

Introduction to PYTHON

- Introductory Remark about Python
- A Brief History of Python
- How Python is differ from other languages
- Python Version
- Installing Python
- IDLE
- Getting Help
- How To execute Python program
- Writing your first program

Python Basics

- Python keywords and Identifiers
- Python statements
- Comments in python
- Command line arguments
- Getting user input

Variables and data types

- Introduction
- Variables
- Data types
- Numbers
- Strings
- Lists ,tuples & dictionary

Decision making & Loops

- Introduction
- Control flow and syntax
- The if statement
- Python operators
- The while Loop
- Break and continue
- The for Loop
- Pass statement

Function

- Introduction
- Calling a function
- Function arguments
- Built in function

- Scope of variables
- Decorators
- Passing function to a function
- Lambda
- Closures

Modules and Packages

- Modules
- Importing Modules
- Standard Modules- sys
- Standard Modules- OS
- The dir Function
- Packages
- Handling User Event

Exception Handling

- Errors
- Run Time Errors
- Handling IO Exception
- Try....except statement
- Raise
- Assert

Files and Directories

- Introduction
- Writing Data to a file
- Reading data from a file
- Additional file methods
- Working with files
- Working with Directories
- The pickle Module
- Android System Overview

Classes & Objects

- Introduction classes and objects
- Creating classes
- Instance methods
- Special class method
- Inheritance
- Method overriding
- Data hiding
- Exercise

Regular Expressions

- Introduction
- Match function
- Search function
- Grouping
- Matching at Beginning or End
- Match Object
- Flags
- Exercise

Debugging in Python

- Type of Error
- Syntax Error
- Runtime Error
- Semantic Errors
- Basic Content Provider

Database SQLite and MySql

- Connection
- Cursor
- SQLite DB
- CRUD Operations
- MySql Database

Scientific Computing with NumPy

- N-Dimensional Array Object
- Array Slicing Methods
- Array reshapeing methods
- Numerical routines in NumPy
- Sensors

PyLab, Matplot and Pandas

- Introduction To Matplot
- Python 2D plotting
- generate plots, histograms, power spectra, bar charts, errorcharts, scatterplots
- Indroduction To Pandas
- Pandas data structures and data analysis