matplotlib

Cheat sheet

Version 3.3.4

Quick start

API

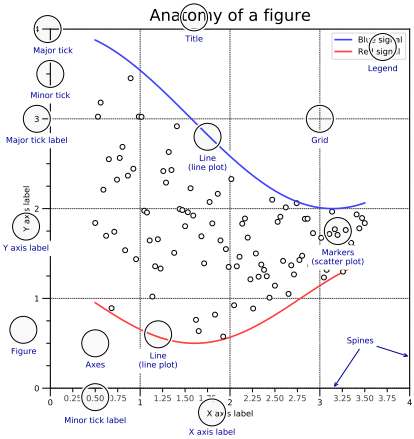
```
import numpy as np
import matplotlib as mpl
import matplotlib.pyplot as plt


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



Subplots layout

API

`subplot[s](rows,cols,…)` API
`fig, axs = plt.subplots(3,3)`

`G = gridspec(rows,cols,…)` API
`ax = G[0,:]`

`ax.inset_axes(extent)` API

`d=make_axes_locatable(ax)` API
`ax=d.new_horizontal('10%')`

Getting help

- matplotlib.org
- github.com/matplotlib/matplotlib/issues
- discourse.matplotlib.org
- stackoverflow.com/questions/tagged/matplotlib
- gitter.im/matplotlib
- twitter.com/matplotlib
- Matplotlib users mailing list

Basic plots

`plot([X],Y,[fmt],…)` API
X, **Y**, fmt, color, marker, linestyle

`scatter(X,Y,…)` API
X, **Y**, [s]izes, [c]olors, marker, cmap

`bar[h](x,height,…)` API
x, **height**, width, bottom, align, color

`imshow(Z,[cmap],…)` API
Z, cmap, interpolation, extent, origin

`contour[f]([X],[Y],Z,…)` API
X, Y, **Z**, levels, colors, extent, origin

`quiver([X],[Y],U,V,…)` API
X, Y, **U**, **V**, C, units, angles

`pie(X,[explode],…)` API
Z, explode, labels, colors, radius

`text(x,y,text,…)` API
x, **y**, **text**, va, ha, size, weight, transform

`fill[_between][x]( … )` API
X, Y1, Y2, color, where

Advanced plots

`step(X,Y,[fmt],…)` API
X, **Y**, fmt, color, marker, where

`boxplot(X,…)` API
X, notch, sym, bootstrap, widths

`errorbar(X,Y,xerr,yerr,…)` API
X, **Y**, xerr, yerr, fmt

`hist(X, bins, …)` API
X, bins, range, density, weights

`violinplot(D,…)` API
D, positions, widths, vert

`barbs([X],[Y], U, V, …)` API
X, Y, **U**, **V**, C, length, pivot, sizes

`eventplot(positions,…)` API
positions, orientation, lineoffsets

`hexbin(X,Y,C,…)` API
X, **Y**, C, gridsize, bins

`xcorr(X,Y,…)` API
X, **Y**, normed, detrend