



Technical University of Lodz
Institute of Electronics

Signal Processing 1

Why python?

Łódź 2012





Python



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Python (programming language)

From Wikipedia, the free encyclopedia

Python is a [general-purpose, interpreted high-level programming language](#)^[12] whose design philosophy emphasizes [code readability](#). Its syntax is said to be clear^{[13][14]} and expressive.^[15] Python has a large and comprehensive [standard library](#).^[16]

Python supports multiple [programming paradigms](#), primarily but not limited to [object-oriented](#), [imperative](#) and, to a lesser extent, [functional programming](#) styles. It features a fully [dynamic type](#) system and automatic [memory management](#), similar to that of [Scheme](#), [Ruby](#), [Perl](#), and [Tcl](#). Like other [dynamic languages](#), Python is often used as a [scripting language](#), but is also used in a wide range of non-scripting contexts. Using third-party tools, Python code can be packaged into standalone executable programs. Python interpreters are available for many operating systems.

[CPython](#), the [reference implementation](#) of Python, is [free and open source software](#) and has a community-based development model, as do nearly all of its alternative implementations. CPython is managed by the non-profit [Python Software Foundation](#).

Python



Paradigm(s)	multi-paradigm: object-oriented, imperative, functional, procedural, reflective
Appeared in	1991



Python

History

[edit]

Main article: History of Python

Python was conceived in the late 1980s^[17] and its implementation was started in December 1989^[18] by **Guido van Rossum** at **CWI** in the **Netherlands** as a successor to the **ABC language** (itself inspired by **SETL**)^[19] capable of **exception handling** and interfacing with the **Amoeba operating system**.^[2] Van Rossum is Python's principal author, and his continuing central role in deciding the direction of Python is reflected in the title given to him by the Python community, *Benevolent Dictator for Life* (BDFL).

Python 2.0 was released on 16 October 2000, with many major new features including a full **garbage collector** and support for **Unicode**. However, the most important change was to the development process itself, with a shift to a more transparent and community-backed process.^[20] Python 3.0 (also called Python 3000 or py3k), a major, backwards-incompatible release, was released on 3 December 2008^[21] after a long period of testing. Many of its major features have been **backported** to the backwards-compatible Python 2.6 and 2.7.^[22] Python has been awarded a TIOBE Programming Language of the Year award twice (2007, 2010), which is given to the language with the greatest growth in popularity over the course of a year, as measured by the **TIOBE index**.^[23]

Programming philosophy

[edit]


Python is a **multi-paradigm programming language**. Rather than forcing programmers to adopt a particular style of programming, it permits several styles: **object-oriented programming** and **structured programming** are fully supported, and there are a number of language features which support **functional programming** and **aspect-oriented programming** (including by **metaprogramming**^[24] and by **magic methods**).^[25] Many other paradigms are supported using extensions, including **design by contract**^{[26][27]} and **logic programming**.^[28]

Python uses **dynamic typing** and a combination of **reference counting** and a cycle-detecting **garbage collector** for **memory management**. An important feature of Python is dynamic **name resolution** (**late binding**), which binds method and variable names during program execution.

Rather than requiring all desired functionality to be built into the language's core, Python was designed to be highly extensible. New built-in modules can be easily written in **C**, **C++** or **Cython**. Python can also be used as an extension language for existing modules and applications that need a programmable interface. This design of a small core language with a large standard library and an easily extensible interpreter was intended by Van Rossum from the very start because of his frustrations with **ABC** (which espoused the opposite mindset).^[17]

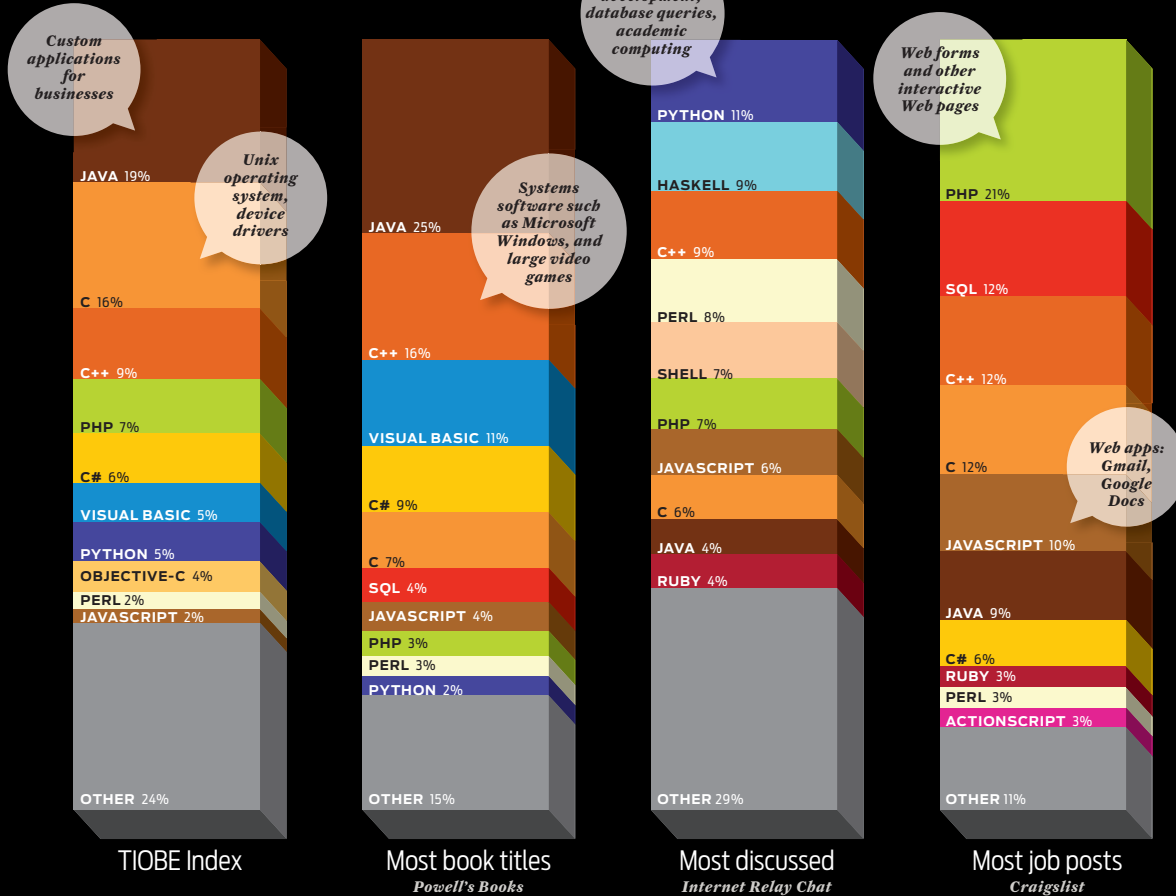
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Guido van Rossum, the creator of Python 



the data



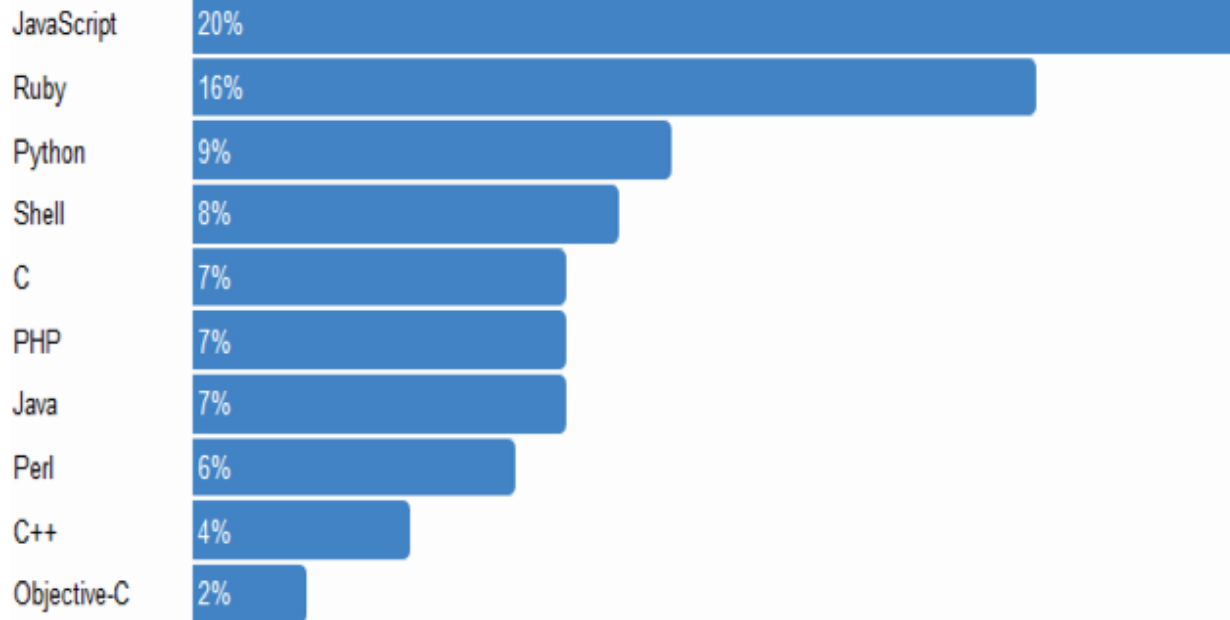
The Top 10 Programming Languages



Python

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GitHub

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SOCIAL CODING

[GitHub.com](#)

Social Coding (for all)

Yes

collaborative revision
control

Required

English

[GitHub, Inc.](#)

April 2008^[1]

▼ 317 (September
2012)^[2]



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Informatyka Stosowana

<http://dziubdziub.blogspot.com/2008/10/python-wykady.html>

Kto używa języka Python





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Kto używa języka Python



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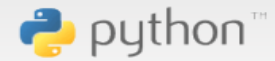


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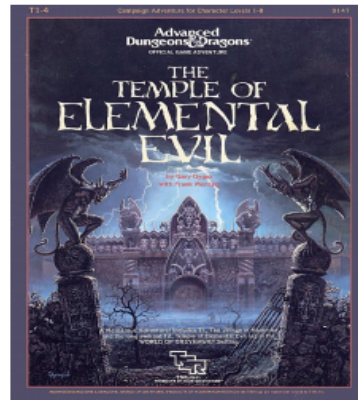
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Kto używa języka Python



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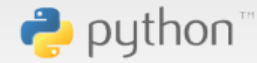


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Python vs World



PROGRAMMING
Language

