1. **Introduction to Python**

Python Development Environments

Data types

Data Structure

Control Strutures

Functions

1. **Jupyter notebooks**

Setting up and using Jupyter notebooks

Using the brower efficiently

Installing and using interactive widgets

Installing important jupyter extensions for ease of data crunching

1. **Numpy**

Why Numpy(demonstrate less memory, fast and convenient)

Arithmetic functions in Numpy

Numpy Aggregation functions

Sorting arrays

Comparison operators

Broadcasting

Array manipulations(attributes,indexing,slicing,reshaping,joining and splitting of arrays)

Using array for different data problems

1. **Pandas**

Introduction to Pandas data structure

loc and iloc, inplace and indexing in depth

importing and exporting different datasets

Missing values treatment

Boolean and multilevel boolean indexing

Transpose and deletion in Pandas

Sorting axis wise

Finding and replacing a new value

How to make files persistent?

Applying statistics on dataframe

groupby, concatinating,merging and reshaping

rename columns, filtering rows and append

Applying functions to Pandas

1. **Matplotlib**

Introduction with relevance

Basic plots(line,bar,histogram,Scatter,stack,pie chart and heat map)

Labels, titles, legends and other customization for better understanding