INTRODUCTION TO PYTHON & INSTALLATION

What is Python?
Python is a widely used programming language created by Guido van Rossum and released in 1991. It is utilized for:

- Web development (server-side)
- Software development
- Mathematics
- System scripting
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What can Python do?

- Python can create web applications on a server.
- It can work alongside software to develop workflows.
- Python can connect to database systems, read, and modify files.
- It handles big data and performs complex mathematics.
- Python is suitable for rapid prototyping and production-ready software development.

Why Python?

- Python is compatible with various platforms (Windows, Mac, Linux, Raspberry Pi, etc.).
- It features a simple syntax akin to the English language.
- Python's syntax allows for concise program writing compared to some other languages.
- It runs on an interpreter system, enabling immediate code execution and quick prototyping.
- Python supports procedural, object-oriented, and functional programming approaches.
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Good to know

- The latest major version is Python 3, which will be used in this tutorial. Python 2, though only receiving security updates, remains popular.
- In this tutorial, Python will be written in a text editor, but it can also be written in an Integrated Development Environment (IDE) like Thonny, Pycharm, Netbeans, or Eclipse, which are beneficial for managing larger Python file collections.
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Python Syntax compared to other programming languages

- Python is designed for readability, with similarities to the English language and mathematical influences.
- It uses new lines to complete commands, unlike other languages that use semicolons or parentheses.

- Python uses indentation with whitespace to define scope, such as loops, functions, and classes, whereas other languages often use curly brackets for this purpose.

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# Simple Python Syntax Example

# Print “Hello, World!” to the console
print(“Hello, World!”)

# Declare variables
x = 5
y = 10

# Add two numbers and display the result
sum = x + y
print(“The sum of”, x, “and”, y, “is”, sum)

# Define a simple function
def greet(name):
    print(“Hello, “ + name + “!”)

# Call the function
greet(“Alice”)
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