 - 12:47

- 00 Installing Software - General Guidelines/Suggestions (5:16 mins)
- 01 Installing Anaconda Python in Our Environment (19:13 mins)
- 02 Installing R in Our Environment (13:07 mins)
- 03 Installing MariaDB (MySQL) in Our Environment (17:28 mins)
- 04 Using GitHub for Our Class (11:22 mins)
- 05 Using GitHub for Our Class -- Follow-up (12:05 mins)
- 06 SKU List Data Structure Example (22:49 mins)
- 07 Truth Values and Boolean Tests (20:07 mins)
- 08 Sample Python Programs 1 (29:05 mins)
- 09 Monte Carlo Example with NumPy (12:55 mins)
- 10 Boolean Arrays and Masks (18:17 mins)
- 11 Pandas - Aggregation and Grouping (21:56 mins)
- 12 Customer Arrival Process - Visual Stationarity Assessment (21:30 mins)
- 13 Basic Data Manipulation with R Dataframes (17:27 mins, 12:25 mins, 10:44 mins)
- 14 Modeling with R - An Example (10:05 mins, 13:20 mins, 15:30 mins)
- 15 Order Picking Database (18:49 mins)

GitHub

- Repository: https://github.com/ausim/InfoTechForOps

- Clone or Download:
  - Download Zip and don't use Git
  - Use Git on your computer

- Directories
  - Code
    - py
    - R
  - Data
  - Database
  - Notebooks

Our Toolkit

(Initial) Components of Our Course Toolkit

- Python – Version 3.7.x
  - Anaconda package
  - Ipython and Jupyter Notebook
  - Modules
    - Numpy
    - Scipy
    - Pandas
    - Matplotlib/Seborn
    - others?

- R – Version 3.x
  - Tidyverse

- MySQL/MariaDB

- Excel

- Text Editor
  - Notepad
  - Notepad++
  - vi
  - UltraEdit
  - A gazillion others ....

Python

- Python Version
  - 3.x vs 2.7.y

- Installation Package
  - Anaconda (standard) Package
  - Conda - https://conda.io/docs/user-guide/getting-started.html

- Sample Conda commands:
  - `conda info`
  - `conda info --envs`
  - `activate env_name`
  - `deactivate`
  - `conda create --name py27 python=2.7`

Python

- We'll spend 4-ish classes starting next week on the *language*, Python. Here're we'll just spend a little time on how to invoke/use the interpreter.

- Interpreter/IDE
  - python.exe
  - IPython
  - Jupyter

- Many other Python IDE options including IDLE, PyCharms, …

- Python libraries:
  - NumPy (http://www.numpy.org/)
  - SciPy (https://scipy.org/#)
  - pandas (http://pandas.pydata.org/)
  - Matplotlib (https://matplotlib.org/)
  - Seaborn (http://seaborn.pydata.org/)
  - Others?

R

- Disclosure – *I have much less experience with R than Python*!

- https://www.r-project.org/

- Interpreter/IDE:

  - "Native" R interpreter

  - RStudio - https://www.rstudio.com/

  - Jupyter Notebook – Note that I've not used this yet and have heard mixed reviews (relative to use RStudio) …

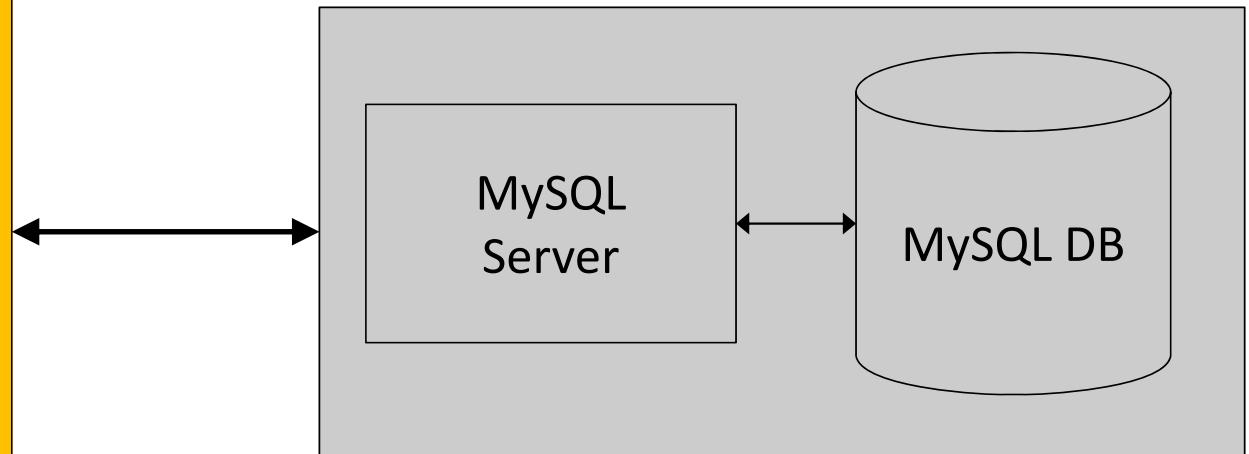 - Visual Studio (Windows-only the last time I saw)

- R "Packages"

- Tidyverse - https://www.tidyverse.org/

MySQL / MariaDB

- Relational Database Software
  - MySQL – https://www.mysql.com/
  - MariaDB – https://mariadb.org/

localhost (127.0.0.1) or an external server (e.g., mysqlacad.duc.auburn.edu

Client
- mysql.exe
- MySQL Workbench
- HeidiSQL
- Python
- R
- Excel
- Web server
- …

MySQL Server ⟷ MySQL DB

Miscellaneous

- Excel – of course, everybody uses Excel …

- Text Editor – might need one in situations where you want to create stand-alone .py or .R files to be run in batch mode.
  - FYI - I use UltraEdit and vi