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 matplotlib.pyplot as plt
x = [0,1,2,3,4,5,6]
y = [9,10,11,12,13,14,15]
# Plots the x and y
plt.plot(x,y)
# Display the plot
plt.show()
```
Additional arguments to Plot function:
marker_symbol: to draw each point with a specified marker
Syntax:
```
plt.plot(x_points, y_points,
marker = 'marker_symbol')
```
marker_symbol can be 'o','*','+','s','d' etc
line_symbol: to connect different points
Syntax:
```
plt.plot(x_points, y_points,
linestyle = 'line_symbol')
```
line_symbol can be '-',':','--' etc
color_symbol: Color of the plot
Syntax:
```
plt.plot(x_points, y_points,
color = 'color_symbol')
```
color_symbol can be 'r','g','b' etc
Shortcut Syntax for all arguments:
```
plt.plot(x_points,y_points,'m-
arker_symbol:line_symbol:color-
_symbol')
```

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.title(title)
plt.xlabel(xlabel)
plt.ylabel(ylabel)
```
Additional arguments to Labels function:
Add font details to labels() function
Syntax:
```
font = {'family':'font_type','c-
olor':'color_symbol','size':fo-
nt_size}
```
Example:
```
font = {'family':'serif','co-
lor':'b','size':30}
plt.title(title, fontdict=font)
```

Grid of the plot

grid() function to add grid lines to the plot.
Syntax:
```
plt.grid() - Gridlines in x and y axis
plt.grid(axis='x') - Gridlines in x
axis alone
plt.grid(axis='y') - Gridlines in y
axis alone
```

Display the multiple subplot

subplot() function you can draw multiple plots in single figure itself
Syntax:
```
plt.subplot(rows,columns,index)
```
rows - Total number of rows in figure
columns - Total number of cols in figure
index - Index of the current plot
Example:
```
import matplotlib.pyplot as plt
#plot 1
x = [1, 2, 3, 4]
y = [1, 2, 3, 4]
#First subplot
plt.subplot(2, 1, 1)
plt.plot(x,y)
```

Display the multiple subplot (cont)

```
#plot 2
x = [0, 1, 2, 3]
y = [0, -1, -2, -3]
#Second subplot
plt.subplot(2, 1, 2)
plt.plot(x,y)
plt.show()
```

Different plot types

Scatter plot:
Syntax:
```
plt.scatter(x,y)
```
Bar plot:
Vertical plot
Syntax:
```
plt.bar(x,y,width=size,height-
=size,color='color_symbol')
```
Horizontal plot:
Syntax:
```
plt.barh(x,y,width=size,heigh-
t=size,color='color_symbol')
```
Histogram:
Histogram is a graph showing frequency distributions.
Syntax:
```
plt.hist(x)
```
Pie chart:
Syntax:
```
plt.pie(x,labels = labels_list)
```

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