

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.

Why to Learn Python?

Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently where as other languages use punctuation, and it has fewer syntactical constructions than other languages.

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.

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-orientated way or a functional way.

Python Syntax compared to other programming languages

Python was designed for readability, and has some similarities to the English language with influence from mathematics.

Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.

Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.

Characteristics of Python

Following are important characteristics of Python Programming –

It supports functional and structured programming methods as well as OOP.

It can be used as a scripting language or can be compiled to byte-code for building large applications.

It provides very high-level dynamic data types and supports dynamic type checking.

It supports automatic garbage collection.

It can be easily integrated with C, C++, COM, ActiveX, CORBA, and Java.

Applications of Python

As mentioned before, Python is one of the most widely used language over the web. I'm going to list few of them here:

Easy-to-learn – Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.

Easy-to-read – Python code is more clearly defined and visible to the eyes.

Easy-to-maintain – Python's source code is fairly easy-to-maintain.

A broad standard library – Python's bulk of the library is very portable and cross-platform compatible on UNIX, Windows, and Macintosh.

Interactive Mode – Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.

Portable – Python can run on a wide variety of hardware platforms and has the same interface on all platforms.

Extendable – You can add low-level modules to the Python interpreter.

These modules enable programmers to add to or customize their tools to be more efficient.

Databases – Python provides interfaces to all major commercial databases.

GUI Programming – Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.

Scalable – Python provides a better structure and support for large programs than shell scripting.