



# CourseContents:

## 1.Python

- Knowing Python
- Installing the Environment
- Getting familiar to Python IDE
- Why prefer python over others!

## 2. BeforeStartoff: Expressions & Operators

- Python Syntax
- Including Comments , Indentation
- Python Variables
- Operators &python Keywords

## 3.Python Data Types

- Data : Numeric - int, float, long, complex
- Strings types(raw, Unicode), properties, methods, indexing, sequencing slicing, finding string in strings, finding string in string with numbers . . .
- Lists, Tuples, Sets, Range, Xrange& List
- Dictionary and Maps

## 3.Strings,Lists,Dictionary

- Structured Data: List & its properties
- List properties, indexing, slicing
- Strings are special kinds of lists
- Nested Lists
- Mutation (of strings and lists)
- Aliasing
- List Operations (append, plus, len, extent)
- Union procedure for list
- List.pop()
- Dictionary Operations
- Using Dictionary in Index

## 4.Data Flow Control

- Introduction to control flow
- *Conditional statements:* if-elif-else
- *Loops:* FOR and WHILE loop



- Factorial using while loop
- In operator, index operator
- *Statements*: Break, continue and pass
- *Switch Case* in python

## 5. Function & Packages

- Def Function
- Logical, Boolean Expressions
- Function recipe and docstring
- Function with and without parameters
- Functions reusability and recursive functions
- Creating modules and packages
- Importing Modules
- dir(), help(), import and from import

## 6. File Handling: Working with files

- Begin with python file I/O
- File handling permission
- read(), write() and Append Operation
- Readline(), seek() and tell()
- Lambda function , Generator Expression

## 8. Beginners' End: Error & Exception Handling

- Introduction to errors and exceptions
- Exception hierarchy
- try-except block
- finally and else
- Debugging - assert and raise

## 9. Python: The Developers Way

- Data Structure
- Building index using list and performing lookup
- Network, latency, bandwidth, traceroute and bit
- **Browser, Server, Protocol**
- Efficient Algorithms
- Hash table concept (ord() and modulus operator)
- Hash Table Lookup
- Recursive Definitions
- Base Case and recursive case
- Factorial using Recursion
- Palindromes



- Fibonacci Numbers
- Introduction to Ranking Web Pages (Page Rank)

## 10. OOP Programming

- Introduction to OOPS concepts
- Programming with Classes & Object
- Inheritance: Programming using Python
- Overriding and overloading
- Information hiding
- `__init__()`, self and other class methods

## 11. Python in Interactive way: The WEB

- HTML Tags
- Developing web pages using Python
- CGI Environment with Python
- **HTTP** : GET POST Requests
- Passing Data using Button Requests
- Custom Post Handler & more..

## 12. Command Line Arguments with Python

### 13. Data Base Connection

- Setting up SQL databases
- SQLite3 and MySQL connections

### 13. Python with GUI

### 14. Python with Django



## Projects:

- **Building A Dynamic Website:**  
Description: This is a dynamic webpage creation project using **Django** Framework & **HTML** front end designing with feature HTTP request & response Post handling.
- **Extracting Links from a webpage**
- **GUI with Python:**  
Description: This GUI based project development will be using **Tkinter**
- **BMP Image task with Python:**  
Knowing your Bitmap image & its characteristics & performing various operations over it.
- **Socket Programming:**  
Creating your own captive portal using Python coding & many more...

## ToolKitContent:

- SoftwareTool Kit.

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**For any further Detail Please Contact..!!!**

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