



Python Programming

Prof. Venki Muthukumar, Ph.D.

Materials and References



- Python3 Simulation with OOP
 - Author: Meher Krishna Patel
 - Python3 Simulation with OOP.pdf
 - Codes - Github
- Advance Python Tutorials
 - Author: Meher Krishna Patel
 - Python3 Simulation with OOP.pdf
 - Codes - Github
- Introduction to Scientific Computing in Python
 - Robert Johansson
 - Scientific-Computing-with-Python.pdf
 - Codes - Github

Anaconda & Spyder Tutorials



- Navigating anaconda dashboard
- Managing virtual environments
- Creating virtual environments
 - `conda env create -f environment.yml`
 - `conda env list`
 - `conda activate project-env`
 - `conda deactivate`
 - `conda env remove --name project-env`
- Install plugins in Spyder
 - `conda install spyder-notebook -c conda-forge`
 - `conda install spyder spyder-terminal -c conda-forge`
 - Any issues – “**spyder** –reset” and then do
“**conda** install -c conda-forge spyder spyder-notebook spyder-terminal”

Topics - Python3 Simulation with OOP



- Introduction – Chapter 1
 - Print() – “Hello World!”
 - Number Format
 - Data Structures
 - Strings, lists, tuple, dictionary, ...
 - Control structure
 - If, If-else, if-elif-else
 - while
 - for
 - Function
- Iteration – Chapter 5

Topics



- Working with python libraries – Chapter 1 & 2
 - Using ``import numpy as np``
 - numpy – matplotlib - scipy
- Examples of python libraries for ... - Chapter 2
 - Arrays
 - Matrix
 - ...-plots
 - ...-charts