



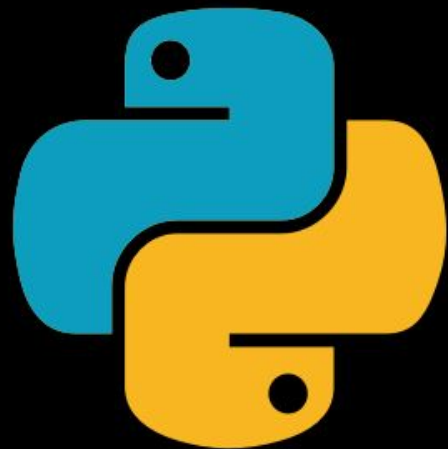
python

Pedro Gyrão
agyrão@gmail.com

```
6 from watson.events import types
7 from watson.framework import events
8 from watson.http.messages import Response, Request
9 from watson.common.imports import get_qualified_name
10 from watson.common.contextmanagers import suppress
11
12
13 ACCEPTABLE_RETURN_TYPES = (str, int, float, bool)
14
15
16 class Base(ContainerAware, metaclass=abc.ABCMeta):
17     """The base class for all controllers.
18     Attributes:
19         __action__ (string): The last action that was called on the controller.
20     """
21
22     def execute(self, **kwargs):
23         method = self.get_execute_method(**kwargs)
24         self.__action__ = method
25         return method(**kwargs) or {}
26
27     @abc.abstractmethod
28     def get_execute_method(self, **kwargs):
29         raise NotImplementedError(
30             'You must implement get_execute_method')
```

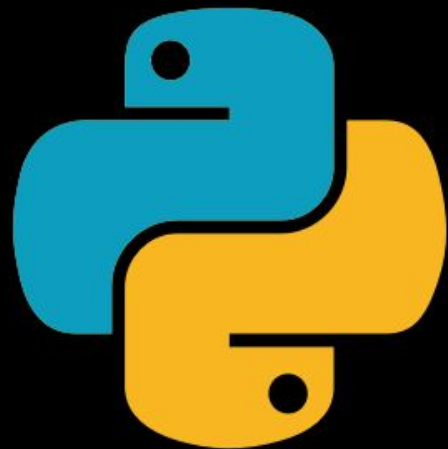
Roteiro

- Apresentação
- Instalação (Passos Extras)
- Storytelling
- Instalação / Setup
- Numpy
- Matplotlib



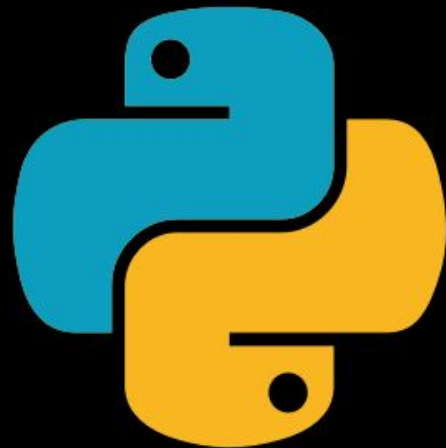
Apresentação

- Python há 7 anos.
- Cientista de Dados Senior na Portocred Financeira
- Coordenador de trilha de python do TDC de 2019
- Passei por algumas empresas de grande e pequeno porte como: HP, SouthSystem, Poatek e, atualmente, Portocred!



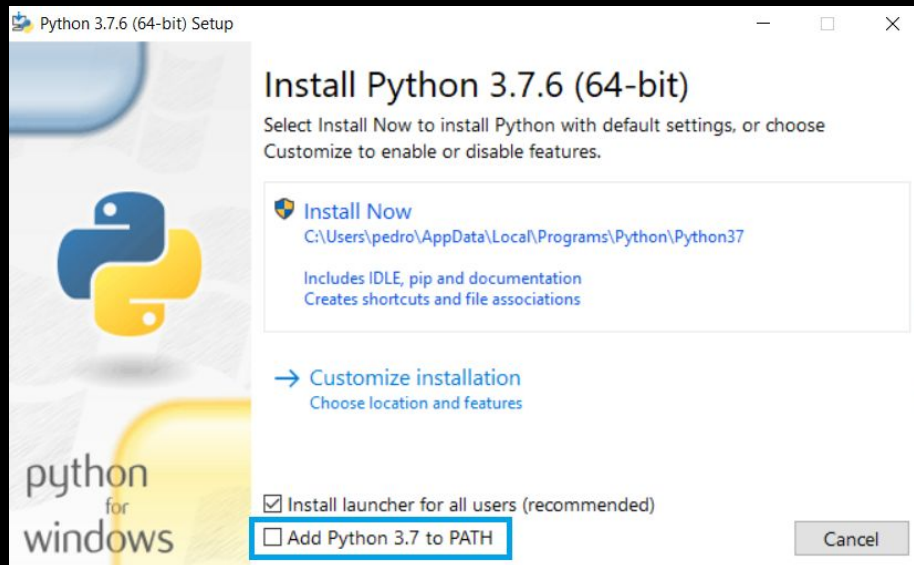
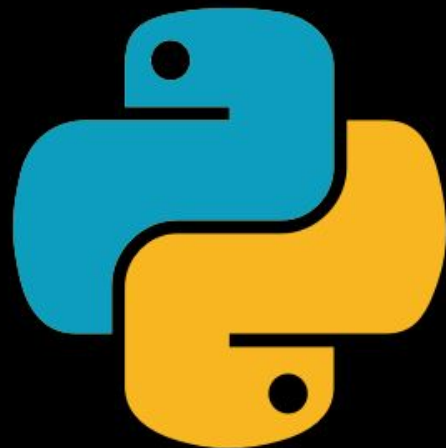
Instalação - Python

<https://www.python.org/downloads/release/python-376/>



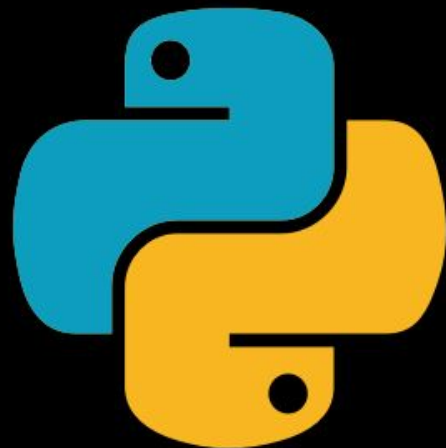
Files

Version	Operating System	Description
Gzipped source tarball	Source release	
XZ compressed source tarball	Source release	
macOS 64-bit/32-bit installer	Mac OS X	for Mac OS X 10.6 and later
macOS 64-bit installer	Mac OS X	for OS X 10.9 and later
Windows help file	Windows	
Windows x86-64 embeddable zip file	Windows	for AMD64/EM64T/x64
Windows x86-64 executable installer	Windows	for AMD64/EM64T/x64
Windows x86-64 web-based installer	Windows	for AMD64/EM64T/x64
Windows x86 embeddable zip file	Windows	
Windows x86 executable installer	Windows	
Windows x86 web-based installer	Windows	



Cmder (Opcional)

<https://cmder.net/>



Download

Latest Version: v1.3.14

[GitHub Repository](#) (for issues/requests/source)

Download Mini
~9.1MB

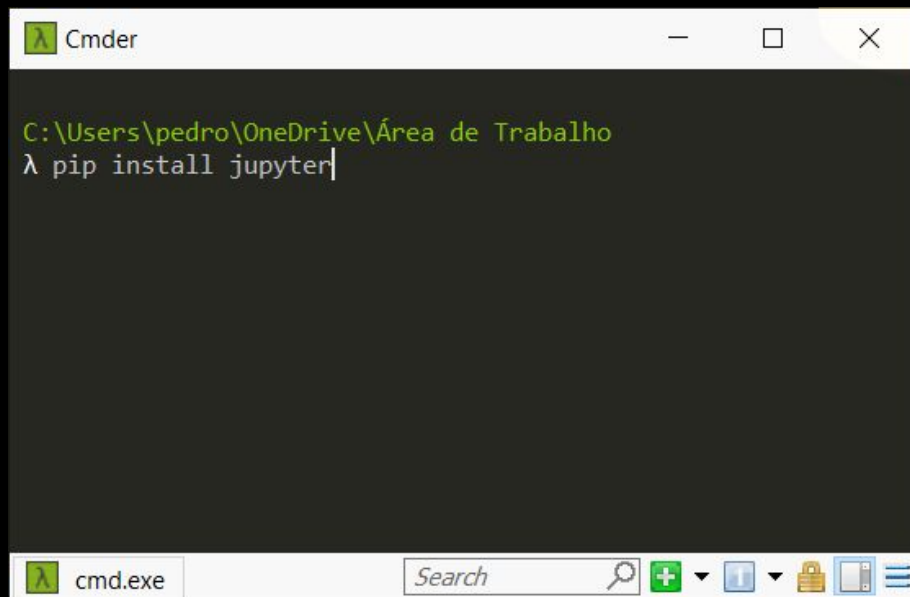
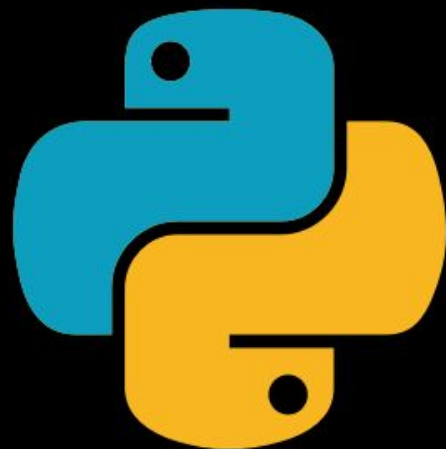
Download Full
(with Git for Windows) ~118MB or ~63MB 7z

Installation

1. Unzip
2. (optional) Place your own executable files into the `bin` folder to be injected into your PATH.
3. Run **Cmder** (*Cmder.exe*)

Instalando Pacotes

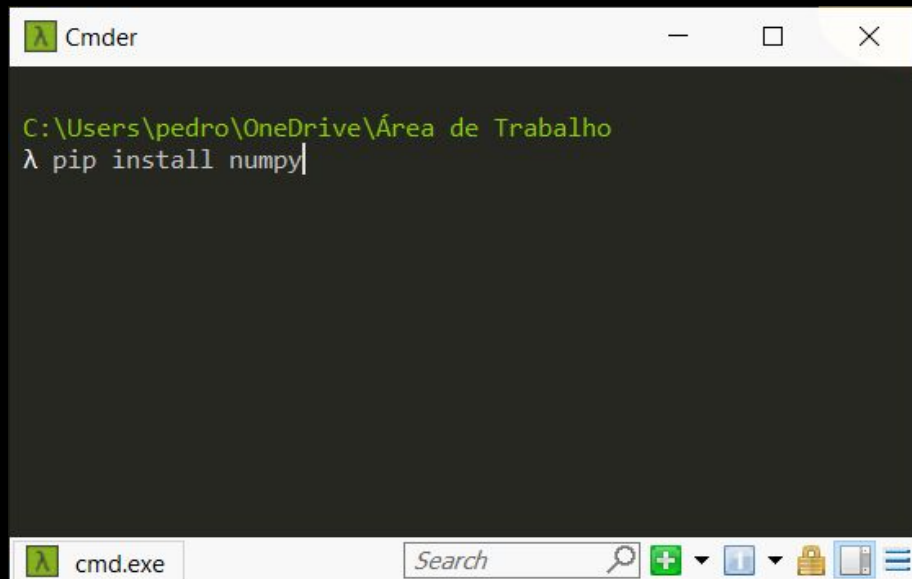
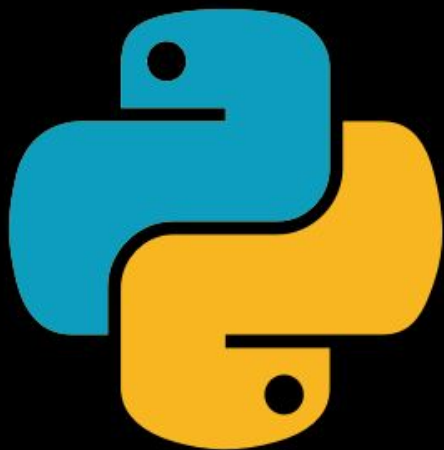
`pip install jupyter`

A screenshot of a Windows Command Prompt window titled 'Cmder'. The window has a dark gray background and a white title bar. The command prompt shows the current directory as 'C:\Users\pedro\OneDrive\Área de Trabalho' and the command 'λ pip install jupyter' being entered. The taskbar at the bottom shows the 'cmd.exe' process, a search bar, and several system icons including a plus sign, a minus sign, a lock, and a network icon.

```
C:\Users\pedro\OneDrive\Área de Trabalho
λ pip install jupyter
```

Instalando Pacotes

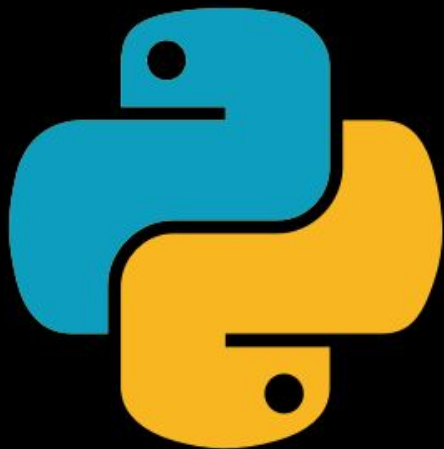
`pip install numpy`

A screenshot of a Windows Command Prompt window. The title bar shows a green icon with a lambda symbol and the text 'Cmder'. The window has standard minimize, maximize, and close buttons. The command prompt shows the current directory as 'C:\Users\pedro\OneDrive\Área de Trabalho' and the command 'λ pip install numpy' being entered. The taskbar at the bottom shows the 'cmd.exe' icon, a search bar with the word 'Search', and several system tray icons including a green plus sign, a blue square, a yellow padlock, and a blue folder icon.

```
Cmder  
  
C:\Users\pedro\OneDrive\Área de Trabalho  
λ pip install numpy
```


Instalando Pacotes

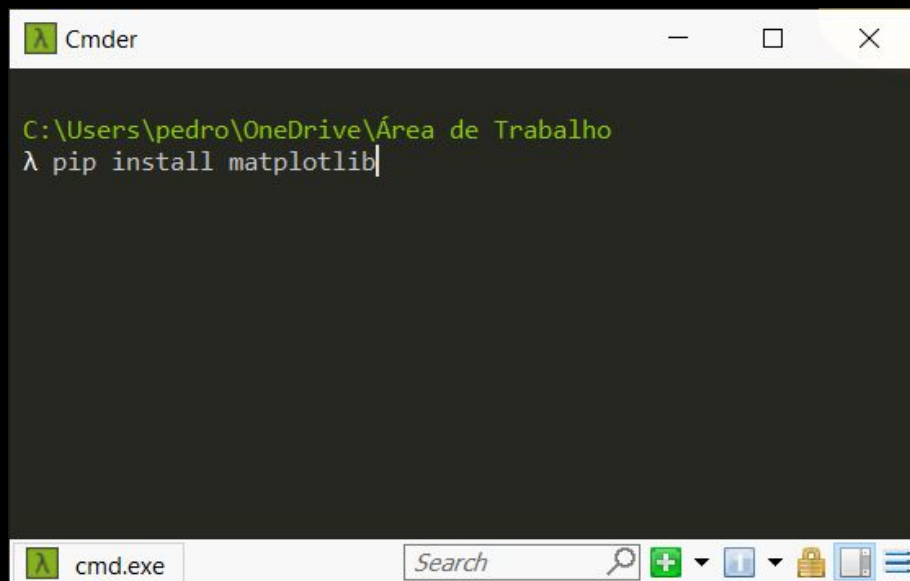
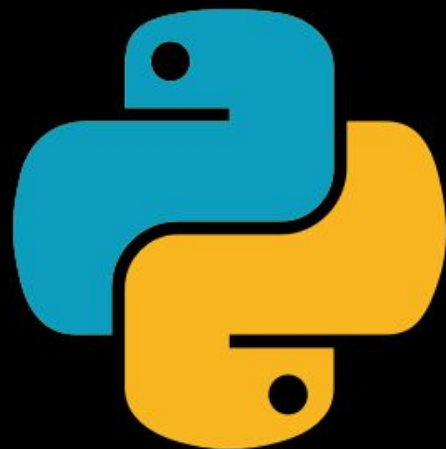
`pip install pandas`

A screenshot of a Windows Command Prompt window. The title bar says "Cmder". The window shows the current directory as "C:\Users\pedro\OneDrive\Área de Trabalho" and the command "λ pip install pandas" entered at the prompt. The taskbar at the bottom shows the "cmd.exe" icon, a search bar, and several utility icons.

```
Cmder  
  
C:\Users\pedro\OneDrive\Área de Trabalho  
λ pip install pandas
```

Instalando Pacotes

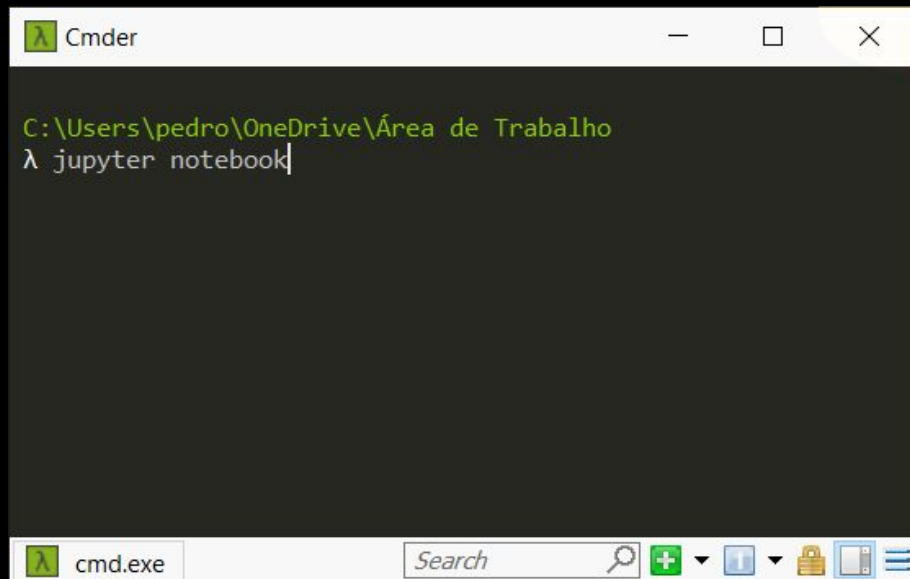
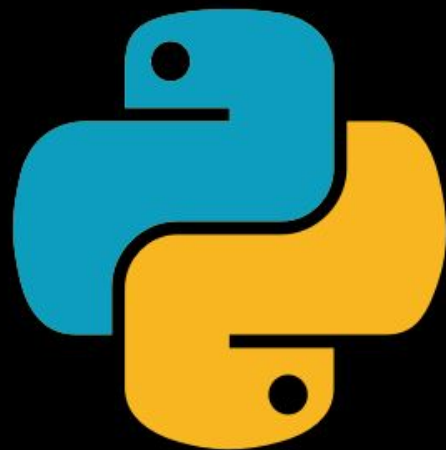
`pip install matplotlib`

A screenshot of a Windows Command Prompt window titled 'Cmder'. The window has a dark gray background and a white title bar. The command prompt shows the current directory as 'C:\Users\pedro\OneDrive\Área de Trabalho' and the command 'λ pip install matplotlib' entered. The taskbar at the bottom shows the 'cmd.exe' icon, a search bar, and several system icons.

```
C:\Users\pedro\OneDrive\Área de Trabalho
λ pip install matplotlib
```

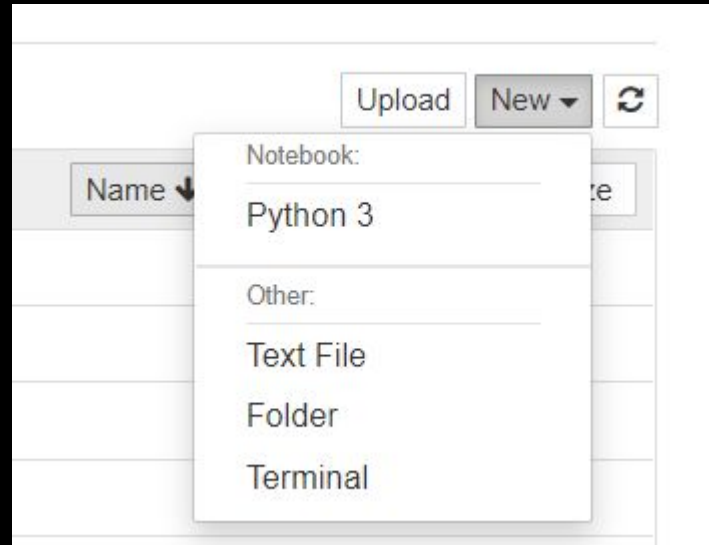
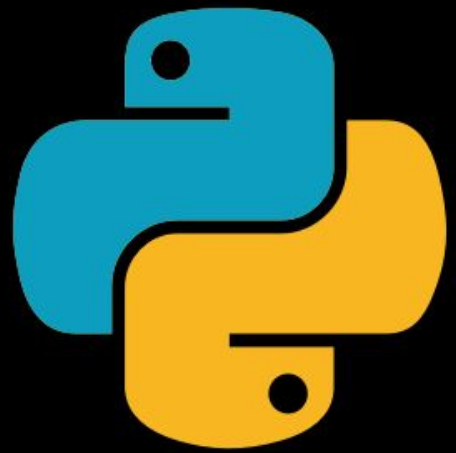
Rodando o Jupyter

jupyter notebook

A screenshot of a Windows Command Prompt window titled 'Cmder'. The window has a dark gray background and a white title bar with standard Windows window controls. The command prompt shows the current directory as 'C:\Users\pedro\OneDrive\Área de Trabalho' and the command 'jupyter notebook' being entered. The taskbar at the bottom shows the 'cmd.exe' process, a search bar, and several utility icons.

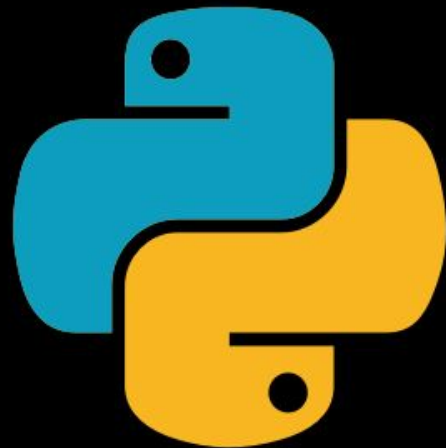
```
C:\Users\pedro\OneDrive\Área de Trabalho
λ jupyter notebook
```

aula1.ipynb



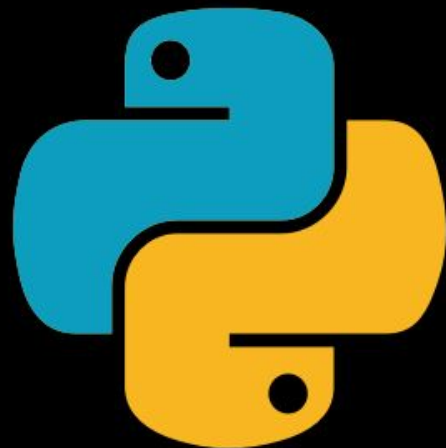
Atalhos Úteis:

- esc: entrar no modo de comando
- enter: entrar no modo de escrita
- a: criar uma célula acima (above)
- b: criar uma célula abaixo (bellow)
- m: mudar a célula para texto (Markdown)
- y: mudar a célula para código
- d, d: deletar uma célula
- z: desfazer a deleção
- h: tabela de atalhos
- shift + enter: executar uma célula
- !: permite a execução de comandos de dentro do notebook



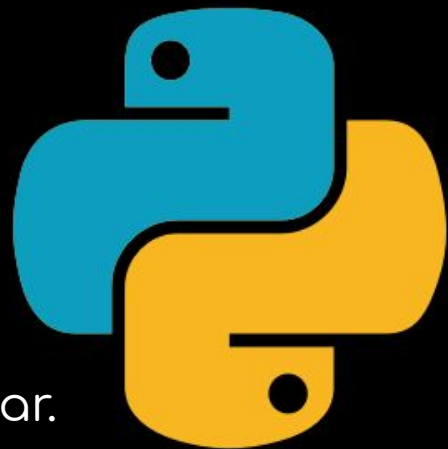
Objetividade

O caminho para uma análise concisa sempre será relacionado à objetividade do que se planeja responder. Se organizamos nossa análise a partir da questão em si, tornamos o nosso desenvolvimento mais fácil também, além de tornarmos mais compreensível e justificável o esforço de desenvolvimento contra o resultado da análise.

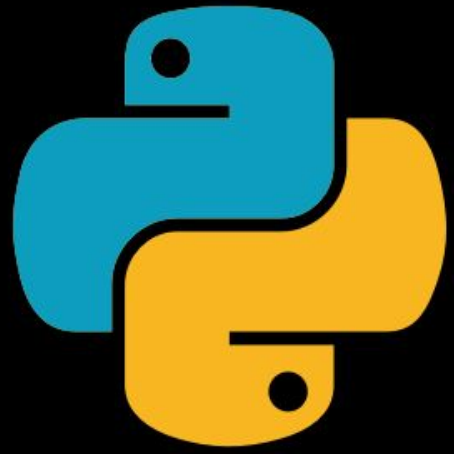
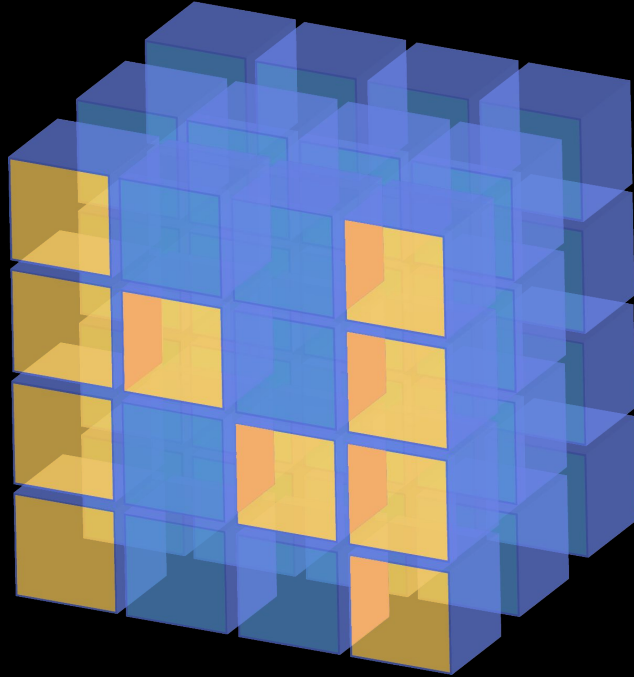


Storytelling

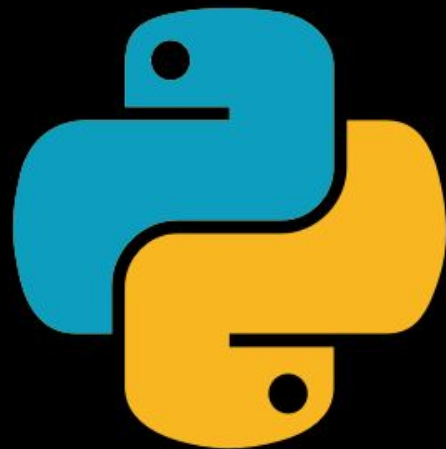
Storytelling é uma técnica usada por cientistas de dados para explicar uma análise feita. Nela, começamos nossa narrativa com a hipótese a se provar. Todos os gráficos plotados, cálculos feitos, tabelas criadas devem de alguma forma se conectar com a hipótese.



Numpy



Numpy



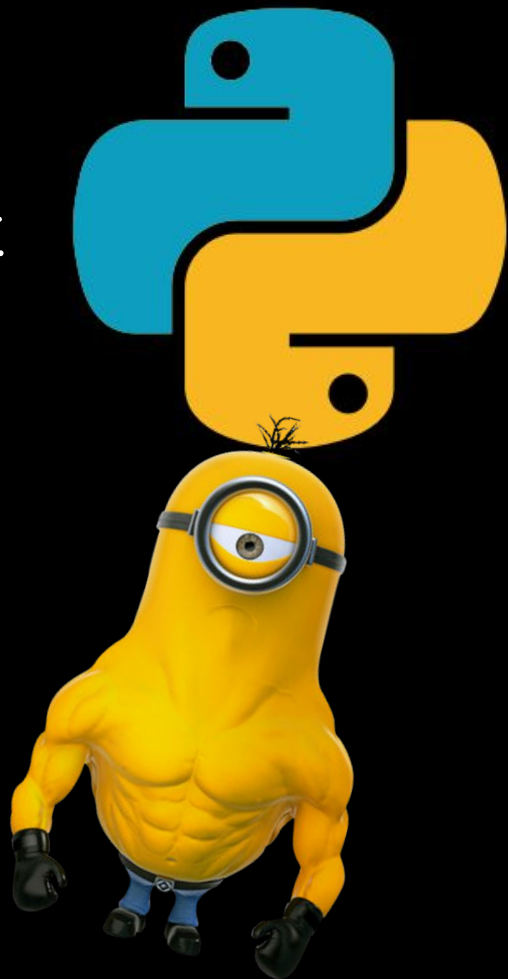
Numpy é uma biblioteca que nos disponibiliza:

- Uma lista com steroids
- Várias funções de broadcast
- Um pack de funções de álgebra linear e matemática avançada
- Geração de números aleatórios

Numpy Array:

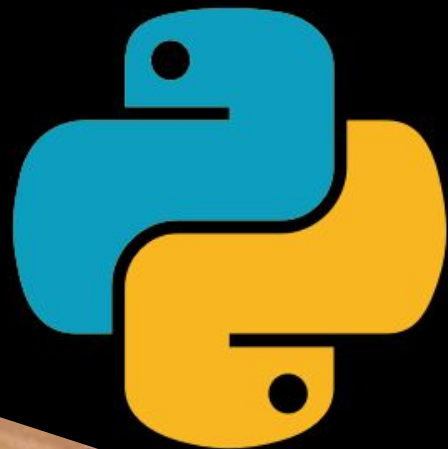
Lista com steroids + Broadcast

- Permite range com números em vírgula
- Contígua em memória
- Permite operações entre listas e números
- Permite operações entre listas
- Tem várias funções internas e rápidas de manipulação matemática



Numpy

- Permite broadcast de operações lógicas



.métodos úteis!

- .cumprod()
- .cumsum()
- .min()
- .max()
- .std()
- .mean()
- .prod()
- .sort()
- .sum()
- .argmax()
- .argmin()
- .argsort()

