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What is python?

- A **interpreted high-level** programming language for **general purpose** programming.
- Created by **Guido van Rossum**, National Research Institute for Mathematics and Computer Science, Netherlands.
- First released in 1991.
- Focuses on **code readability**, and **syntax** that allow programmers to express concepts in **fewer lines of code.**

Origin and the name `Python`

“Over six years ago, in December 1989, I was looking for a 'hobby' programming project that would keep me occupied during the week around Christmas. My office ... would be closed, but I had a home computer, and not much else on my hands. I decided to write an interpreter for the new scripting language I had been thinking about lately: a descendant of ABC that would appeal to Unix/C hackers. I chose Python as a working title for the project, being in a slightly irreverent mood (and a big fan of Monty Python's Flying Circus).”

- **Guido van Rossum** on the origins of python in **1996**

The Zen of Python

Guiding principles of python design.

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

Full document is available at https://www.python.org/dev/peps/pep-0020/

Why Python ?

- Designed to be easy to learn and master
  - Clean clear syntax
  - Few keywords (Only 33)
- Extremely Readable
- Highly portable
- Extensible
  - Designed to be extensible using C/C++, allowing access to many external libraries

False	class	finally	is	return
None	continue	for	lambda	try
True	def	from	nonlocal	while
and	del	global	not	with
as	elif	if	or	yield
assert	else	import	pass	
break	except	in	raise	

Fig. Keywords in Python Programming Language

Most obvious features

- Clean Syntax plus high level data types
  - Leads to fast coding
  - Code is 2-10x shorter
- Uses whitespace to delimit blocks
- Variables do not need declaration
  - Although not a type less language

```
# For loop on a list
>>> numbers = [2, 4, 6, 8]
>>> product = 1
>>> for number in numbers:
...     product = product * number
...
>>> print('The product is:', product)
The product is: 384
```

What is it used for?

- Rapid prototyping
- Web Scripting
- Ad Hoc Programming
- Steering scientific applications
- XML processing
- Database applications
- GUI Applications
- Data science
- ML / AI

Python basics

- A Hello,World!
- Variable declaration
- Basic arithmetic
- Control Statements
- List comprehension
- Functions
- Classes

For a tutorial visit https://docs.python.org/3/tutorial/

Python tools for various application domains

Web

Scientific and Numeric

Desktop GUIs

kivy

Business Application

Demo Time

- Basic website using flask

About Me

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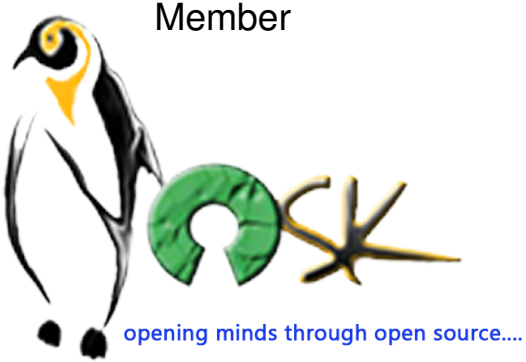
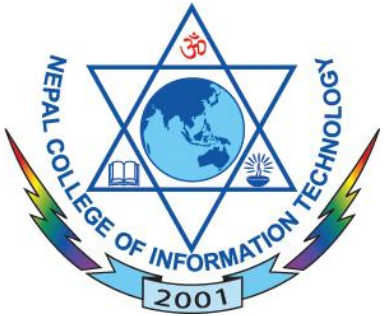
Member



Student



Django Developer

Any Queries ?

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