

matplotlib.pyplot

Pyplot function overview

<code>pyplot</code>	<code>matplotlib.pyplot</code> is a state-based interface to matplotlib.
<code>matplotlib.pyplot.plotting()</code> [source]	
Function	Description
<code>acorr</code>	Plot the autocorrelation of x.
<code>angle_spectrum</code>	Plot the angle spectrum.
<code>annotate</code>	Annotate the point xy with text <i>text</i> .
<code>arrow</code>	Add an arrow to the Axes.
<code>autoscale</code>	Autoscale the axis view to the data (toggle).
<code>axes</code>	Add an axes to the current figure and make it the current axes.
<code>axhline</code>	Add a horizontal line across the axis.
<code>axhspan</code>	Add a horizontal span (rectangle) across the Axes.
<code>axis</code>	Convenience method to get or set some axis properties.
<code>axline</code>	Add an infinitely long straight line.
<code>axvline</code>	Add a vertical line across the Axes.
<code>axvspan</code>	Add a vertical span (rectangle) across the Axes.
<code>bar</code>	Make a bar plot.
<code>bar_label</code>	Label a bar plot.
<code>barbs</code>	Plot a 2D field of barbs.
<code>barh</code>	Make a horizontal bar plot.
<code>box</code>	Turn the axes box on or off on the current axes.
<code>boxplot</code>	Draw a box and whisker plot.
<code>broken_barh</code>	Plot a horizontal sequence of rectangles.
<code>cla</code>	Clear the current axes.
<code>clabel</code>	Label a contour plot.
<code>clf</code>	Clear the current figure.
<code>clim</code>	Set the color limits of the current image.
<code>close</code>	Close a figure window.

Function	Description
<code>cohere</code>	Plot the coherence between x and y.
<code>colorbar</code>	Add a colorbar to a plot.
<code>contour</code>	Plot contour lines.
<code>contourf</code>	Plot filled contours.
<code>csd</code>	Plot the cross-spectral density.
<code>delaxes</code>	Remove an <code>Axes</code> (defaulting to the current axes) from its figure.
<code>draw</code>	Redraw the current figure.
<code>draw_if_interactive</code>	Redraw the current figure if in interactive mode.
<code>errorbar</code>	Plot y versus x as lines and/or markers with attached errorbars.
<code>eventplot</code>	Plot identical parallel lines at the given positions.
<code>figimage</code>	Add a non-resampled image to the figure.
<code>figlegend</code>	Place a legend on the figure.
<code>fignum_exists</code>	Return whether the figure with the given id exists.
<code>figtext</code>	Add text to figure.
<code>figure</code>	Create a new figure, or activate an existing figure.
<code>fill</code>	Plot filled polygons.
<code>fill_between</code>	Fill the area between two horizontal curves.
<code>fill_betweenx</code>	Fill the area between two vertical curves.
<code>findobj</code>	Find artist objects.
<code>gca</code>	Get the current Axes.
<code>gcf</code>	Get the current figure.
<code>gci</code>	Get the current colorable artist.
<code>get</code>	Return the value of an <code>Artist</code> 's <i>property</i> , or print all of them.
<code>get_figlabels</code>	Return a list of existing figure labels.
<code>get_fignums</code>	Return a list of existing figure numbers.
<code>getp</code>	Return the value of an <code>Artist</code> 's <i>property</i> , or print all of them.
<code>grid</code>	Configure the grid lines.
<code>hexbin</code>	Make a 2D hexagonal binning plot of points x, y.
<code>hist</code>	Plot a histogram.
<code>hist2d</code>	Make a 2D histogram plot.
<code>hlines</code>	Plot horizontal lines at each y from <i>xmin</i> to <i>xmax</i> .
<code>imread</code>	Read an image from a file into an array.

Function	Description
<u>imsave</u>	Save an array as an image file.
<u>imshow</u>	Display data as an image, i.e., on a 2D regular raster.
<u>install_repl_displayhook</u>	Install a repl display hook so that any stale figure are automatically redrawn when control is returned to the repl.
<u>ioff</u>	Disable interactive mode.
<u>ion</u>	Enable interactive mode.
<u>isinteractive</u>	Return whether plots are updated after every plotting command.
<u>legend</u>	Place a legend on the Axes.
<u>locator_params</u>	Control behavior of major tick locators.
<u>loglog</u>	Make a plot with log scaling on both the x and y axis.
<u>magnitude_spectrum</u>	Plot the magnitude spectrum.
<u>margins</u>	Set or retrieve autoscaling margins.
<u>matshow</u>	Display an array as a matrix in a new figure window.
<u>minorticks_off</u>	Remove minor ticks from the Axes.
<u>minorticks_on</u>	Display minor ticks on the Axes.
<u>new_figure_manager</u>	Create a new figure manager instance.
<u>pause</u>	Run the GUI event loop for <i>interval</i> seconds.
<u>pcolor</u>	Create a pseudocolor plot with a non-regular rectangular grid.
<u>pcolormesh</u>	Create a pseudocolor plot with a non-regular rectangular grid.
<u>phase_spectrum</u>	Plot the phase spectrum.
<u>pie</u>	Plot a pie chart.
<u>plot</u>	Plot y versus x as lines and/or markers.
<u>plot_date</u>	Plot coercing the axis to treat floats as dates.
<u>polar</u>	Make a polar plot.
<u>psd</u>	Plot the power spectral density.
<u>quiver</u>	Plot a 2D field of arrows.
<u>quiverkey</u>	Add a key to a quiver plot.
<u>rc</u>	Set the current <u>rcParams</u> .
<u>rc_context</u>	Return a context manager for temporarily changing rcParams.
<u>rcdefaults</u>	Restore the <u>rcParams</u> from Matplotlib's internal default style.
<u>rgrids</u>	Get or set the radial gridlines on the current polar plot.
<u>savefig</u>	Save the current figure.

Function	Description
<u>sca</u>	Set the current Axes to <i>ax</i> and the current Figure to the parent of <i>ax</i> .
<u>scatter</u>	A scatter plot of <i>y</i> vs.
<u>sci</u>	Set the current image.
<u>semilogx</u>	Make a plot with log scaling on the x axis.
<u>semilogy</u>	Make a plot with log scaling on the y axis.
<u>set_cmap</u>	Set the default colormap, and applies it to the current image if any.
<u>set_loglevel</u>	Set Matplotlib's root logger and root logger handler level, creating the handler if it does not exist yet.
<u>setp</u>	Set one or more properties on an <u>Artist</u> , or list allowed values.
<u>show</u>	Display all open figures.
<u>specgram</u>	Plot a spectrogram.
<u>spy</u>	Plot the sparsity pattern of a 2D array.
<u>stackplot</u>	Draw a stacked area plot.
<u>stairs</u>	A stepwise constant function as a line with bounding edges or a filled plot.
<u>stem</u>	Create a stem plot.
<u>step</u>	Make a step plot.
<u>streamplot</u>	Draw streamlines of a vector flow.
<u>subplot</u>	Add an Axes to the current figure or retrieve an existing Axes.
<u>subplot2grid</u>	Create a subplot at a specific location inside a regular grid.
<u>subplot_mosaic</u>	Build a layout of Axes based on ASCII art or nested lists.
<u>subplot_tool</u>	Launch a subplot tool window for a figure.
<u>subplots</u>	Create a figure and a set of subplots.
<u>subplots_adjust</u>	Adjust the subplot layout parameters.
<u>suptitle</u>	Add a centered suptitle to the figure.
<u>switch_backend</u>	Close all open figures and set the Matplotlib backend.
<u>table</u>	Add a table to an <u>Axes</u> .
<u>text</u>	Add text to the Axes.
<u>thetagrids</u>	Get or set the theta gridlines on the current polar plot.
<u>tick_params</u>	Change the appearance of ticks, tick labels, and gridlines.
<u>ticklabel_format</u>	Configure the <u>ScalarFormatter</u> used by default for linear axes.
<u>tight_layout</u>	Adjust the padding between and around subplots.
<u>title</u>	Set a title for the Axes.

matplotlib.axes	▼	▲
matplotlib.axis	▼	
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matplotlib.text		
matplotlib.texmanager		
matplotlib.textpath		
matplotlib.ticker		

Function	Description
tricontour	Draw contour lines on an unstructured triangular grid.
tricontourf	Draw contour regions on an unstructured triangular grid.
tripcolor	Create a pseudocolor plot of an unstructured triangular grid.
tripplot	Draw a unstructured triangular grid as lines and/or markers.
twinx	Make and return a second axes that shares the x-axis.
twiny	Make and return a second axes that shares the y-axis.
uninstall_repl_displayhook	Uninstall the Matplotlib display hook.
violinplot	Make a violin plot.
vlines	Plot vertical lines at each <i>x</i> from <i>ymin</i> to <i>ymax</i> .
xcorr	Plot the cross correlation between <i>x</i> and <i>y</i> .
xkcd	Turn on xkcd sketch-style drawing mode.
xlabel	Set the label for the x-axis.
xlim	Get or set the x limits of the current axes.
xscale	Set the x-axis scale.
xticks	Get or set the current tick locations and labels of the x-axis.
ylabel	Set the label for the y-axis.
ylim	Get or set the y-limits of the current axes.
yscale	Set the y-axis scale.
yticks	Get or set the current tick locations and labels of the y-axis.

Colors in Matplotlib

There are many colormaps you can use to map data onto color values. Below we list several ways in which color can be utilized in Matplotlib.

For a more in-depth look at colormaps, see the [Choosing Colormaps in Matplotlib](#) tutorial.

matplotlib.pyplot.colormaps

[source]

Container for colormaps that are known to Matplotlib by name.

Experimental

While we expect the API to be final, we formally mark it as experimental for 3.5 because we want to keep the option to still adapt the API for 3.6 should the need arise.

The universal registry instance is [matplotlib.colormaps](#). There should be no need for users to instantiate [ColormapRegistry](#) themselves.

Read access uses a dict-like interface mapping names to [Colormaps](#):

```
import matplotlib as mpl
cmap = mpl.colormaps['viridis']
```

Returned [Colormaps](#) are copies, so that their modification does not change the global definition of the colormap.

```
mpl.colormaps.register(my_colormap)
```