Python Besics

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What is Python?

Python is a popular programming language. It was created by Guido van Rossum, and released in 1991.

It is used for:

- web development (server-side),
- software development,
- mathematics,
- system scripting.

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What can Python do?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.

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Why Python?

- Python works on different platforms (Windows, Mac, Linux, Raspberry Pi, etc).
- Python has a simple syntax similar to the English language.
- Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
- Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.
- Python can be treated in a procedural way, an object-oriented way or a functional way.

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string

A string is any series of characters that are interpreted literally by a script. For example, "hello world" and "LKJH019283" are both examples of strings. Strings are used for storing text/characters. In most programming languages, the string can be either only letters or be letters and numbers (alphanumeric). Many languages also support a string as numbers only, but often is classified as an integer if it's only numbers. The integer numbers (e.g. 2, 4, 20) have type int, and the ones with a fractional part (e.g. 5.0, 1.6) have type float. Division (/) always returns a float. To do floor division and get an integer result you can use the // operator; to calculate the remainder you can use %:

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Command:

```
>>> 17 / 3  # classic division returns a float
5.66666667
>>> 17 // 3  # floor division discards the fractional part and returns a int
5
>>> 17 % 3  # the % operator returns the remainder of the division
2
>>> 5 * 3 + 2  # floored quotient * divisor + remainder
17
>>> 5 ** 2  # 5 squared
25
>>> 2 ** 7  # 2 to the power of 7
128
```