

Python CV #1



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Python Introduction

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What is Python?

It is used for:

- web development (server-side),
- software development,
- mathematics,
- system scripting.

What can Python do?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.

Why Python?

- Python works on different platforms (Windows, Mac, Linux).
 - Python has a simple syntax similar to the English language.
 - Python has syntax that allows developers to write programs with fewer lines than some other programming languages.
 - Python runs on an interpreter system, meaning that code can be executed as soon as it is written. This means that prototyping can be very quick.
 - Python can be treated in a procedural way, an object-orientated way or a functional way.
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- Python Syntax compared to other programming languages
 - Python was designed for readability, and has some similarities to the English language with influence from mathematics.
 - Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
 - Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.
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Python Syntax

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Python Indentation

Indentation refers to the spaces at the beginning of a code line.

Where in other programming languages the indentation in code is for readability only, **the indentation in Python is very important.**

Python uses indentation to indicate a block of code.

Example

```
if 5 > 2:  
    print("Five is greater than two!")
```

[Try it Yourself »](#)

Python will give you an **error if you skip the indentation:**

Example

Syntax Error:

```
if 5 > 2:  
print("Five is greater than two!")
```

[Try it Yourself »](#)

The number of spaces is up to you as a programmer, but **it has to be at least one**.

Example

```
if 5 > 2:  
    print("Five is greater than two!")  
if 5 > 2:  
    print("Five is greater than two!")
```

[Try it Yourself »](#)

You have to use the **same number of spaces in the same block of code**, otherwise Python will give you an error:

Example

Syntax Error:

```
if 5 > 2:  
    print("Five is greater than two!")  
    print("Five is greater than two!")
```

[Try it Yourself »](#)

Python Variables

In Python, **variables are created when you assign a value to it**:

Example

Variables in Python:

```
x = 5  
y = "Hello, World!"
```

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Python has no command for declaring a variable.

Comments

Python has commenting capability for the purpose of in-code documentation.

Comments start with a #, and Python will render the rest of the line as a comment:

Example

Comments in Python:

```
#This is a comment.  
print("Hello, World!")  
Try it Yourself »
```

Python Numbers

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Python Numbers

There are **three numeric types in Python**:

- `int`
- `float`
- `complex`

Variables of numeric types are created when you assign a value to them:

Example

```
x = 1    # int  
y = 2.8  # float  
z = 1j   # complex
```

Int

Int, or integer, is a whole number, positive or negative, without decimals, of unlimited length.

Example

Integers:

```
x = 1
y = 35656222554887711
z = -3255522
```

```
print(type(x))
print(type(y))
print(type(z))
```

[Try it Yourself »](#)

Float

Float, or "floating point number" is a number, positive or negative, containing one or more decimals.

Example

Floats:

```
x = 1.10
y = 1.0
z = -35.59
```

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