

Python Programming

- **Introduction**
 - Why do we need Python?
 - Program structure in Python
- **Execution steps**
 - Interactive Shell
 - Executable or script files.
 - User Interface or IDE
- **Memory management and Garbage collections**
 - Object creation and deletion
 - Object properties
- **Data Types and Operations**
 - Numbers
 - Strings
 - List
 - Tuple
 - Dictionary
 - Other Core Types
- **Statements and Syntax in Python**
 - Assignments, Expressions and prints
 - If tests and Syntax Rules
 - While and For Loops
 - Iterations and Comprehensions
- **File Operations**
 - Opening a file
 - Using Files
 - Other File tools
- **Functions in Python**
 - Function definition and call
 - Function Scope
 - Arguments
 - Function Objects
 - Anonymous Functions
- **Modules and Packages**
 - Module Creations and Usage
 - Module Search Path
 - Module Vs. Script
 - Package Creation and Importing

- **Classes in Python**
 - Classes and instances
 - Classes method calls
 - Inheritance and Compositions
 - Static and Class Methods
 - Bound and Unbound Methods
 - Operator Overloading
 - Polymorphism
- **Exception Handling in Python Programming**
 - Default Exception Handler
 - Catching Exceptions
 - Raise an exception
 - User defined exception
- **Advanced Python Concepts**
 - Decorators
 - Generators
 - Iterators
 - Co-routines