

Welcome!

History of Python

- **1991:** Created by Guido van Rossum and released in February. Named after the British comedy group Monty Python
- **2000:** Python 2.0 was released with many major new features, including a full garbage collector and support for Unicode
- **2008:** Python 3.0 was released. Rectified fundamental design flaws in the language
- **2018:** Guido stepped down as the BDFL (Benevolent Dictator For Life) of Python, making way for a five-member "Steering Council" to guide its development
- **2020:** Python 2 was officially discontinued, Python 3 is now the only supported version
- **Today:** Python is used by many large companies and has been instrumental in the development of technologies such as YouTube, Instagram, and Dropbox

Technical aspects

- **Interpreted Language:** Python code is executed "line by line", which makes debugging easier but may result in slower execution compared to compiled languages
- **High-Level Language:** Python abstracts many details of the computer hardware, making development faster and reducing the risk of programming errors
- **Dynamically Typed:** Variables in Python do not need to be declared with any specific type and can change type after they have been set
- **Indentation Syntax:** Python uses indentation to define blocks of code, unlike other languages that use braces. This makes the code visually cleaner and enforces readability
- **Extensive Standard Library**
- **Object-Oriented:** Everything in Python is an object, and Python supports concepts such as classes, inheritance, and polymorphism
- **Rich Ecosystem:** Python has a vast ecosystem of third-party packages and frameworks, which makes it suitable for almost any application
- **Embeddable and Extensible:** Python can be embedded within C/C++ programs, allowing for scripting capabilities within those applications. Conversely, Python can be extended with C/C++ for performance-critical parts
- **Interactive Mode:** Python comes with an interactive shell that allows developers to execute commands and scripts incrementally, facilitating testing and debugging
- **Cross-Platform:** Python is available and runs on various operating systems, including Windows, Linux, and macOS
- **Many implementations:** CPython, IronPython, PyPy, Stackless Python, MicroPython, CircuitPython, Jython
- **Influenced by:** ABC, Ada, ALGOL 68, APL, C, C++, CLU, Dylan, Haskell, Icon, Lisp, Modula-3, Perl, Standard ML
- **Influenced:** Apache Groovy, Boo, Cobra, CoffeeScript, D, F#, GDScript, Genie, Go, JavaScript, Julia, Mojo, Nim, Ring, Ruby, Swift

Core Philosophy

Zen of Python (PEP 20), e.g.:

- Beautiful is better than ugly
- Explicit is better than implicit
- Simple is better than complex
- Complex is better than complicated
- Readability counts