Python Cheat Sheet

Matplotlib Cheat Sheet

```python
import matplotlib as mpl
import matplotlib.pyplot as plt
```

Projections
Styles

plt.style.use(style)

X = np.linspace(0, 2*np.pi, 100)
Y = np.cos(X)

fig, ax = plt.subplots()
ax.plot(X, Y, color="C1")

fig.savefig("figure.pdf")
fig.show()

Anatomy of a figure

Tick formatters

Quick reminder

ax.grid()
ax.patch.set_alpha(0)
ax.set_[xy]lim(vmin, vmax)
ax.set_[xy]label(label)
ax.set_[xy]ticks(list)
ax.set_[xy]ticklabels(list)
ax.set_[sup]title(title)
ax.set_axis_[on|off]()
ax.tight_layout()
plt.gcf(), plt.gca()

Advanced plots

Colors

Colormaps

plt.get_cmap(name)

Keyboard shortcuts

Subplots layout

Getting help

Ten Simple Rules
1. Know Your Audience
2. Identify Your Message
3. Adapt the Figure
4. Captions Are Not Optional
5. Do Not Trust the Defaults
6. Use Color Effectively
7. Do Not Mislead the Reader
8. Avoid "Chartjunk"
9. Message Trumps Beauty
10. Get the Right Tool

Python For Data Science Cheat Sheet — Bokeh

Learn Bokeh Interactively at www.DataCamp.com, taught by Bryan Van de Ven, core contributor

Plotting With Bokeh

The Python interactive visualization library Bokeh enables high-performance visual presentation of large datasets in modern web browsers.

Bokeh's mid-level general purpose bokeh.plotting interface is centered around two main components: data and glyphs.

The basic steps to creating plots with the bokeh.plotting interface are:
1. Prepare some data
2. Create a new plot
3. Add renderers for your data, with visual customizations
4. Specify where to generate the output
5. Show or save the results

1 Data
2 Plotting
3 Renderers & Visual Customizations
4 Output
5 Show or Save Your Plots

Glyphs — Scatter Markers, Line Glyphs
Customized Glyphs — Selection and Non-Selection Glyphs, Hover Glyphs, Colormapping
Rows & Columns Layout
Grid Layout
Tabbed Layout
Linked Plots — Linked Axes, Linked Brushing
Legends — Legend Location, Legend Orientation, Legend Background & Border
Statistical Charts With Bokeh — Bar Chart, Box Plot, Histogram, Scatter Plot

DataCamp

Python For Data Science Cheat Sheet — Scikit-Learn

Create Your Model — Supervised Learning Estimators
Evaluate Your Model's Performance — Classification Metrics

Quicksort

```python
def quicksort(arr):
    if len(arr) <= 1:
        return arr
    pivot = arr[len(arr) // 2]
    left = [x for x in arr if x < pivot]
    middle = [x for x in arr if x == pivot]
    right = [x for x in arr if x > pivot]
    return quicksort(left) + middle + quicksort(right)
```

Mergesort

```python
def mergesort(arr):
    if len(arr) <= 1:
        return arr
    mid = len(arr) // 2
    left = mergesort(arr[:mid])
    right = mergesort(arr[mid:])

    return merge(left, right)

def merge(left, right):
    result = []
    i = j = 0
    while i < len(left) and j < len(right):
        if left[i] < right[j]:
            result.append(left[i])
            i += 1
        else:
            result.append(right[j])
            j += 1
    result.extend(left[i:])
    result.extend(right[j:])
    return result
```