

“Python Course Content”

➤ Introduction to Python

- ❖ Introduction
- ❖ Why python?
- ❖ Features of python, Area of Applications
- ❖ Installing Python and versions
- ❖ Interactive mode, creating and running programs
- ❖ Blocks, Indentation, lines and commenting

➤ Variables

- ❖ Introduction
- ❖ Input strings and numbers
- ❖ Variable declaration and assignment
- ❖ Printing, Operators
- ❖ Expression and Code evaluation
- ❖ Error messages

➤ Operators

- ❖ Arithmetic
- ❖ Comparison
- ❖ Assignment
- ❖ Logical
- ❖ Bitwise
- ❖ Membership
- ❖ Identity operator Precedence

➤ **Data Types**

- ❖ Numbers
- ❖ String and Characters
- ❖ Lists
- ❖ Tuples
- ❖ Dictionary, Nested Dictionary
- ❖ Set and Files
- ❖ Arrays, Matrix
- ❖ List Comprehension

➤ **Flow Control Loops and decision-making Statements**

- ❖ While loop
- ❖ For loop
- ❖ Nested loops range*
- ❖ if, else, elseif, nested if
- ❖ Continues, Pass, break, Exit

➤ **Functions**

- ❖ Function declaration
- ❖ Basic function
- ❖ Pass by value

➤ **Error Handling**

- ❖ Except
- ❖ Try, Except and raise exceptions

➤ **Basic Classes and instances**

- ❖ Defining a class, basic class
- ❖ Instance
- ❖ Class Data
- ❖ Properties

➤ **Debugging**

- ❖ Debugging

Advanced Python

➤ **Classes and Objects detailed**

- ❖ Classes detailed
- ❖ Constructors
- ❖ Generators
- ❖ Iterators
- ❖ Decorators

➤ **Regular Expressions**

- ❖ Defining regular expressions
- ❖ Compiling regular expressions
- ❖ Using regular expressions
- ❖ Match and find
- ❖ Examples

➤ **Networking, Database and CGI**

- ❖ Networking, telnet and ssh
- ❖ Database connection
- ❖ Basic graphics

➤ **Parsing**

- ❖ Special purpose parsers
- ❖ Writing a recursive descent parser by hand
- ❖ Parsing comma delimited lines
- ❖ Parsing functors
- ❖ Parsing names, phone numbers, etc.
- ❖ XML parsing

➤ **Modules**

- ➔ Date Time
- ➔ Functions
- ➔ Modules, Packages
- ➔ Files I/O
- ➔ Exception Handling
- ➔ OOPs
- ➔ Decorator
- ➔ Iterator vs Generator
- ➔ Regular Expressions

➤ **Multithreading**

- ❖ Multithreading and examples

➤ **Logging and debugging again**

- ❖ Logging and debugging examples

➤ **Python 2.X vs 3.X**

➤ **Miscellaneous Topics**

➤ **MVT Framework Django/Flask (Any One)**