

Intro to Python

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History

- Python, created by **Guido van Rossum**, emerged in the late 1980s and early 1990s at the National Research Institute for Mathematics and Computer Science in the Netherlands.
- Its development was driven by Van Rossum's vision to improve the readability of code and make programming more accessible and enjoyable.
- Python's design philosophy emphasizes code **readability** and **simplicity**, which has contributed to its widespread adoption in various fields of software development.



Features

- **High-Level & Object-Oriented:**
 - Python's high-level nature makes it ideal for object-oriented programming, offering a clear and intuitive syntax.
- **Interpreted with a Twist:**
 - Python combines interpretation with compilation. Code is first compiled into bytecode, then interpreted by a virtual machine, akin to Java.
- **Ease of Learning and Use:**
 - Renowned for its simplicity, Python is user-friendly, making it a suitable choice for beginners and young learners.
- **Expressiveness:**
 - Its expressive quality enhances code readability and understandability, simplifying the programming process.
- **Cross-Platform Language:**
 - Python's versatility shines with its cross-platform functionality, running smoothly on Windows, Linux, Unix, and macOS.

Features

- **Free and Open Source:**
 - Python is readily available for download at its official website, along with its source code.
 - This open-source nature encourages community contributions and enhancements.
- **Rich Standard Library:**
 - Boasts an extensive and broad library offering a rich set of modules and functions, facilitating rapid application development.
- **Integration Capabilities:**
 - Python can be easily integrated with other programming languages, including C, C++, and Java, enhancing its versatility in various development environments.

What is Python used for?

1. Machine Learning:

- At the heart of innovative problem-solving.
- Python leads in Machine Learning and Data Science with its powerful libraries and frameworks.

2. Data Science:

- Python's libraries like Pandas revolutionize data cleaning and manipulation.
- A key tool for analyzing and deriving insights from data.



What is Python used for?

3. Web Development:

- Python simplifies web development with its extensive library collection.
- Its clean syntax makes coding efficient and less time-consuming.

