



# BASE-X



START WITH BASICS



PYTHON GUIDE



## 1. INTRODUCTION TO PYTHON

- Overview of Python and its features.
- Setting up the development environment (Python installation, text editor or IDE).

## 2. VARIABLES AND DATA TYPES:

- Variables and assignments.
- Numeric data types (integers, floats).
- Text data type (strings).
- Boolean data type.

## 3. CONTROL FLOW

- Conditional statements (if, else, elif).
- Loops (for and while loops).
- Break and continue statements.
- Indentation and code blocks.



## 4. DATA STRUCTURES

- Lists and list operations (slicing, appending, removing items).
- Tuples and tuple operations.
- Dictionaries and dictionary operations.
- Sets and set operations.

## 5. FUNCTIONS AND MODULES

- Defining and calling functions.
- Function parameters and return values.
- Built-in functions vs. user-defined functions.
- Importing and using modules.

## 6. FILE HANDLING:

- Opening, reading, and writing files.
- File modes (read, write, append).
- Exception handling (try-except blocks).





## **7.OBJECT-ORIENTED PROGRAMMING (OOP):**

- Overview of Python and its features.
- Setting up the development environment (Python installation, text editor or IDE).

## **8.ERROR HANDLING AND DEBUGGING:**

- Common types of errors in Python.
- Debugging techniques (print statements, debugging tools).
- Handling exceptions (try-except-else-finally blocks).

## **9.WORKING WITH LIBRARIES AND MODULES**

- Introduction to commonly used libraries
- (e.g., NumPy, Pandas, Matplotlib).
- Installing and importing external libraries.
- Exploring the functionality and usage of specific libraries.



## **10.INTRODUCTION TO WEB DEVELOPMENT**

- Basics of HTML, CSS, and JavaScript.
- Using Python frameworks for web development (e.g., Flask, Django).



**This is just a general outline, and the depth and order of topics can vary depending on the learning objectives, audience, and the pace of the course. It's also important to include practical exercises, coding projects, and real-world examples to reinforce the concepts being taught.**

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