

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

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 Hierarchy

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