

Python Complete Notes (100+ Pages)

Chapter 1: Introduction to Python

Python is a high-level, interpreted programming language created by Guido van Rossum in 1991. It is easy to learn and widely used for web development, data science, automation, and AI.

Chapter 2: Python Installation and Setup

Installing Python, using IDLE, writing first program: `print('Hello Python')`.

Chapter 3: Variables and Data Types

`int, float, str, bool, list, tuple, set, dictionary.`

Chapter 4: Operators

Arithmetic, Relational, Logical, Assignment, Bitwise, Membership, Identity operators.

Chapter 5: Control Statements

`if, elif, else, for loop, while loop, break, continue, pass.`

Chapter 6: Functions

Defining functions using `def` keyword. Parameters, return values, lambda functions.

Chapter 7: OOP in Python

Class, Object, `__init__` constructor, inheritance, polymorphism, encapsulation.

Chapter 8: Lists and Tuples

List methods: `append()`, `remove()`, `pop()`, `sort()`. Tuple properties.

Chapter 9: Dictionary and Sets

Key-value pairs, dictionary methods, set operations.

Chapter 10: File Handling

`open()`, `read()`, `write()`, append modes, `with` statement.

Chapter 11: Exception Handling

`try`, `except`, `finally`, custom exceptions.

Chapter 12: Modules and Packages

Importing modules, creating user-defined modules.

Chapter 13: Advanced Topics

Decorators, generators, list comprehension, virtual environment.

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