Notebook

February 24, 2019

1　7 Matplotlib

- Matplotlib
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PythonNumPyndarray——

1.1　7.1 Matplotlib

1.1.1　7.1.1 Matplotlib

""PythonMatplotlibhttps://matplotlib.org/Matplotlib
MatplotlibJohn Hunter2002PythonMATLAB20030.1MatplotlibPDFJPGPNGGIFMatplotlibMatplotlib
MatplotlibIPythonIPython　　　ShellJupyter　　　NotebookPythonMatplotlibSeaborn-
https://seaborn.pydata.org/

1.1.2　7.1.2

MatplotlibPython

Matplotlib　NumPyPythonnpnumpyMatplotlib

```
In [1]: import matplotlib as mpl
In [2]: import matplotlib.pyplot as plt
```

pltMatplotlibpyplot

plt.style()Matplotlib

```
In [3]: plt.style.use('classic')
```

https://jakevdp.github.io/PythonDataScienceHandbook/04.00-introduction-to-matplotlib.html

1.1.3　7.1.3

Matplotlib3IPython ShellJupyter Notebook

Matplotlibplt.show()
plot.py

```python
# -*- coding: utf-8 -*-
import matplotlib.pyplot as plt
import numpy as np

x = np.linspace(0, 20, 100)

plt.plot(x, np.sin(x))
plt.plot(x, np.cos(x))

plt.show()
```

plt.show()Matplotlib
plt.show()

IPython Shell   IPython ShellMatplotlibMatplotlibIPythonIPython"%matplotlib"

```
In [4]: %matplotlib
Using matplotlib backend: Qt5Agg

In [5]: import matplotlib.pyplot as plt
```

plt.plot()plt.draw()

Jupyter Notebook   Jupyter NotebookMatplotlib"%matplotlib"IPython Shell

- %matplotlib notebookNotebook
- %matplotlib inlineNotebook


```
In [1]: %matplotlib inline
```

After running this command (it needs to be done only once per kernel/session), any cell within the notebook that creates a plot will embed a PNG image of the resulting graphic:

```python
In [4]: import numpy as np
        x = np.linspace(0, 10, 100)

        fig = plt.figure()
        plt.plot(x, np.sin(x), '-')
        plt.plot(x, np.cos(x), '--');
```