

INTRODUCTION TO PYTHON

Python

Python is a high-level, interpreted, general-purpose programming language. It was created by **Guido van Rossum** and released in **1991**. Python is known for its **simple syntax** similar to English, making it easy to learn and use, even for beginners.



Key Features of Python

1. **Simple and Easy to Learn:**
Python's syntax is clear and concise, reducing the complexity of programs.
2. **Interpreted Language:**
Python code is executed line by line, which makes debugging easier.
3. **High-Level Language:**
You don't need to manage memory or system architecture details.
4. **Portable:**
Python code can run on different platforms (Windows, Mac, Linux) without modification.
5. **Object-Oriented:**
Supports object-oriented programming concepts like classes and objects.
6. **Extensive Libraries:**
It has a rich set of built-in libraries (math, datetime, random, etc.) and external packages (NumPy, pandas, matplotlib) for rapid development.
7. **Open Source:**
Free to use and distribute, including for commercial purposes.

Python Used

- Web Development (using Flask, Django)
- Data Science and Machine Learning (using pandas, NumPy, scikit-learn, TensorFlow)
- Automation and Scripting
- Software Development
- Game Development
- Internet of Things (IoT)
- Cyber Security and Ethical Hacking