%matplotlib inline In [2]: In [3]: x=['Sun', 'Mon', 'Tue', 'Wed', 'Thus', 'Fri', "Sat"] y=[55,21,45,36,33,44,30]plt.plot(x,y,color="RED",linewidth=5,linestyle="dotted",animated=True) plt.xlabel("Day's") plt.ylabel("Temprature") plt.title("Temp Plot Graph") plt.show() Temp Plot Graph 55 50 45 Temprature 35 30 25 20 Mon Tue Wed Thus Fri Sun Day's In [4]: plt.plot(x,y,'g+') #color and Marker point Out[4]: [<matplotlib.lines.Line2D at 0x9d007f0>] 55 50 45 40 35 30 25 20 Mon Sat Tue Wed Thus Fri In [5]: plt.plot(x,y,'g+--')#color marker and Line Style Out[5]: [<matplotlib.lines.Line2D at 0x9d3df10>] 55 50 45 40 35 25 20 Mon Tue Wed Thus Sun In [6]: plt.plot(x,y,'--r*') #we can change position of marker and line style Out[6]: [<matplotlib.lines.Line2D at 0x9d87450>] 55 50 45 40 35 30 25 20 Thus Mon Wed Fri Sun Tue In [7]: plt.plot(x,y,'bd-.') #b=Blue,d OR D=diamond Out[7]: [<matplotlib.lines.Line2D at 0x9dc59d0>] 55 50 45 40 35 30 25 20 Wed Fri Mon Tue Thus Sun Note:Both are same In[54] & In[55] In [8]: plt.plot(x,y,color='blue',marker='D',markersize=6,linestyle="dashdot") #colr can be hexadecimal aslo posible Out[8]: [<matplotlib.lines.Line2D at 0x9e06b70>] 55 50 45 40 35 30 25 20 Mon Tue Wed Sun Thus In [9]: plt.plot(x,y,color='green',marker='D',markersize=10,linestyle="dashdot",alpha=0.2) #alpha=scale visi bility its valid range= 0-1 Out[9]: [<matplotlib.lines.Line2D at 0xae13cd0>] 55 50 45 40 35 30 25 20 Sun Mon Tue Wed Thus Fri In [10]: #we can add more scale to single plot day=['Sun','Mon','Tue','Wed','Thus','Fri',"Sat"] min_temp=[20,25,15,32,28,33,23] max_temp=[54,29,45,50,33,44,45] avg_temp=[36,27,30,43,30.5,38.5,26.5] plt.plot(day,min_temp,label="Min T") plt.plot(day, max_temp, label="Max_T") plt.plot(day,avg temp,label="Avg T") plt.legend(loc="best") #best means which place is good to place otherwise we can specify: best """ upper right upper left lower left lower right right center left center right lower center upper center center""" plt.xlabel("Week Days") plt.ylabel("Temprature") plt.title("Temprature Graph with MIN MAX & AVG") Out[10]: Text(0.5, 1.0, 'Temprature Graph with MIN MAX & AVG') Temprature Graph with MIN MAX & AVG 55 50 45 40 Temprature 35 30 25 Min_T 20 Max_T Avg_T 15 Sat Sun Mon Wed Thus Week Days In [11]: | #we can add more scale to single plot day=['Sun','Mon','Tue','Wed','Thus','Fri',"Sat"] min_temp=[20,25,15,36,28,33,23] max_temp=[54,29,45,50,33,44,45] avg_temp=[36,27,30,43,30.5,38.5,26.5] plt.plot(day,min_temp,label="Min_T") plt.plot(day, max_temp, label="Max_T") plt.plot(day,avg_temp,label="Avg_T") plt.legend(loc="best", shadow=True, fontsize="small") #Adding shadow to legend #plt.grid()#Adding gridLine to Plot plt.xlabel("Week Days") plt.ylabel("Temprature") plt.title("Temprature Graph with MIN MAX & AVG") Out[11]: Text(0.5, 1.0, 'Temprature Graph with MIN MAX & AVG') Temprature Graph with MIN MAX & AVG 55 Max_T 50 Avg_T 45 40 Temprature 35 30 25 20 15 Thus Fri Sat Sun Mon Tue Wed Week Days In [12]: company=['Google','Tesla','Facebook','Amezone','Apple'] revenu=[200,145,190,130,180] In [13]: import numpy as np xpos=np.arange(len(company)) In []: In [14]: plt.bar(xpos, revenu) plt.xlabel("List of Company") plt.ylabel("Revenu in bln\$") Out[14]: Text(0, 0.5, 'Revenu in bln\$') 200 175 150 Revenu in blus 100 75 50 25 List of Company In [15]: plt.xticks(xpos, company) plt.bar(xpos, revenu, label="Revenu") plt.xlabel("US Tech Stock") plt.ylabel("Revenu in bln\$") plt.legend() Out[15]: <matplotlib.legend.Legend at 0xaf32e30> 200 Revenu 175 150 출 125 100 Reve 75 50 25 Tesla Facebook Amezone Google US Tech Stock In [16]: profit=[100,140,120,110,129] plt.xticks(xpos,company) plt.bar(xpos, revenu, label="Revenu") plt.bar(xpos,profit,label="Profit") plt.xlabel("US Tech Stock") plt.ylabel("Revenu in bln\$") plt.legend(loc='best') Out[16]: <matplotlib.legend.Legend at 0xaf6b170> 200 Revenu Profit 175 150 Revenu in blus 100 75 50 25 Tesla Facebook Amezone Apple Google US Tech Stock In [17]: profit=[100,140,120,110,129] plt.xticks(xpos,company) plt.bar(xpos+0.2, revenu, width=0.4, label="Revenu") plt.bar(xpos-0.2,profit,width=0.4,label="Profit") plt.xlabel("US Tech Stock") plt.ylabel("Revenu in bln\$") plt.legend(loc='best') Out[17]: <matplotlib.legend.Legend at 0xafa2c50> 200 Revenu Profit 175 150 Revenu in blus 100 75 50 25 Facebook Amezone Google Tesla US Tech Stock In [18]: profit=[100,140,120,110,129] plt.yticks(xpos,company) plt.barh(xpos+0.2, revenu, height=0.4, label="Revenu") plt.barh(xpos-0.2,profit,height=0.4,label="Profit") plt.xlabel("US Tech Stock") plt.ylabel("Revenu in bln\$") plt.legend(loc='best') Out[18]: <matplotlib.legend.Legend at 0xafedcb0> Revenu Apple Amezone Revenu in bln\$ Facebook Tesla Google 50 25 100 125 150 175 200 75 0 US Tech Stock In [19]: boys = [44,55,60,50,75,34,29,10,89,95,99,72,86,63,37,49,88] girls = [55,66,82,49,68,33,72,88,37,56,89,64,22,95,44,55,99] plt.hist([boys,girls],bins=[20,40,60,80,100],rwidth=0.95,label=["Boys","Girls"],color=["green","purp le"]) #hist(x, bins, range, density, weights, cumulative, bottom, histtype, align, #orientation, rwidth, log, color, label, stacked, normed, data, **kwargs) plt.legend() plt.xlabel("Mark Rang") plt.ylabel("Number of Students") plt.title("Boys and Girls Mark Comparision ") plt.show() Boys and Girls Mark Comparision Boys Girls Number of Students 30 40 50 60 70 80 90 In [20]: x = ["milk", 'food', 'lightbill', 'emi', 'TV Bill', 'other Expense'] y = [25, 5, 10, 30, 20, 10]plt.axis('equal') $\texttt{plt.pie}\,(\texttt{y}, \texttt{labels=x}, \texttt{explode=[0.1,0,0,0,0]}, \texttt{startangle=100}, \texttt{autopct='\$0.1f\%\$'}, \texttt{shadow=True})$ other Expense TV Bill 20.0% 30.0% lightbill reading data from csv file and draw its plot graph In [21]: import pandas as pd import matplotlib.pyplot as plt %matplotlib inline d=pd.read csv("C:\\Users\\ShreE\\Downloads\\Job.csv") d1=d.head(5)print(d1) x=d1['2017'] z=d1['2019'] y=d1['2018'] plt.plot(x,y,'r',label="2018") plt.plot(x, z, 'b', label="2019") plt.xlabel("X-Axis") plt.ylabel("y-Axis") plt.show() plt.legend(loc='best') 2017 2018 2019 County Name India 0.033222 29 31 Pakistan 0.982575 59 54 Sri Lanka 0.373291 1 59 44 Sri Lanka 0.420075 64 56 4 South Africa 0.050588 17 60 50 40 30 20 10 0.0 0.2 1.0 No handles with labels found to put in legend. Out[21]: <matplotlib.legend.Legend at 0xba57af0> 1.0 0.8 0.6 0.4 0.2 0.0 0.8 0.2 **Subplot in Matplotlib** In [22]: day=['Sun','Mon','Tue','Wed','Thus','Fri',"Sat"] min_temp=[20,25,15,36,28,33,23] max_temp=[54,29,45,50,33,44,45] avg_temp=[36,27,30,43,30.5,38.5,26.5] fig, (ax1, ax2) = plt.subplots(2, 1)ax1.plot(day,min_temp,label="Min_T") ax2.plot(day, max_temp, label="Max_T") ax2.plot(day,avg_temp,label="Avg_T") ax1.legend(loc="best", shadow=True, fontsize="small") #ax1.set xlabel("Week Days") ax1.set_ylabel("Temprature") ax1.set_title("Temprature Graph with MIN MAX & AVG") ax2.legend(loc="best", shadow=True, fontsize="small") ax2.set xlabel("Week Days") ax2.set_ylabel("Temprature") #ax2.set title("Temprature Graph with MIN MAX & AVG") fig.savefig('C:\\Users\\ShreE\\Desktop\\subplots_Combine.png') Temprature Graph with MIN MAX & AVG Temprature 05 Mon Wed Thus Max_T 50 Avg_T Temprature 40 30 Mon Fri Sun Tue Wed Thus Sat Week Days In [23]: day=['Sun','Mon','Tue','Wed','Thus','Fri',"Sat"] min_temp=[20,25,15,36,28,33,23] max_temp=[54,29,45,50,33,44,45] avg_temp=[36,27,30,43,30.5,38.5,26.5] #fig, (ax1,ax2) = plt.subplots(2,1) fig1,ax1,=plt.subplots() fig2,ax2,=plt.subplots() ax1.plot(day,min_temp,label="Min_T") ax2.plot(day, max temp, label="Max T") ax2.plot(day,avg_temp,label="Avg T") ax1.legend(loc="best", shadow=True, fontsize="small") ax1.set xlabel("Week Days") ax1.set_ylabel("Temprature") ax1.set_title("Temprature Graph with MIN MAX & AVG") ax2.legend(loc="best", shadow=True, fontsize="small") ax2.set_xlabel("Week Days") ax2.set ylabel("Temprature") ax2.set_title("Temprature Graph with MIN MAX & AVG") fig1.savefig('C:\\Users\\ShreE\\Desktop\\subplots1.png') fig2.savefig('C:\\Users\\ShreE\\Desktop\\subplots2.png') Temprature Graph with MIN MAX & AVG - Min_T 35 30 Temprature 52 20 15 Mon Sat Tue Wed Thus Fri Sun Week Days Temprature Graph with MIN MAX & AVG 55 50 45 Temprature 40 35 30 Mon Wed Sat Thus Fri Week Days In [24]: day=['Sun','Mon','Tue','Wed','Thus','Fri',"Sat"] min_temp=[20,25,15,36,28,33,23] max_temp=[54,29,45,50,33,44,45] avg_temp=[36,27,30,43,30.5,38.5,26.5] plt.figure() plt.subplot(211) plt.title("Temprature Graph with MIN MAX & AVG",color='g') plt.plot(day,min_temp,label="Min_T",c='y') plt.legend(loc="best", shadow=True, fontsize="small") plt.ylabel("Temprature") plt.grid() plt.subplot(212) plt.plot(day,max_temp,label="Max_T",color='green') plt.plot(day,avg_temp,label='Avg_T',c='r') plt.legend(loc="best", shadow=True, fontsize="small") plt.xlabel("Week Days") plt.ylabel("Temprature") plt.grid() plt.tight_layout() Temprature Graph with MIN MAX & AVG Min_T

Temprature 30

Temprature

30

Sun

Mon

Mon

Wed

Max_T

Avg_T

Wed Week Days

availble in matplotlib2.pdf file....

Sat

Histogram, Scattor Plot, Density Plot, Box Plot, heatmap, etc.

For Comparision We use bar Graph For Normalization We use Density Graph For outerlier We use Box Plot For any One variable showing We use Histogram For any Query Email pramod.san19@gmail.comThanks for Downloading.......

Matplotlib related some functions are explained in this file which are commonly used in data science visualization purpose. for

More Data Visite to my Git Hub Account----> https://github.com/pramod-sanghavi/

In [1]: import matplotlib.pyplot as plt