

PYTHON FOR DATA SCIENCE

Beginner to Advanced
with hands on 10+Projects



One-to-One Class



Syllabus



Beginners

Python Basic

- Introduction of python and comparison with other programming languages
- Installation of anaconda distribution and other python ide
- Python objects, number & Booleans, strings.
- Container objects, the mutability of objects
- Operators - arithmetic, bitwise, comparison and assignment operators, operator's precedence, and associativity
- Conditions (if-else, if-elif-else), loops (while, for)
- Break and continue statement and range function



String Objects

- basic data structure in python
- String object basics
- String inbuilt methods
- Splitting and joining strings
- String format function

Tuples, Set, Dictionaries

- Tuples
- Set
- Dictionary object methods
- Dictionary comprehensions
- Dictionary view objects

List Object Basics

- List methods
- List as stack and queues
- List comprehension
- Map. Reduce and Filter

Functions

- Functions basics, parameter passing, iterators.
- Generator functions
- Lambda functions
- Map, reduce, filter functions



Oops Concepts

- oops basic concepts.
- Creating classes
- Inheritance
- Polymorphism
- Encapsulation
- Abstraction

Exception Handling

- Exceptions handling with try-except
- Custom exception handling
- List of general use exception
- Best practice exception handling



Database with Python

- SQLite
- MySQL
- Mongo dB
- NoSQL - Cassandra



Flask web App

- Flask introduction
- Flask application
- Open link flask
- App routing flask
- Url building flask
- HTTP methods flask
- Templates flask
- Flask project
- Postman

Pandas Basic

- Python pandas - series
- Python pandas – data frame
- Python pandas – panel
- Python pandas - basic functionality
- Reading data from the different file system

Pandas Advance

- re-indexing python
- iteration
- sorting.
- Working with text data options & customization
- Indexing & selecting
- Data statistical functions
- window functions
- date functionality
- time delta
- categorical data
- visualization

Numpy

- ND array object.
- data types.
- array attributes.
- array creation routines.
- array from existing.
- Data array from numerical ranges.
- indexing & slicing.
- Numpy – advanced indexing.
- Numpy – broadcasting.
- iterating over an array.
- array manipulation.
- binary operators.
- string functions.
- mathematical functions.
- arithmetic operations.
- statistical functions.
- Sort, search & counting functions.
- byte swapping.
- copies & views.
- matrix library.
- linear algebra

Visualization Packages

- Matplotlib
- Seaborn
- Plotly

Projects

4 Database connection API

Sending Bulk emails

Web scrapping

Image Scraping

Data Pipeline

5 EDA case study

PyPi Package

Deployment on Heroku and AWS cloud

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