

Day 1: Python Basics I

1. Introduction to Python

Python is a high-level programming language created by Guido van Rossum in 1991.

It is easy to read, write, and understand, which makes it perfect for beginners.

Applications:

- Web development (Django, Flask)
- Data science & machine learning (pandas, NumPy, scikit-learn, TensorFlow)
- Automation & scripting
- Game development, IoT, desktop apps.

Why Python is Popular:

- Easy syntax (looks like English)
- Used in web development, data science, AI, automation
- Large community and libraries
- Works on Windows, Mac, and Linux

2. Setting Up the Environment

To start using Python, we need to install Python and a code editor.

- Download Python from [python.org](https://www.python.org) and install it
- Install VS Code (Visual Studio Code)
- Install Python extension in VS Code
- Write your first program: `print ('Hello, World!')` Example: `print ("Hello, World!")`

3. Variables and Data Types

Variables are used to store data. Python automatically decides the data type.

- int – whole numbers (e.g., 10, 20)
- float – decimal numbers (e.g., 10.5)
- str – text (e.g., 'Hello')
- bool – True or False Example: age = 20 price = 99.5 name = "Python" Is student = True

4. Operators are used to perform operations on values.

- Comparison: ==, !=, >, <
- Logical: and, or, not
- Assignment: =, +=, -=

Example: a = 10 b = 5 print (a + b) print (a > b)

5. Input and Output Input and output help programs interact with users.

- Print () – displays output
- Input () – takes input from user
- String formatting – displays data clearly

Example: name = input ("Enter your name: ") print (f "Hello, {name}") End of Beginner Python Guide