Cheatography

matplotlib.pyplot cheatsheet

by kamalasubha via cheatography.com/136444/cs/28478/

How to install matplotlib,

Using pip,

pip install matplotlib

How to import matplotlib.pyplot

In Python,

import matplotlib.pyplot as plt

How to plot two arrays

Plot the two arrays using Plot function

Example:

```
import matplo tli b.p yplot as plt
x = [0,1,2 ,3, 4,5,6]
y = [9,10, 11, 12, 13, 14,15]
# Plots the x and y
plt.pl ot(x,y)
# Display the plot
plt.show()
```

Additional arguments to Plot function:

marker_symbol: to draw each point with a specified marker

Syntax:

```
plt.pl ot( x_p oints, y_points, marker = 'marke r_s ymbol')
```

marker_symbol can be 'o','*','+','s','d' etc

line_symbol: to connect different points

Syntax:

```
plt.pl ot( x_p oints, y_points, linestyle = 'line_ sym bol')
```

line_symbol can be '-',':','--' etc

color_symbol: Color of the plot

Syntax:

```
plt.pl ot( x_p oints, y_points, color = 'colo r_s ymbol')
```

color_symbol can be 'r','g','b' etc

Shortcut Syntax for all arguments:

```
plt.pl ot( x_p oin ts, y_p oin ts, 'marke r_s ymb ol: lin e_s ymb ol: col or_ sym bol')
```

Create Labels for Plot

xlabel() and ylabel() functions to set a label for the x-axis and y-axis.

title() function to set the title for the plot

Syntax:

```
plt.ti tle (title)
plt.xl abe l(x label)
plt.yl abe l(y label)
```

Additional arguments to Labels function:

Add font details to labels() function

Syntax:

```
font = {'fami ly' :'f ont _ty pe' ,'c olo r': 'co lor _sy mbo l', 'si ze' :fo nt_ size}
```

Example:

```
font = {'fami ly' :'s eri f', 'co lor ':' b', 'si ze':30}
plt.ti tle (title, fontdi ct= font)
```

Grid of the plot

grid() function to add grid lines to the plot.

Syntax:

```
plt.grid() - Gridlines in x and y axis
plt.gr id( axi s='x')- Gridlines in x axis alone
plt.gr id( axi s='y') - Gridlines in y axis alone
```

Display the multiple subplot

subplot() function you can draw multiple plots in single figure itself

Syntax:

```
plt.su bpl ot( row s,c olu mns , index)
```

rows - Total number of rows in figure

columns - Total number of cols in figure

index - Index of the current plot

Example:

```
import matplo tli b.p yplot as p lt
#plot 1
x = [1, 2, 3, 4]
y = [1, 2, 3, 4]
#First subplot
plt.su bpl ot(2, 1, 1)
plt.pl ot(x,y)
#plot 2
x = [1, 2, 3]
y = [0, -1, -2, -3]
#Second subplot
plt.su bpl ot(2, 1, 2)
plt.pl ot(x,y)
plt.show()
```

Different plot types

Scatter plot:

Syntax:

```
plt.sc att er(x,y)
```

Bar plot:

Vertical plot

Syntax:

```
plt.ba r(x ,y, wid th= siz e,h eig l or_ sym bol')
```

Horizontal plot:

Syntax:

```
plt.ba rh( x,y ,wi dth =si ze, hei o lor _sy mbol')
```

Histogram:

Histogram is a graph showing frequency distri

Syntax:

```
plt.hi st(x)
```

Pie chart:

Syntax:

```
plt.pi e(x ,labels = labels _list)
```

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Published 2nd July, 2021.

Last updated 2nd July, 2021.

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