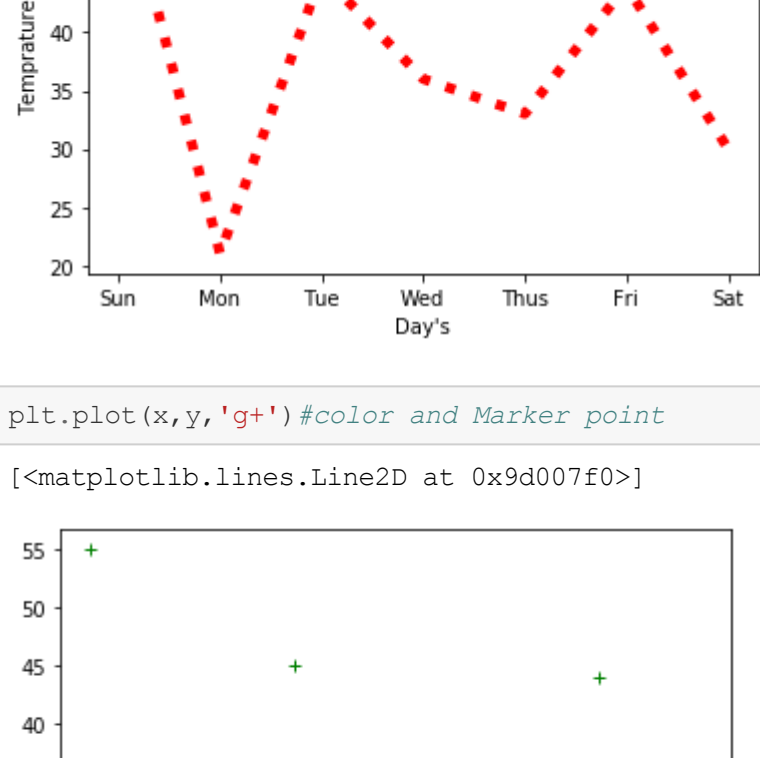


Matplotlib related some functions are explained in this file which are commonly used in data science visualization purpose. for More Data Visit to my Git Hub Account--> <https://github.com/pramod-sanghavi/>

In [1]: `import matplotlib.pyplot as plt`

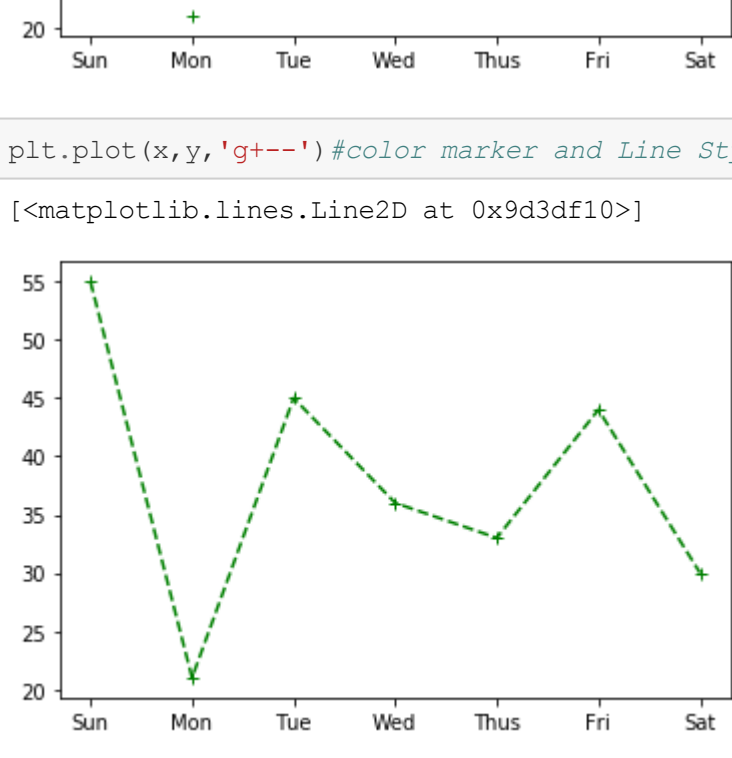
In [2]: `matplotlib inline`

In [3]: `x=['Sun','Mon','Tue','Wed','Thurs','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("Temperature")
plt.title("Temp Plot Graph")
plt.show()`



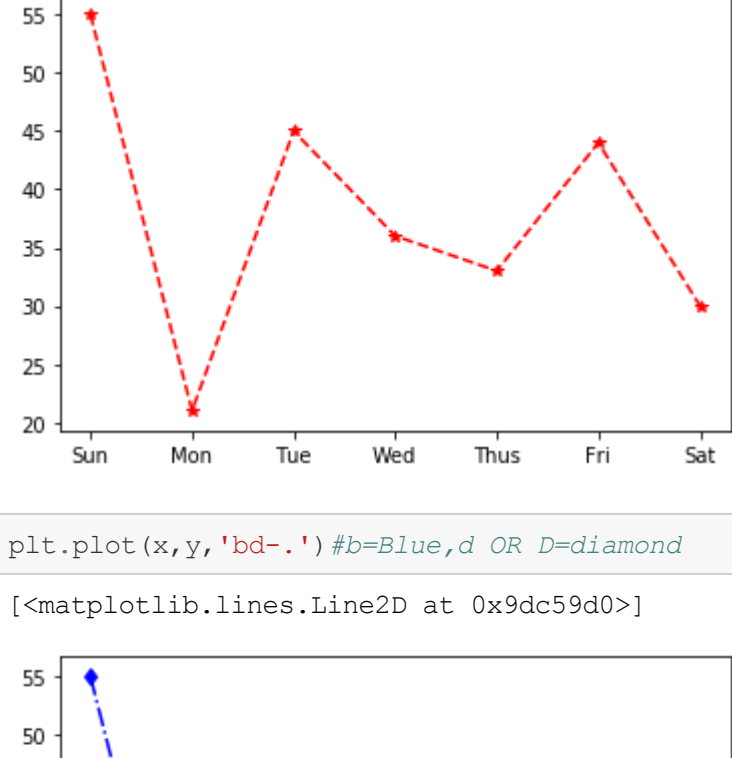
In [4]: `plt.plot(x,y,'g')#color and Marker point`

Out [4]: `<matplotlib.lines.Line2D at 0x9d07f0>`



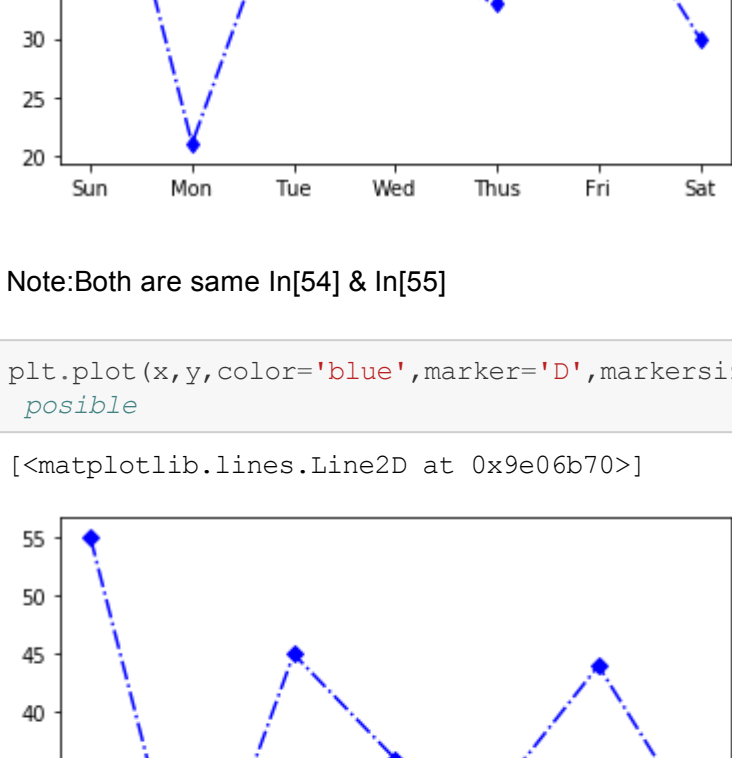
In [5]: `plt.plot(x,y,'g+--')#color marker and line Style`

Out [5]: `<matplotlib.lines.Line2D at 0x9d3df10>`



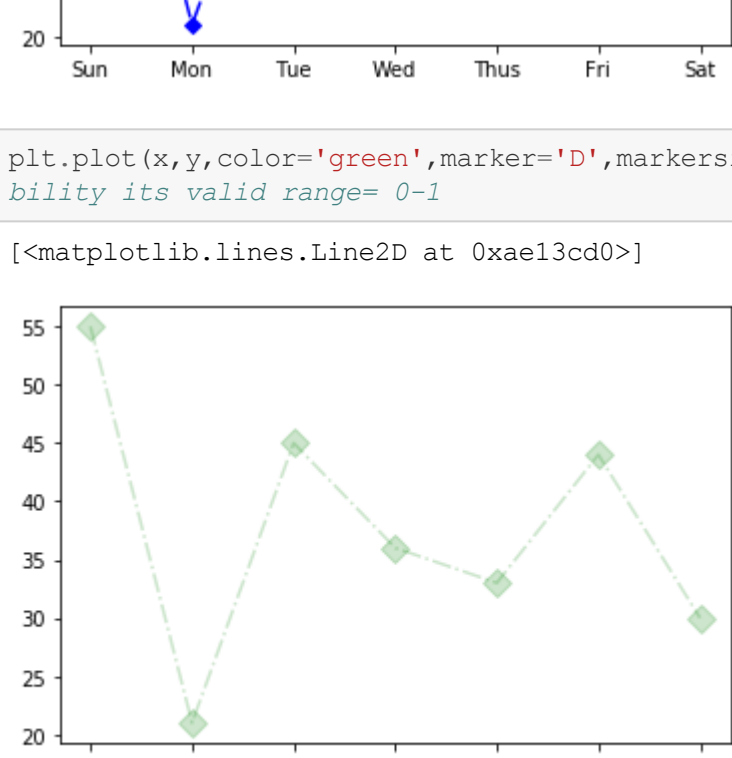
In [6]: `plt.plot(x,y,'--r')#we can change position of marker and line style`

Out [6]: `<matplotlib.lines.Line2D at 0x9d07f0>`



In [7]: `plt.plot(x,y,'bd-')#b=Blue,d OR D=diamond`

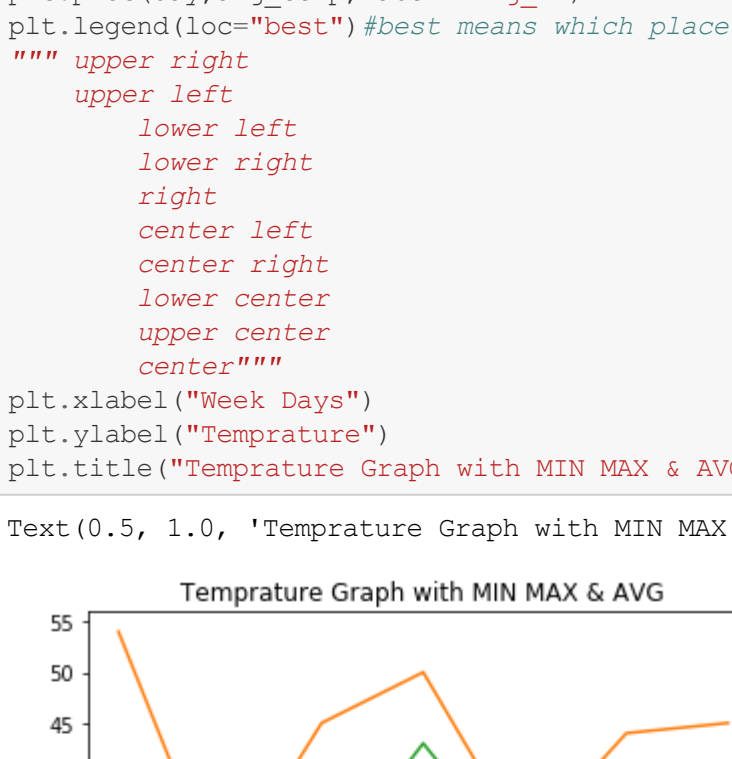
Out [7]: `<matplotlib.lines.Line2D at 0x9dc59d0>`



Note:Both are same In[54] & In[55]

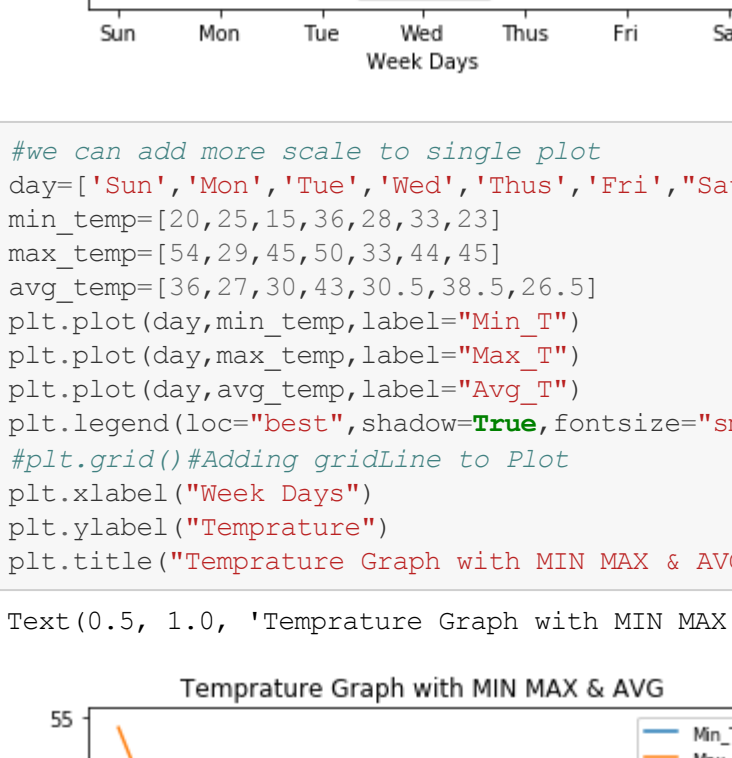
In [8]: `plt.plot(x,y,color='blue',marker='D',markersize=6,linestyle="dashdot")#color can be hexadecimal also possible`

Out [8]: `<matplotlib.lines.Line2D at 0x9d6b70>`



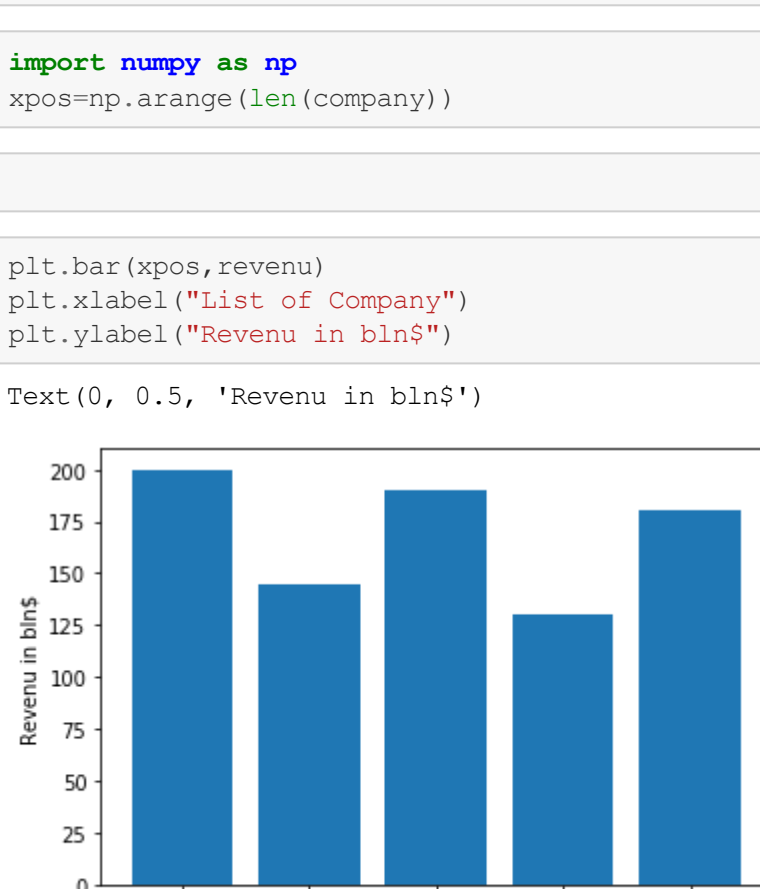
In [9]: `plt.plot(x,y,color='green',marker='D',markersize=10,linestyle="dashdot",alpha=0.2) #alpha=scale visibility its valid range= 0-1`

Out [9]: `<matplotlib.lines.Line2D at 0xa13cd0>`



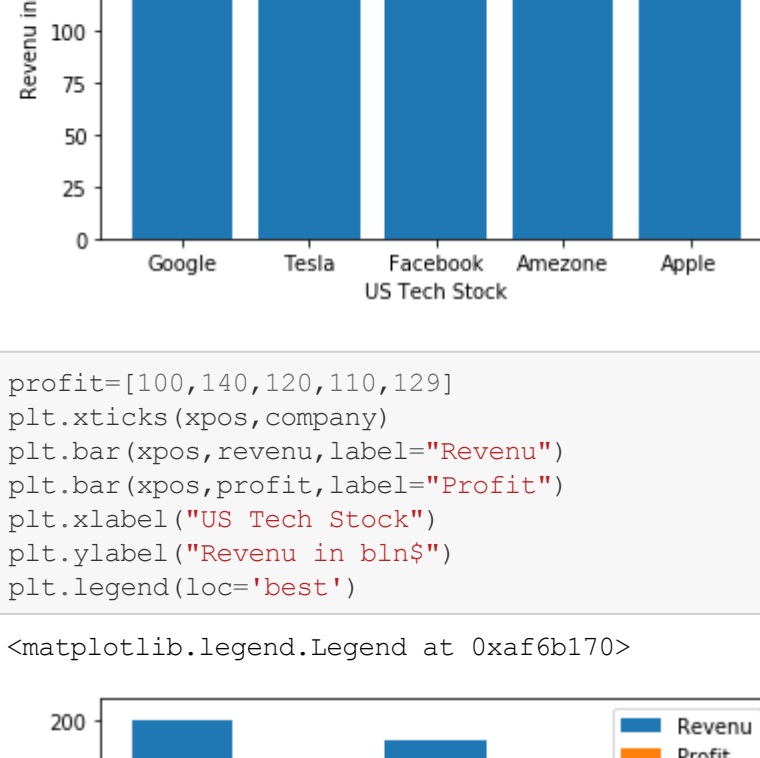
In [10]: `#we can add more scale to single plot
day=['Sun','Mon','Tue','Wed','Thurs','Fri','Sat']
min_temp=[20,25,15,36,28,33,23]
max_temp=[54,29,45,50,33,44,45]
avg_temp=[36,27,30,43,30,5,38,5,26,5]
plt.plot(day,min_temp,label="Min_T")
plt.plot(day,max_temp,label="Max_T")
plt.plot(day,avg_temp,label="Avg_T")
plt.legend(loc="best")#best means which place is good to place otherwise we can specify: best
""" upper right
lower left
lower right
center left
center right
lower center
upper center
center"""
plt.xlabel("Week Days")
plt.ylabel("Temperature")
plt.title("Temperature Graph with MIN MAX & AVG")`

Out [10]: `Text(0.5, 1.0, 'Temperature Graph with MIN MAX & AVG')`



In [11]: `#we can add more scale to single plot
day=['Sun','Mon','Tue','Wed','Thurs','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("Temperature")
plt.title("Temperature Graph with MIN MAX & AVG")`

Out [11]: `Text(0.5, 1.0, 'Temperature Graph with MIN MAX & AVG')`



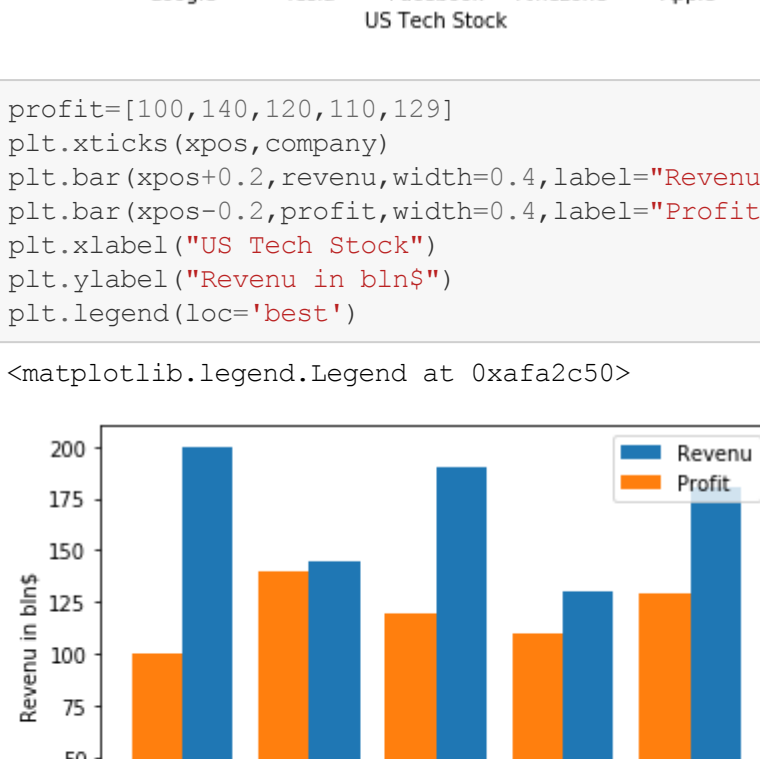
In [12]: `company=['Google','Tesla','Facebook','Amezone','Apple']
revenue=[200,145,180,130,180]`

In [13]: `import numpy as np
xpos=np.arange(len(company))`

In []:

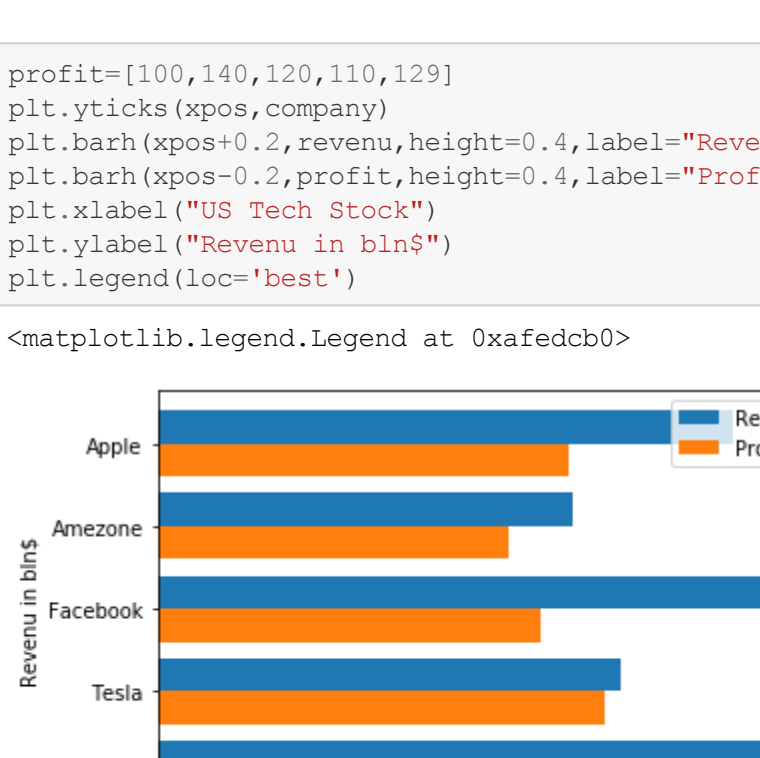
In [14]: `plt.bar(xpos,revenue)
plt.xlabel("List of Company")
plt.ylabel("Revenue in bIn$")`

Out [14]: `Text(0, 0.5, 'Revenue in bIn$')`



In [15]: `plt.xticks(xpos,company)
plt.bar(xpos,revenue,label="Revenue")
plt.xlabel("US Tech Stock")
plt.ylabel("Revenue in bIn$")
plt.legend()`

Out [15]: `<matplotlib.legend.Legend at 0xaf32e30>`



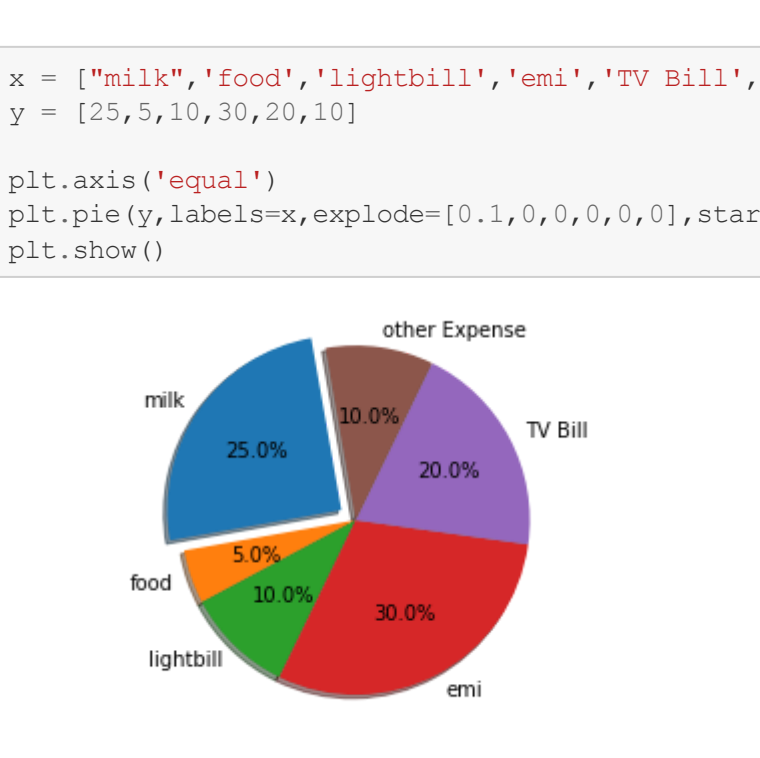
In [16]: `profit=[100,140,120,110,129]
plt.xticks(xpos,company)
plt.bar(xpos,revenue,label="Revenue")
plt.bar(xpos,profit,label="Profit")
plt.xlabel("US Tech Stock")
plt.ylabel("Revenue in bIn$")
plt.legend(loc="best")`

Out [16]: `<matplotlib.legend.Legend at 0xaf6b170>`



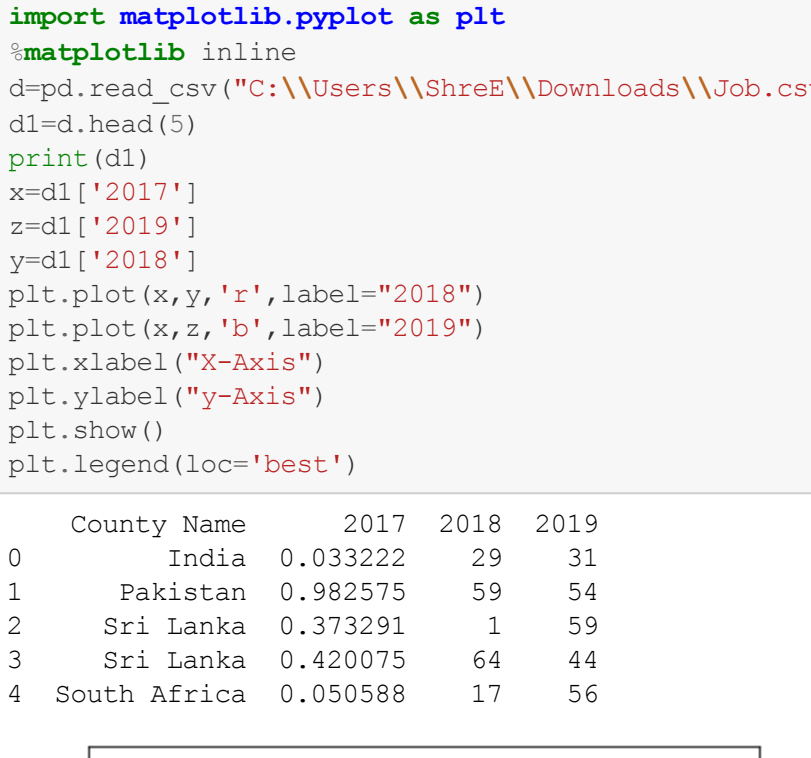
In [17]: `profit=[100,140,120,110,129]
plt.xticks(xpos,company)
plt.bar(xpos=0.2,revenue,width=0.4,label="Revenue")
plt.bar(xpos=0.2,profit,width=0.4,label="Profit")
plt.xlabel("US Tech Stock")
plt.ylabel("Revenue in bIn$")
plt.legend(loc="best")`

Out [17]: `<matplotlib.legend.Legend at 0xaf2c5d0>`

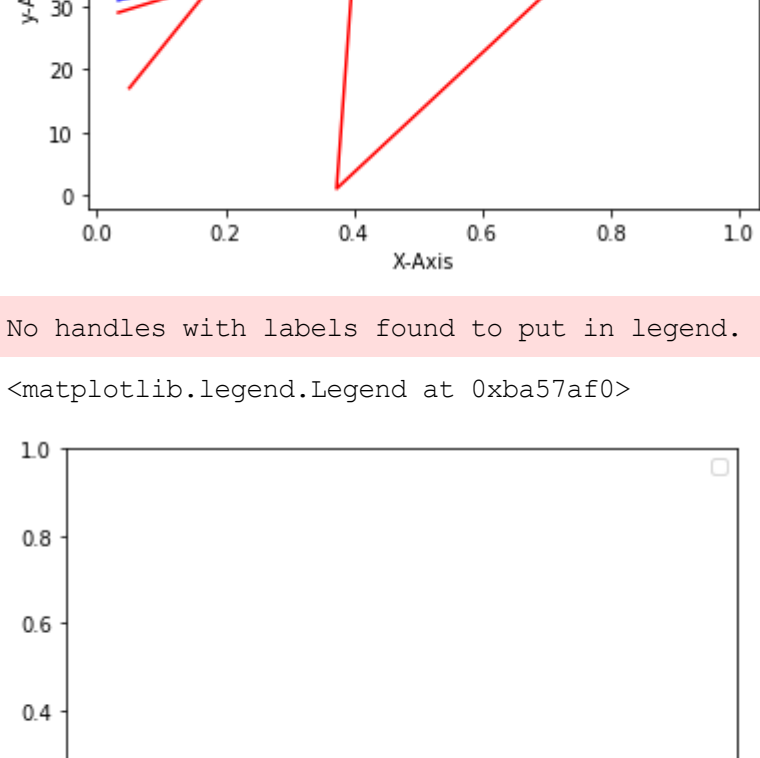


In [18]: `profit=[100,140,120,110,129]
plt.xticks(xpos,company)
plt.barh(xpos=0.2,revenue,height=0.4,label="Revenue")
plt.barh(xpos=0.2,profit,height=0.4,label="Profit")
plt.xlabel("US Tech Stock")
plt.ylabel("Revenue in bIn$")
plt.legend(loc="best")`

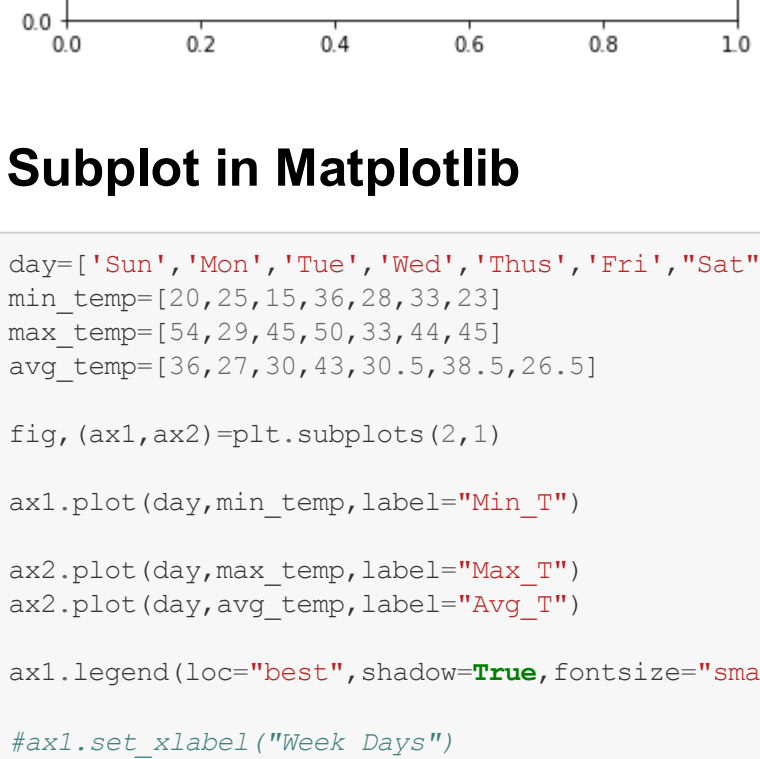
Out [18]: `<matplotlib.legend.Legend at 0xafedcb0>`



In [19]: `boys = [44,55,60,50,75,34,29,10,89,95,99,72,86,63,37,49,88]
girls = [55,66,82,49,68,33,72,88,37,56,89,64,22,95,44,35,99]
plt.hist((boys,girls),bins=[20,40,60,80,100],ewidth=0.95,label=["Boys","Girls"],color=["green","purple"])
#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 Comparison ")
plt.show()`

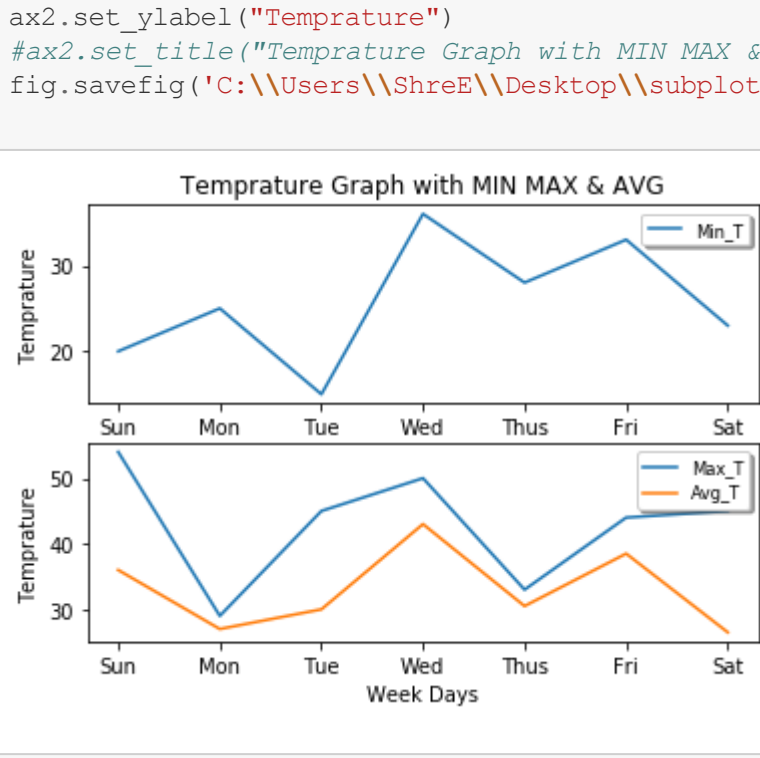


In [20]: `x = ['milk','food','lightbill','emi','TV Bill','other Expense']
y = [25,5,10,30,20,10]
plt.axis('equal')
plt.pie(y,labels=x,explode=[0.1,0,0,0,0,0],startangle=100,autopct='%0.1f%%',shadow=True)
plt.show()`



reading from csv file and draw its plot graph

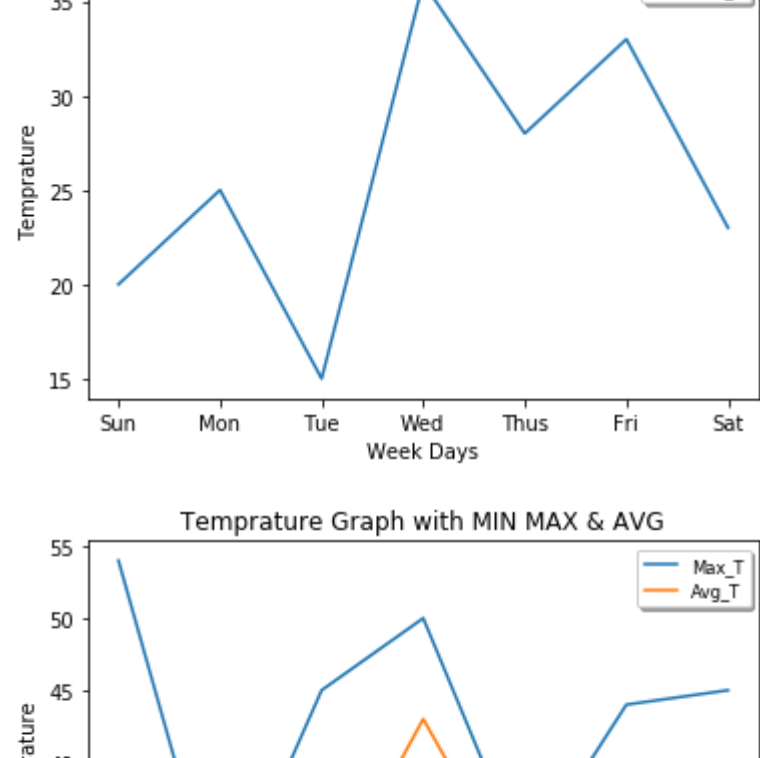
In [21]: `import pandas as pd
import matplotlib.pyplot as plt
matplotlib inline
cmd= read_csv('C:\Users\ShreE\Downloads\Job.csv')
d1=d.head(5)
print(d1)
x=d1['2017']
y=d1['2019']
z=d1['2018']
plt.plot(x,y,'r',label="2018")
plt.plot(x,y,'b',label="2019")
plt.xlabel("X-Axis")
plt.ylabel("Y-Axis")
plt.show()
plt.legend(loc="best")`



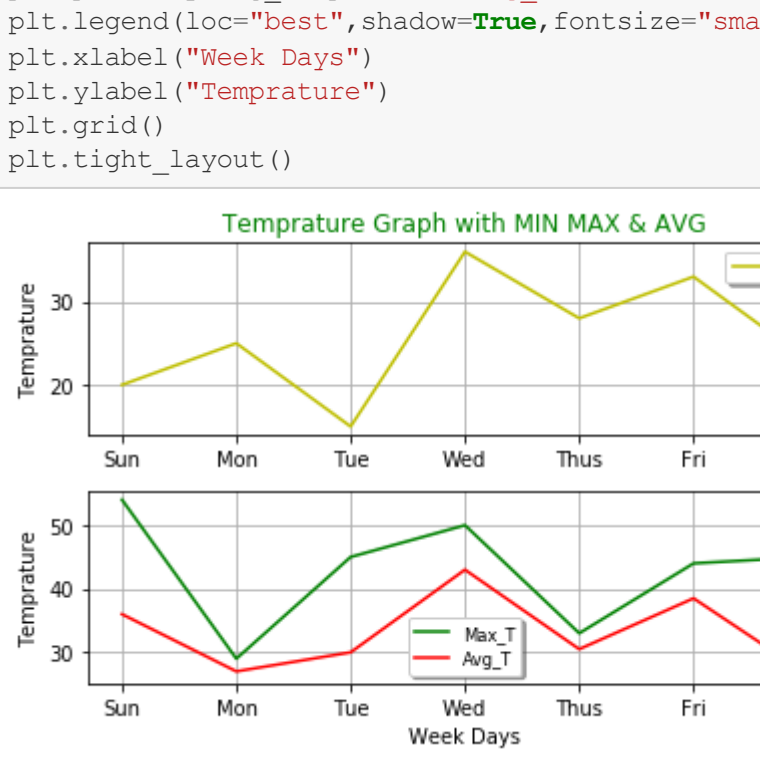
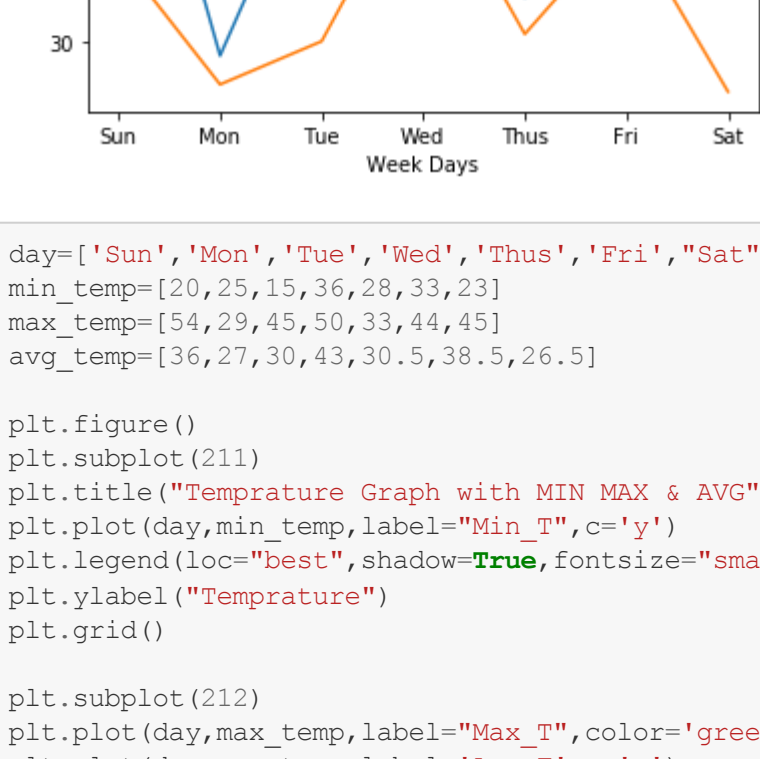
Out [21]: `No handles with labels found to put in legend.
<matplotlib.legend.Legend at 0xba57af0>`



In [23]: `day=['Sun','Mon','Tue','Wed','Thurs','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()`



In [24]: `day=['Sun','Mon','Tue','Wed','Thurs','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(21)
plt.title("Temperature Graph with MIN MAX & AVG",color='g')
plt.plot(day,min_temp,label="Min_T",c='r')
plt.plot(day,max_temp,label="Max_T",c='b')
plt.legend(loc="best",shadow=True,fontsize="small")
plt.xlabel("Week Days")
plt.ylabel("Temperature")
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("Temperature")
plt.grid()
plt.tight_layout()`



Histogram,Scatter Plot,Density Plot,Box Plot,heatmap, etc. available in matplotlib2.pdf file....

For Comparison We use bar Graph For Normalization We use Density Graph For outlier We use Box Plot For any one variable showing We use bar Graph For any Query Email pramod.san19@gmail.comThanks for Downloading.....