

Introduction to py.thon



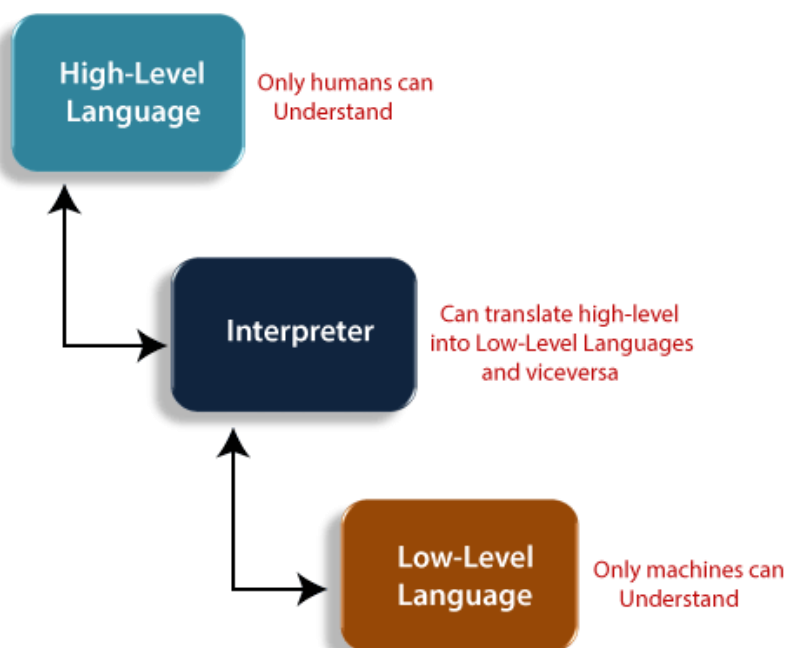
Python is an interpreted high-level general purpose programming language.

(interpreter = computer program that directly executes instructions written in a programming language)

(high-level language = it is a language that is used to interact with computer, language or code that is written by us on IDEs)

(low-level language= the language that is hard to understand for humans which can be said as machine code and assembly lang)

<pre>Var1 = 0.5 if var1 > 1.3 or var1 < 0.9:</pre>	<pre>10100101010010101010101 010101010100101010100</pre>
High-level language	Low-level language
Easy for humans to read, write and modify	Hard for humans to read, write and modify
Programs run slower as they make worse use of the CPU and are not very memory efficient	Direct control over the CPU means memory use is more efficient and programs run faster
No understanding of how hardware components work is needed	Good understanding of how the different hardware components work is needed
Examples are python, java, C#, C++ etc.	Examples are machine code and assembly language





The designer of Python, [Guido van Rossum](#), at [OSCON](#) 2006. Python was conceived in the late 1980s by [Guido van Rossum](#) at [Centrum Wiskunde & Informatica](#) (CWI) in the [Netherlands](#) as a successor to the [ABC programming language](#).

(we can say python as a updated version of ABC programming language)

- Python is meant to be easiest readable language. It uses simple English keywords unlike other programming languages.
- It does not use curly brackets { } to delimit blocks, and semicolon ; after statements are allowed but rarely.
- Python uses indentation (white spaces), rather than curly brackets { } or keywords to delimits block.
- A block of statement must possess same Indentation spaces.

For example:

```
def fun():  
    .....print('hello world')  
  
fun()
```

Here white line before print indicates indentation.

```
test.py > ...
1  def fun():
2      print('hello world')
3
4  fun()

PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE
[Running] python -u "C:\Users\TECHERONIX\OneDrive\Documents\test.py"
hello world

[Done] exited with code=0 in 0.082 seconds
```

HOW PYTHON IS BEING USED THIS DAYS

Data Scientists use Python for computing large amounts of data and drawing from large databases and libraries. It's particularly useful for those who specialize in machine learning as Python is able to access machine learning frameworks for those working with AI (artificial intelligence).

Some examples of well-known companies that require Developers and Data Specialists to work with Python are Uber, Goldman Sachs, PayPal, Netflix, and Google.

Python is used by Intel, IBM, NASA, Pixar, Netflix, Facebook, JP Morgan Chase, Spotify, and a number of other massive companies. It's one of the four main languages at Google, while Google's YouTube is largely written in Python. Same with Reddit, Pinterest, and Instagram. The original BitTorrent client was also written in Python. And it is used as a scripting language to control Maya, the industry standard 3D modelling and animation tool.