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## Get in Touch

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## Core & Advance



## Python

Become the **PYTHON** Developer

Data Scientist

Software Engineer

Web Developer

# Core & Advance Python

## 1. INTRODUCTION TO PYTHON

- Why Python
- Application areas of python
- Python implementations
  - Cpython
  - Jython
  - Ironpython
  - Pypy
- Python Versions
- Installing Python
- Python Interpreter Architecture
- Python Byte Code Compiler
- Python Virtual Machine(PVM)

## 2. WRITING AND EXECUTING FIRST PYTHON PROGRAM

- Using Interactive Mode
- Using Script Mode
  - General Text Editor And Command Window
  - Idle Editor And Idle Shell
- Understanding Print() Function
- How To Compile Python Program Explicitly

## 3. PYTHON LANGUAGE FUNDAMENTALS

- Character set
- Keywords
- Comments
- Variables
- Literals
- Operators
- Reading Input From Console
- Parsing String To Int, Float

## 4. PYTHON CONDITIONAL STATEMENTS

- If statement
- If else statement
- If elif statement
- If elif else statement
- Nested if statement

## 5. LOOPING STATEMENTS

- While loop
- For loop
- Nested loops
- Pass, break and continue keywords

## 6. STANDARD DATA TYPES

- Int, Float, Complex, Bool, Nonetype
- Str, List, Tuple, Range
- Dict, Set, Frozenset

## 7. STRING HANDLING

- What is string
- String representations
- Unicode string
- String functions, methods
- String indexing and slicing
- String formatting

## 8. PYTHON LIST

- Creating And Accessing Lists
- Indexing And Slicing Lists
- List methods
- Nested Lists
- List Comprehension

## 9. PYTHON TUPLE

- Creating tuple
- Accessing tuple
- Immutability of tuple

## 10. PYTHON SET

- How to create a set
- Iteration over sets
- Python set methods
- Python frozenset

## 11. PYTHON DICTIONARY

- Creating a dictionary
- Dictionary methods
- Accessing values from dictionary
- Updating dictionary
- Iterating dictionary
- Dictionary comprehension

## 12. PYTHON FUNCTIONS

- Defining a function
- Calling a function
- Types of functions
- Function arguments
  - Positional arguments, keyword arguments
  - Default arguments, non-default arguments
  - Arbitrary arguments, keyword arbitrary arguments
- Function return statement
- Nested function
- Function as argument
- Function as return statement
- Decorator function
- Closure
- Map(), filter(), reduce(), any() functions
- Anonymous or lambda function

## 3. MODULES & PACKAGES

- Why modules
- Script v/s module
- Importing module
- Standard v/s third party modules
- Why packages
- Understanding pip utility

## 3. FILE I/O

- Introduction to file handling
- File modes
- Functions and methods related to file handling
- Understanding with block

# SQL

## 1. INTRODUCTION TO DATABASE

- Database Concepts
- What is Database Package?
- Understanding Data Storage
- Relational Database (RDBMS) Concept

## 2. SQL (STRUCTURED QUERY LANGUAGE)

- SQL basics
- DML, DDL & DQL
- DDL: create, alter, drop
- DQL : select
- SQL where

## 3. PYTHON DATABASE CONNECTIVITY

- Creating database connection
- Understanding Cursor
- Executing queries
- Parameterized queries

## Project using Django and Database Connectivity

## 1. ADVANCE PYTHON

- Django
- Flask
- Pandas
- Numpy
- Jupiter
- Matplotlib Library
- Scipy Library