Fundamentals of Python

Lecture 1

Setting Up Python Environment

- **Installation**
  - Quick guide on installing Python via Anaconda or direct download from python.org.
- **IDEs for Python**
  - Brief introduction to popular IDEs like PyCharm, Jupyter Notebook, and **VSCode**.

- Python is an Interpreted language,
- It reads the code line by line

Python Syntax and Basics

- **Hello World Program**
  - Demonstrate a simple print statement: `print("Hello,world!")`
- **Python Indentation**
  - Explanation of how indentation is used in Python to define code blocks.
  - Example: Simple `if` statement to show indentation effects.
- **Comments in Python**
  - Show how to use comments (`# for single line`, `'''triple quotes for multi-line'''`).

Variables and Data Types

Variables

Creating and using variables: x = 5, name = "Alice"

Data Types

integers, floats, strings, booleans.

Examples: type(10), type(2.5), type("Hello"), type(True)

Operators

Arithmetic Operators

examples: +, -, *, /, //, %, **

Practical example:

Calculating area of a circle (area = pi * r ** 2).

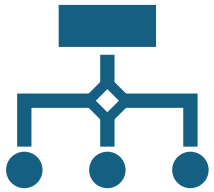
Comparison Operators

Examples: ==, !=, >, <, >=, <=

Use in simple if conditions.

Hands on Pracitce

Interactive Example Building



Create a simple script that takes user input and processes it using basic operators.

Example: Convert temperature from Celsius to Fahrenheit.

Additional Pracitce Questions

Calculating Required Average Speed for a Trip

Simple Interest Calculator

Thank You

Open For Questions