Syllabus

Basic Python and Data Science

# Chapter 1: Installation

1. Anaconda (<https://www.geeksforgeeks.org/how-to-install-anaconda-on-windows/>)
2. Launch Jupyter Notebook
3. git (<https://git-scm.com/downloads>)
4. github (<https://desktop.github.com/>)
5. git account creation
6. Github desktop installation
7. IntelliJ Community version (<https://www.jetbrains.com/idea/download/?fromIDE=#section=windows>)

# Chapter 2: Start with Jupyter

1. Create jupyter python project
2. Develop this as github project
3. Try print and some basic python methods to develop notebook
4. Commit and push to remote github account

# Chapter 3: Git: Version Control System

1. Create Github project
   1. Install git
   2. Install github
   3. Create any git project by git init command
   4. From main branch create another branch, say testing
   5. Testing branch make some changes
   6. Commit the changes
   7. Create github account, remote
   8. Publish this git project to your github account
2. Homework:
   1. Check quick 5 minute video on git desktop from youtube
   2. Quick 5 minute video on github
   3. Explore <https://github.com/secmlops/ML2022>

# Chapter 4: Read/ Write Data

1. Read data using different methods and sources
   1. Read data from csv
   2. Read data from websites
   3. Read data from database
   4. Read data from github
2. Write data to different sources
   1. Write to csv
   2. Write to websites
   3. Write to database
   4. Write to github
3. Read data from CSV
   1. Input: folder path
4. Data Related Roles

# Chapter 5: Stock Market API

**Domain:**

Finance

Stock market

**US Market**

NASDAQ stock exchange

**Explore yahoo finance**

* Explore AAPL stock
* Understand summary of AAPL
* Check historical data
* Develop summary and report for one stock
* Develop summary and report for many stock

# Chapter 6:

# 

1. Creating python app
2. Deploy this app to free cloud
3. Aws, free account, lambda

# Chapter 7: Excel

1. Replicate the project 5 from python to excel

# Chapter 8: Intellij IDE

# Create a virtual environment

* Install intellij
* Get python plugin
* Create python file and run it
* Intellij project as git project
* Add few jupyter notebook
* Gitignore file in git project
* Commit to master branch
* Push to remote branch
* Create python project
* Set up SDK
* Create python files
* Run python file

# Chapter 9: Structuring Python Project

* Create a virtual environment
* Create git repo
* Add git ignore
* Add readme
* Add license
* Add setup.py
* Add src
* Add folder for main codes
* Add folder for docs
* Add folder for tests

# Chapter 9: Flask

# Chapter 9: Streamlit

# Chapter 10: Stock analysis

1. consider stock market data possibly
2. develop simple algorithm of macd indicators and buy sell stock signals in excel first and in python second
3. write there signal to csv, database etc
4. Develop simple api in python to write, read these signals to database
5. Combine different signals by using some machine learning method say random forest or Adaboost.
6. Integrate this machine learning components to already developed systems and get some familiarity about MLops.