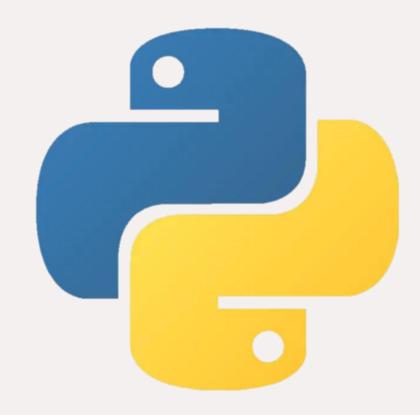


# Python Programming

The journey from mediocrity to mastery





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### What is Programming?



### **Definition:**

Programming is the process of designing and building executable computer programs to accomplish specific tasks or solve problems.



### Purpose:

Automates tasks, processes data, and enables the creation of software, applications, and systems.



#### Languages:

Examples include Python, Java, C++, JavaScript, and many more



## What is Python?



Definition:

Python is a high-level, interpreted programming language known for its simplicity and readability.



Creator:

Developed by Guido van Rossum and first released in 1991.



General Purpose:

Used for web development, data analysis, machine learning, automation, and more.



## Key Features of Python

#### Easy to Read and Write:

• Simple syntax that resembles natural language.

#### Interpreted Language:

• No need for compilation, allowing for quick testing and debugging.

#### Versatile:

• Supports multiple programming paradigms, including procedural, object-oriented, and functional programming.

#### Extensive Libraries and Frameworks:

• Rich set of libraries and frameworks for tasks like data manipulation, web development, and machine learning (e.g., NumPy, Pandas, Django).



## Advantages of Python



Ease of Learning:

Ideal for beginners due to its straightforward syntax and extensive documentation.



Cross-Platform Compatibility:

Runs on various operating systems, including Windows, macOS, and Linux.



**Community Support:** 

Large and active community contributing to numerous resources and libraries.



Productivity and Speed:

Quick development process due to simplicity and a vast ecosystem of tools and frameworks.



