

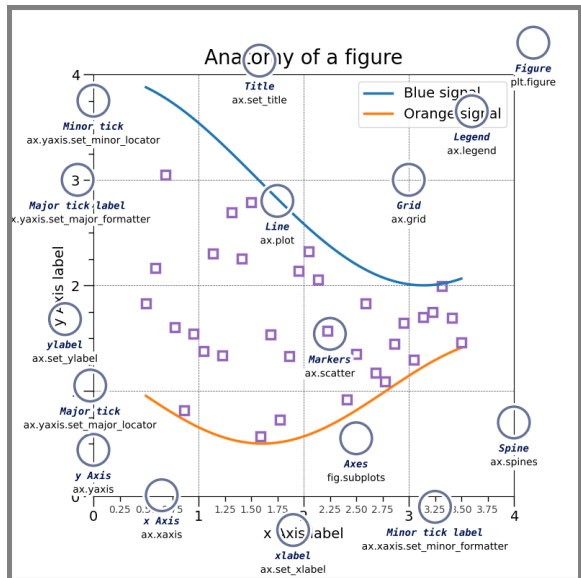


# MATPLOTLIB CHEATSHEET

## IMPORTING LIBRARIES

```
import matplotlib.pyplot as plt
```

## ANATOMY OF A FIGURE



## CREATE A SINGLE PLOT

```
fig, ax = plt.subplots()
```

**fig** figure object  
**ax** single axes object

## SUB PLOTS

```
fig, ax = plt.subplots(nrow, ncol)
```

**fig** figure object  
**ax** list of axes objects  
**nrow** number of rows  
**ncol** number of columns

## SAVE PLOT

```
plt.savefig('plot.png')  
  
# transparent background  
plt.savefig('plot.png', transparent=True)
```

## LEGEND

```
ax.legend(handles, labels)
```

**ax** axes object  
**handles** a list of Artists (lines, patches) to be added to the legend  
**labels** number of columns

## LINE PLOT

```
ax.plot(x, y, ...)
```

**x** the horizontal (X-axis) coordinates of the data points  
**y** the vertical (Y-axis) coordinates of the data points

## SCATTER PLOT

```
ax.scatter(x, y, ...)
```

**x** the horizontal (X-axis) coordinates of the data points  
**y** the vertical (Y-axis) coordinates of the data points

## VERTICAL BAR PLOT

```
ax.bar(x, height, ...)
```

**x** the horizontal (X-axis) coordinates of the data points  
**height** the height of the bars (Y-axis)

## HORIZONTAL BAR PLOT

```
ax.barh(y, width, ...)
```

**y** the vertical (Y-axis) coordinates of the data points  
**width** the width of the bars (X-axis)

## PIE CHART

```
ax.pie(x, ...)
```

**x** the wedges size (portion)

## BOX PLOT

```
ax.boxplot(x, ...)
```

**x** the input data

## HISTOGRAM

```
ax.hist(x, bins, ...)
```

**x** the input data  
**bins** the number of bins or the bin edges

## VIOLIN PLOT

```
ax.violinplot(dataset, ...)
```

**dataset** the input data

## STACKED AREA PLOT

```
ax.stackplot(x, y, ...)
```

**x** the horizontal (X-axis) coordinates of the data points with shape (N,)   
**y** the vertical (Y-axis) unstacked data with shape (M,N)

## SHOW PLOT

```
plt.show()
```

## CLEAR PLOT

```
plt.cla() # clear an axis  
plt.clf() # clear the entire figure  
plt.close() # close figure window
```

## QUICK REMINDER

<code>ax.grid()</code>	<code>ax.set_title(title)</code>
<code>ax.set_xlim(vmin, vmax)</code>	<code>ax.set_ylim(vmin, vmax)</code>
<code>ax.set_xlabel(label)</code>	<code>ax.set_ylabel(label)</code>

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