

Python Programming (Core / Advance)

Core

1. Introduction/Installation

- History
- Features
- Installing Python
- Installing visual studio code
- Setting up path

2. Overview

- Hello World
- Basic Syntax
- Comments
- Variables and Data Types
- Types and Values

3. Operators

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Identity operators
- Membership operators
- Bitwise operators

4. Conditional Statements

- Conditional syntax, assignment
- If
- If-Else
- Nested If-Else

5. Control Statements

- Break
- Continue
- Pass

6. Lists (Collection of data)

- Introduction
- Working with Lists
- Built in functions for lists

7. Tuples

- Introduction
- Difference between list and tuple
- Working with Tuple
- Built in Functions for tuple

8. Dictionary

- Introduction
- How dictionary stores data
- Working with dictionary
- Built in Functions for dictionary

9. Sets

- Introduction
- Working with sets
- Built in Functions for sets

10. Strings

- Introduction
- Operations on strings
- Built in Functions for strings

11. Functions

- Defining/Calling a function
- Function parameters/arguments
- Return statement
- Named/Default parameters
- Anonymous functions
- Scope of a variable
- Global/Local variable

12. Module

- Creating module
- Importing module
- Built in module
- Packages



13. Exception Handling

- Try-Except
- Finally-Else
- Raising an exception

14. File Handling

- Opening files
- Input and output
- Seeking file
- Read and write files
- Closing files

Advance

1. OOPS Concept

- Introduction to object-oriented programming
- Classes and objects
- Methods and attributes
- Inheritance
- Overriding
- Polymorphism
- Data Hiding

5. Regular Expressions

- Re module
- Findall
- Search
- Split
- Patterns

2. Socket Programming

- Socket module
- Client and server
- Sending text between clients
- Transfer files

3. Database

- Relational vs. Non-relational
- Creating tables
- Executing queries
- Handling errors

4. Threading

- Introduction
- Creating thread
- Starting thread
- Joining thread
- In-built thread modules

