

What is Python? Why choose Python?

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Python is a powerful, high-level, object-oriented programming language, created by Guido van Rossum. It is easy to learn and emerging as one of the best introductory programming languages ??for people who are first exposed to programming languages. Python completely creates dynamic style and uses automatic memory allocation mechanism. Python has a powerful high-level data structure and a simple but effective approach to object-oriented programming. Python's command syntax is a huge plus because of the flexibility, clarity, and typing that makes it fast to be an ideal language to write scripts and develop applications in many areas, in almost all languages. all platforms.

Today, we will learn about Python, the advantages and capabilities of this programming language.

History of Python

Python is a fairly old language created by Guido Van Rossum. The design began in the late 1980s and was first released in February 1991.



Why is Python created?

In the late 1980s, Guido Van Rossum worked in Amoeba, distributing a group of operating systems. He wants to use an interpreter language like ABC (ABC has a very easy-to-understand syntax) to access Amoeba system

calls. So he decided to create an extended language. This has led to a design of the new language, which is Python later.

Why is it called Python?

Oh, Python is not named after the Greek mythical snake in Greek mythology. Rossum was a fan of a comedy series in the late 1970s, and the name 'Python' was taken from the part name in that series 'Monty Python's Flying Circus'.

Python versions have been released

Version Release date Python 1.0 (first standard release)
Python 1.6 (last version 1.x) January 1994
05/09/2000 Python 2.0 (Introducing list comprehension)
Python 2.7 (Final 2.x version) October 16, 2000
03/07/2010 Python 3.0 (Removing duplicate structure and modules)
Python 3.6 (Latest version by the time of writing) December 3, 2008
December 23, 2016

Main features of Python

Simple, easy-to-learn programming language: Python has a very simple and clear syntax. It is much easier to read and write when compared to other programming languages like C ++, Java, and C #. Python makes programming fun, allowing you to focus on solutions, not syntax.

Free, open source: You can freely use and distribute Python, even for commercial use. Because it is open source, you can not only use the software, the program is written in Python but can also change its source code. Python has a large community, constantly improving it every time it updates.

Portability: Python programs can move from platform to platform and run it without any changes. It runs seamlessly on almost all platforms like Windows, macOS, Linux.

Scalability and embedding: Suppose an application requires a lot of complexity, you can easily incorporate code sections in C, C ++ and other languages (can be called from C) into Python code. This will give your application better features and scripting capabilities that other programming languages can hardly do.

High-level interpreter language: Unlike C / C ++, with Python, you don't have to worry about difficult tasks like memory management, cleaning up meaningless data, . When running Python code, it will automatically convert code into computer language that can be understood. You don't need to worry about any low level activities.

Large standard libraries to handle common tasks: Python has a large number of standard libraries that make your programming work a lot easier, simply because you don't have to write all the code yourself. . For example: Do you need to connect MySQL database on Web server? You can import the MySQLdb library and use it. These libraries are thoroughly tested and used by hundreds of people. So you can be sure that it will not damage your code or application.

Object-oriented: Everything in Python is object-oriented. Object-oriented programming (OOP) helps solve complex problems in an intuitive way. With OOP, you can divide complex problems into smaller episodes by creating objects.

Where is Python used?

Web application programming: You can create scalable **web apps** using the framework and CMS (Content Management System) built into Python. Some common platforms for creating web apps are: Django, Flask, Pyramid, Plone, Django CMS. Sites like Mozilla, Reddit, Instagram and PBS are all written in Python.

Science and computing: There are many libraries in Python for science and numerical calculations, like SciPy and NumPy, which are used for general purposes in computing. And, there are specific libraries such as: EarthPy for earth science, AstroPy for Astronomy, . In addition, Python is also heavily used in machine learning, data mining and deep learning.

Create software prototypes: Python is slower when compared to compiled languages ??like C ++ and Java. It may not be a good choice if limited resources and efficiency requirements are required. However, Python is a great language for creating prototypes (prototype - prototype). For example, you can use Pygame (game writing library) to create a previous game prototype. If you like that prototype, you can use C ++ to write a real game.

Good language to teach programming: Python is used by many companies and schools to teach programming for children and newcomers for the first time to learn programming. Besides great features and capabilities, its simple and easy-to-use syntax is the main reason for this.

4 reasons to learn Python if you are new to programming

Simple syntax:

Programming in Python is very interesting. It's easy to understand and code in Python. Why? Python's syntax is quite similar to natural language, for example, the code below:

```
a = 2
b = 3
sum = a + b
print(sum)
```

Even if you haven't programmed it yet, you can easily guess this code adding two numbers a, b, summing and printing their sum.

Not too strict:

You do not need to specify the type of a variable in Python, without adding a semicolon at the end of the statement. Python forces you to follow available exercises (like the correct instructions). This little thing makes learning Python easy with a lot of new people.

Write less code:

Python allows writing programs that have more functions with less code. You can refer to the game source code Tic-tac-toe (<https://pastebin.com/7LTkj2V5>) with a smart graphical interface and computer opponents, with less

than 500 lines of code. This is just an example. You might be surprised at what Python can do when you learn more about it.

Large community, good support:

Python has a large support community, there are many online activity forums that help you when stuck with some problem in Python:

1. <https://www.reddit.com/r/learnpython/>
2. <https://groups.google.com/forum/#!forum/comp.lang.python>
3. <https://stackoverflow.com/tags/python>

In this section, the Network Administrator will summarize the basic Python documentation, hoping to help you initially get familiar with this increasingly popular programming language. Please pay attention to follow.

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