

# Python Introduction

Python is a **high-level, interpreted, and general-purpose programming language**. It is known for its **simple syntax, readability, and versatility**, making it ideal for beginners and professionals alike.

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## Why Learn Python?

- Easy to read and write
  - Large community support
  - Cross-platform (Windows, macOS, Linux)
  - Used in web development, data science, machine learning, automation, and more
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## Features of Python

Feature	Description
Simple Syntax	Looks like English, easy to learn
Interpreted Language	Executes code line by line
Dynamically Typed	No need to declare variable types
Object-Oriented	Supports classes and objects
Extensive Libraries	NumPy, Pandas, TensorFlow, Flask, Django, etc.
Open Source	Free to use and distribute
Portable	Run the same code on multiple platforms

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## Python Applications

- 🌐 Web Development – (Django, Flask)
  - 📊 Data Science – (Pandas, NumPy, Matplotlib)
  - 🤖 AI & Machine Learning – (TensorFlow, Scikit-learn)
  - 📱 App Development – (Kivy, BeeWare)
  - ☐ Automation/Scripting – (selenium, pyautogui)
  - 🎮 Game Development – (Pygame)
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## **What can Python do?**

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.