

Chapter 1: Introduction to Python

What is Python and history of Python?

Unique features of Python

Python-2 and Python-3 differences

Install Python and Environment Setup

First Python Program

Python Identifiers, Keywords and Indentation

Comments and document interlude in Python

Command line arguments

Getting User Input

Python Data Types

What are variables?

Python Core objects and Functions

Number and Maths

Week 1 Assignments

Chapter 2: List, Ranges & Tuples in Python

Introduction

Lists in Python

More About Lists

Understanding Iterators

Generators , Comprehensions and Lambda Expressions

Introduction

Generators and Yield

Next and Ranges

Understanding and using Ranges

More About Ranges

Ordered Sets with tuples

Chapter 3: Python Dictionaries and Sets

Introduction to the section

Python Dictionaries

More on Dictionaries

Sets

Python Sets Examples

Chapter 4: Input and Output in Python

Reading and writing text files

writing Text Files

Appending to Files and Challenge

Writing Binary Files Manually

Using Pickle to Write Binary Files

Chapter 5: Python built in function

Python user defined functions

Python packages functions

Defining and calling Function

The anonymous Functions

Loops and statement in Python

Python Modules & Packages

Chapter 6: Python Object Oriented

Overview of OOP

Creating Classes and Objects

Accessing attributes

Built-In Class Attributes

Destroying Objects

Chapter 7: Python Exceptions Handling

What is Exception?

Handling an exception

try....except...else

try-finally clause

Argument of an Exception

Python Standard Exceptions

Raising an exceptions

User-Defined Exceptions

Chapter 8: Python Regular Expressions

What are regular expressions?

The match Function

The search Function

Matching vs searching

Search and Replace

Extended Regular Expressions

Wildcard

Chapter 9: Python Multithreaded Programming

What is multithreading?

Starting a New Thread

The Threading Module

Synchronizing Threads

Multithreaded Priority Queue

Python Spreadsheet Interfaces

Python XML interfaces

Chapter 10: Using Databases in Python

Python MySQL Database Access

Install the MySQLdb and other Packages

Create Database Connection

CREATE, INSERT, READ, UPDATE and DELETE Operation

DML and DDL Operation with Databases

Performing Transactions

Handling Database Errors

Web Scraping in Python

Chapter 11: Python For Data Analysis

Numpy:

Introduction to numpy

Creating arrays

Using arrays and Scalars

Indexing Arrays

Array Transposition

Universal Array Function

Array Processing

Array Input and Output

Pandas:

What is pandas?

Where it is used?

Series in pandas

Index objects

Reindex

Drop Entry

Selecting Entries

Data Alignment

Rank and Sort

Summary Statics

Missing Data

Index Heirarchy

Matplotlib: Python For Data Visualization

Welcome to the Data Visualization Section

Introduction to Matplotlib

Chapter 12: Django Web Framework in Python

Introduction to Django and Full Stack Web Development