Figure and Axes

~ plt.figure(figsize=(width, height), dpi=resolution)

figsize : Tuple for width and height in inches.
dpi : Dots per inch (resolution).

~ plt.subplot(nrows, ncols, index)

nrows : Number of rows of subplots.
ncols : Number of columns of subplots.
index : Position of the subplot.

~ plt.subplots(nrows, ncols, figsize=(width, height), dpi=resolution)

- Same as above, plus :
figsize : Tuple for figure size.

~ plt.gca() : Returns the current Axes instance.
~ plt.gcf() : Returns the current Figure instance.

Plotting Functions

~ plt.plot(x, y, fmt, label='label', color='color', linewidth=lw, markersize=ms)

x : Data for x-axis.
y : Data for y-axis.
fmt : Format string (e.g., 'ro' for red circles).
label : Label for the line (for the legend).
color : Line color.
linewidth : Width of the line.
markersize : Size of the markers.

~ plt.scatter(x, y, s=size, c=color, alpha=opacity)

s : Marker size.
c : Color (can be a sequence).
alpha : Transparency level.

~ plt.bar(x, height, width=bar_width, color='color', label='label')

x : Position of bars on x-axis.
height : Height of bars.
width : Width of bars.
color : Bar color.**label** : Label for the bars.

~ plt.barh(y, width, height=bar_height, color='color', label='label')

y : Position of bars on y-axis.
width : Width of bars.
height : Height of bars.

~ plt.hist(data, bins=number_of_bins, color='color', alpha=opacity)

data : Input data.
bins : Number of bins.
color : Histogram color.
alpha : Transparency level.

~ plt.boxplot(data, vert=True, patch_artist=True)

data : Input data.
vert : Orientation (True for vertical).
patch_artist : Fill box with color.

~ plt.pie(data, labels=labels, autopct='%1.1f%%', startangle=90)

data : Input data.
labels : Labels for each wedge.
autopct : String format for percentage display.
startangle : Start angle for the pie chart.

~ plt.fill(x, y, color='color', alpha=opacity)

x : x-coordinates.
y : y-coordinates.

~ plt.errorbar(x, y, yerr=error, fmt='o', label='label')

x : Data for x-axis.
y : Data for y-axis.
yerr : Error bars for y values.
fmt : Format string for markers

Customising Plots

~ plt.title('Title', fontsize=size)

fontsize : Size of the title font.

~ plt.xlabel('Label', fontsize=size)

fontsize : Size of the x-axis label font.

~ plt.ylabel('Label', fontsize=size)

fontsize : Size of the y-axis label font.

~ plt.xlim(left, right)

left : Lower limit of x-axis.
right : Upper limit of x-axis.

~ plt.ylim(bottom, top)

bottom : Lower limit of y-axis.
top : Upper limit of y-axis.

~ plt.legend(loc='best')

loc : Location of the legend.

~plt.grid(visible=True, which='both', axis='both', color='color', linestyle='--', linewidth=0.5)

visible : True or False.
which : 'both', 'major', or 'minor'.
axis : 'both', 'x', or 'y'.

~ plt.xticks(ticks=locations, labels=labels, rotation=angle)

ticks : Locations of ticks.
labels : Labels for ticks.
rotation : Angle for tick labels.

~ plt.yticks(ticks=locations, labels=labels, rotation=angle)

- Same as `xticks`.

Saving and Showing Figures

~ plt.show() : Displays the figure window.

~ plt.savefig('filename.png', dpi=resolution, bbox_inches='tight')

filename : Name of the file to save.
dpi : Dots per inch.
bbox_inches : Controls bounding box.

Advanced Customization

~ plt.style.use('style_name') : Applies a predefined style to plots.

~ plt.annotate('text', xy=(x, y), xytext=(xtext, ytext), arrowprops=dict(arrowstyle='->'))

xy : Point to annotate.
xytext : Position of the annotation text.
arrowprops : Dictionary of arrow properties.

~ plt.text(x, y, 'text', fontsize=size, color='color')

x : x-coordinate.
y : y-coordinate.
fontsize : Size of the text font.
color : Color of the text.

Data Handling

~ plt.plot_date(x, y, fmt='format')

x : Date data for x-axis.
y : Data for y-axis.
fmt : Format string for the markers.

~ plt.imshow(data, cmap='colormap', interpolation='nearest')

data : 2D array for image data.
cmap : Colormap.
interpolation : Interpolation method.

Color and Colormaps

~ plt.colormaps() : Lists available colormaps.

~ *plt.colorbar(mappable=None, cax=None, ax=None)*

mappable : The mappable instance (e.g., from `imshow`).
cax : Axes for the colorbar.
ax : Axes that the colorbar will be added to.

Layout Management

~ *plt.tight_layout()* **:** Adjusts subplot parameters for better spacing.

~ *plt.subplots_adjust(left, right, top, bottom, wspace, hspace)*

left, **right**, **top**, **bottom** : Margins as a fraction of the figure size.
wspace : Width space between subplots.
hspace : Height space between subplots.

Interactivity

~ *plt.ion()* : Turns on interactive mode.
~ *plt.ioff()* : Turns off interactive mode.

Miscellaneous

~ *plt.clf()* : Clears the current figure.

~ *plt.cla()* : Clears the current Axes.

~ *plt.close(fig)* : Closes a specific figure.