Introduction to Python

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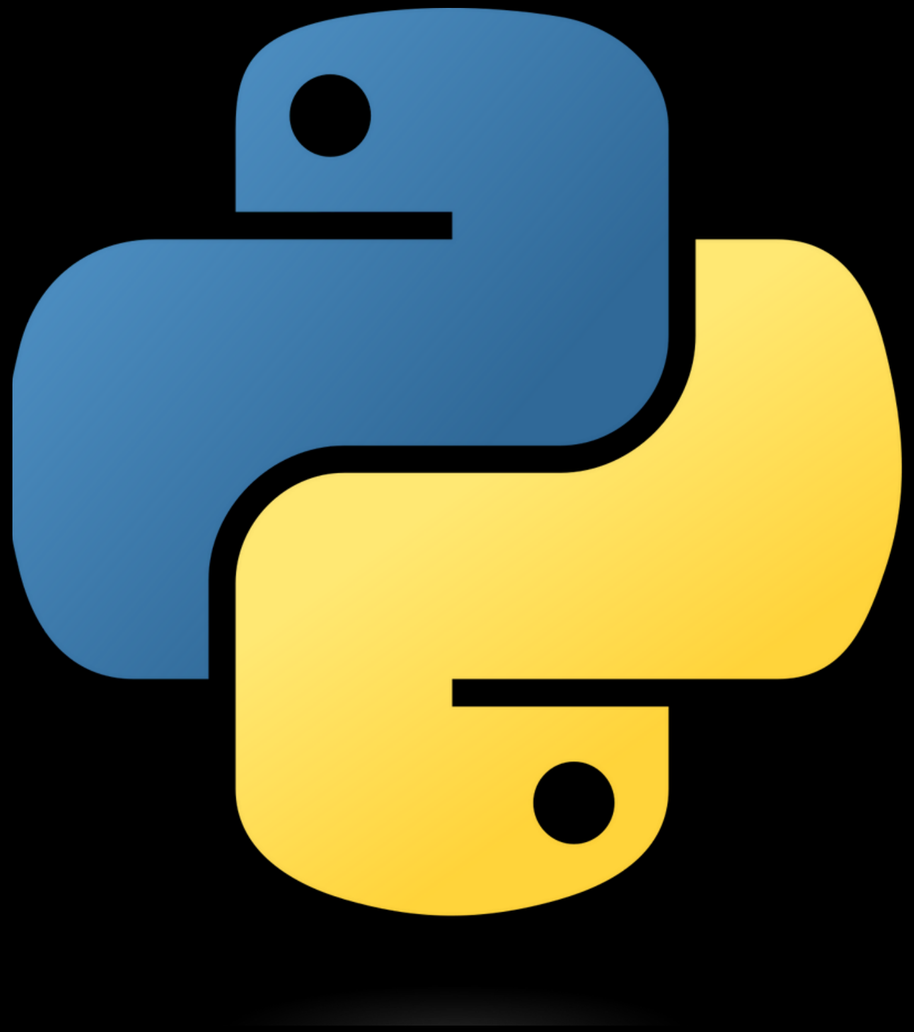
Python?

Python is a versatile and easy-to-learn programming language that is widely used for general-purpose programming, web development, data analysis, artificial intelligence, and more.

It has clear and concise syntax, an active community of developers, and a vast number of libraries and modules that make it a popular choice for beginners and professionals alike. Python is cross-platform, making it an ideal choice for a wide range of applications.



Install python on windows

1. Go to the Python download page at python.org/downloads/.
2. Download the latest version of Python for Windows.
3. Run the installer and follow the instructions.
4. During the installation, make sure to select "Add Python to PATH" and to choose the "Customize installation" option to install the features you need.
5. Click "Install" to complete the installation process.

Install Python on Linux

By default, Python is installed on most of Linux distributions. In case it is not you can install via below commands:

1. Open the terminal and type **sudo apt-get update**.
2. Type **sudo apt-get install python3** to install the latest version of Python 3.
3. Verify the installation by typing "python3 --version" in the terminal.

Introduciton to Data Types In Python

In Python, there are several built-in data types that you can use to store and manipulate data. Here are some of the most common data types in Python:

- Numeric data types:
  - int (integer) - whole numbers, positive or negative
  - float (floating point) - decimal numbers
  - complex - numbers with a real and imaginary part
- String data type:
  - str (string) - a sequence of characters, enclosed in quotation marks (single or double)
- Boolean data type:
  - bool - True or False, used for logical operations and control flow statements

- Sequence data types:
  - list - an ordered collection of items, mutable
  - tuple - an ordered collection of items, immutable
  - range - a sequence of numbers, used to loop through a set of numbers
- Mapping data type:
  - dict (dictionary) - an unordered collection of key-value pairs
- Set data type:
  - set - an unordered collection of unique items
  - frozenset - an immutable version of set
- Other data types:
  - bytes - a sequence of bytes, immutable
  - bytearray - a mutable version of bytes
  - memoryview - a view of the memory used by a Python object

Python is dynamically typed, which means that you do not need to specify the data type of a variable when you declare it. The data type of a variable is determined at runtime based on the value assigned to it.