WELCOME

Python  Series

AGENDA

History of Python

Features of Python

Application of Python

Popularity of Python as of 2024

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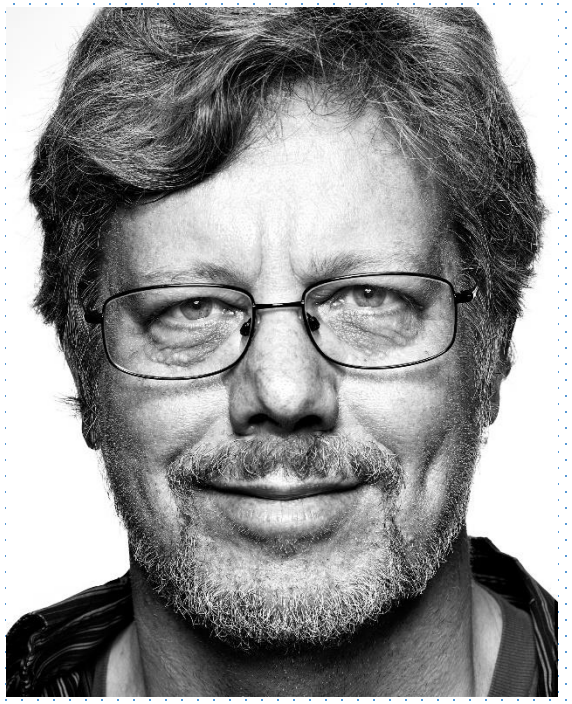
HISTORY OF PYTHON

- Developed by Guido van Rossum
- Created in the late '80s and early '90s
- Originated at the National Research Institute for Mathematics and Computer Science, Netherlands
- Derived From ABC, Modula-3, C, C++, Algol-68, and Unix shell and other scripting languages
- Python 0.9.0 released in 1991



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FEATURES OF PYTHON

- **Easy to Learn**: Simple syntax, limited keywords, and indentation for structure.
- **Interpreter Based**: Executes instructions one at a time for easier debugging, suitable for beginners.
- **MultiParadigm**: Supports object-oriented, imperative, procedural, and functional programming.

FEATURES OF PYTHON

- **Open Source and Cross Platform**: Free, with pre-compiled binaries for major OS platforms; promotes easy portability across systems.

- **GUI Applications**: Includes TKinter for GUI development, with support for other toolkits like PyQt, WxWidgets.

- **Database Connectivity**: Compatible with relational and NoSQL databases through DB-API and third-party libraries.

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FEATURES OF PYTHON

- **Extensible**: Can integrate C modules, with other implementations like Jython (Java) and IPython (C#) for enhanced functionality.
- **Standard Library**: Rich library with extensive modules and packages, following a "batteries included" approach.
- **Active Developer Community**: Large, interactive community supported by the Python Software Foundation.

APPLICATIONS OF PYTHON

- **Data Science**: Essential for generating business insights with libraries like NumPy, Pandas, Matplotlib.
- **Machine Learning**: Models prediction with libraries such as Scikit-learn and TensorFlow for applications in medical diagnosis, sales prediction, and more.
- **Web Development**: Rapid development with Django, Pyramid, Flask, leveraging asynchronous programming for high-performance web apps and APIs.

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APPLICATIONS OF PYTHON

- **Computer Vision and Image Processing**: OpenCV for image capture and processing, used in robotics, surveillance, and biometrics.
- **Embedded Systems and IoT**: MicroPython for microcontrollers like Arduino, popular in robotics, automation, and IoT applications.
- **Job Scheduling and Automation**: Automating tasks with Python scripts for periodic data backups and system maintenance.

APPLICATIONS OF PYTHON

- **Desktop GUI Applications**: Building user-friendly desktop applications with PyQt, WxPython, and TKinter.
- **CAD Applications**: Automating repetitive tasks in software like Autodesk Fusion 360 and SolidWorks with Python APIs.
- **Game Development**: Creating games with Pygame, Kivy, and PyKyra libraries, supporting various multimedia formats and operating systems.

POPULARITY OF PYTHON AS OF 2024

1. Python

2. JavaScript

3. Java

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