ch1

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History of Python

Developed by Guido Van Rossum

Maintained by - Python Software Foundation

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Stable Release - 2.7 and 3.9 (as of this writing)

Features of Python

Simple

Easy to Learn

Free and Open Source

High-level Language

Portable

Extendable

Embeddable

Simple

Python is a simple and minimalistic language

Reading a good Python program feels almost like reading English, although very strict English!

This pseudo-code nature of Python is one of its greatest strengths

It allows you to concentrate on the solution to the problem rather than the language itself

[1]:
```
"""here is an example python code to display range of numbers. It sounds as if␣
 ↪it were to pick numbers from a container
and display it here. it's verbatim"""
for i in range(10):
    print(i)
```

```
0
1
2
3
4
5
6
7
8
9
```

[2]:
```
"""it is said that python allows you to concentrate on the solutions to the␣
 ↪problem than the language. As an example,
we need not worry about memory management, everything is take care of by the␣
 ↪interpretor. Examples here"""
"""variables can be defined without mention on data type"""
var1 = 120
print(var1)
"""same varaible can be assigned with a value of different type"""
var1 = "helloworld"
```

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```
print(var1)
```

```
120
helloworld
```

Easy to learn

As you will see, Python is extremely easy to get started with

Python has an extraordinarily simple syntax, as already mentioned

Free and Open Source

Python is an example of a FLOSS (Free/Libre and Open Source Software).

In simple terms, you can freely distribute copies of this software, read it's source code, make changes to it, use pieces of it in new free programs, and that you know you can do these things.

FLOSS is based on the concept of a community which shares knowledge

This is one of the reasons why Python is so good - it has been created and is constantly improved by a community who just want to see a better Python.

High-level Language

When you write programs in Python, you never need to bother about the low-level details such as managing the memory used by your program, etc.

Daskar910

[3]:
```
"""while working with python we need not worry about low-level details.
 ↪Consider the following scenario.
Increase the size of an array during runtime"""
"""Typicall in languages like 'C' we use malloc kind of function to increase
 ↪the size of an array
during runtime and also use 'free' to deallocate. Hence, here allocation and
 ↪deallocation of memory is managed
by the programmer.
whereas, in python we are free to increase the size of tan array without
 ↪worrying about allocation and deallocation"""
"""example here"""
list1 = [10,20,30,40,50]
list1.extend([60,70,80])
print(list1)
```

```
[10, 20, 30, 40, 50, 60, 70, 80]
```

Portable

Due to its open-source nature, Python has been ported (i.e. changed to make it work on) to many platforms.

All your Python programs can work on any of these platforms without requiring any changes at all if you are careful enough to avoid any system-dependent features.

You can use Python on Linux, Windows, FreeBSD, Macintosh, Solaris, OS/2, Amiga, AROS, AS/400, BeOS, OS/390, z/OS, Palm OS, QNX, VMS, Psion, Acorn RISC OS, VxWorks, PlayStation, Sharp Zaurus, Windows CE and even PocketP

Extendable

If you need a critical piece of code to run very fast or want to have some piece of algorithm not to be open, you can code that part of your program in C or C++ and then use them from your Python program.

Embeddable

Embed python code in C or C++ code giving the programmers the ability of scripting language

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