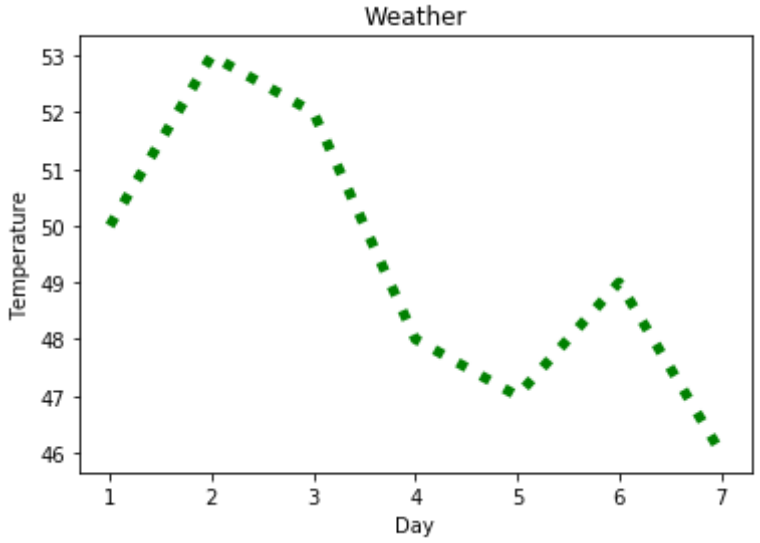
A picture is worth a thousand words

In [3]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [8]:
```
x=[1,2,3,4,5,6,7]
y=[50,53,52,48,47,49,46]
```

In [14]:
```
plt.xlabel('Day')
plt.ylabel('Temperature')
plt.title('Weather')
plt.plot(x,y, color='green', linewidth=5, linestyle='dotted') #matplotl
ib.org
```

Out[14]:
```
[<matplotlib.lines.Line2D at 0x22d05560148>]
```



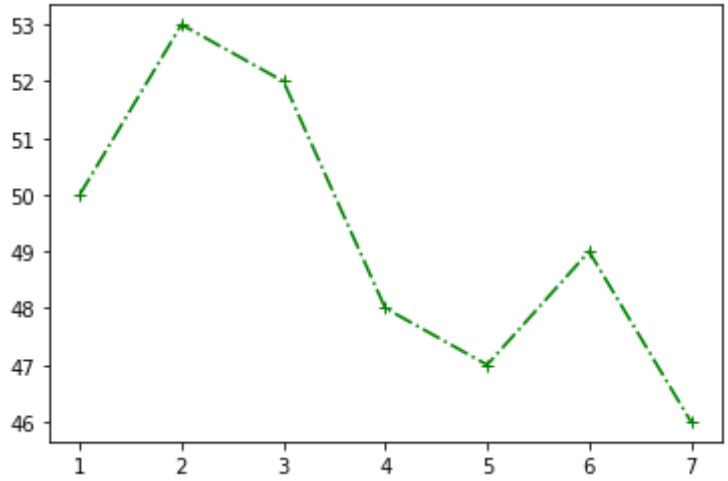
format strings in plot function

In [21]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [18]:
```
x=[1,2,3,4,5,6,7]
y=[50,53,52,48,47,49,46]
```

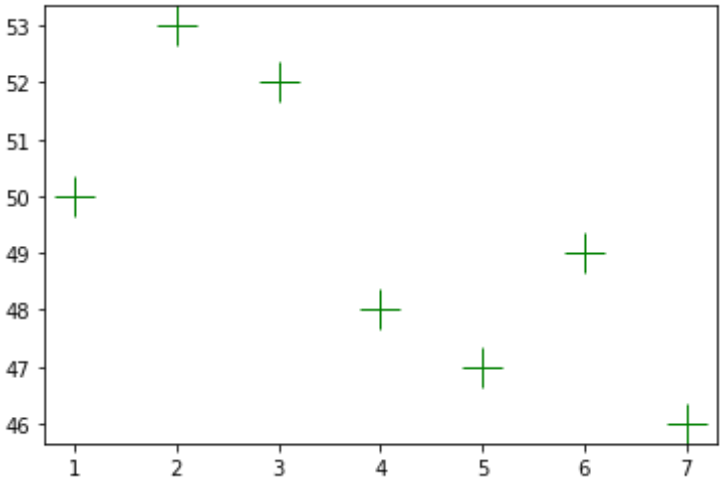
In [23]:
```
plt.plot(x,y, 'g+-.')  #g green , + markers
```

Out[23]:
```
[<matplotlib.lines.Line2D at 0x22d05d22d48>]
```



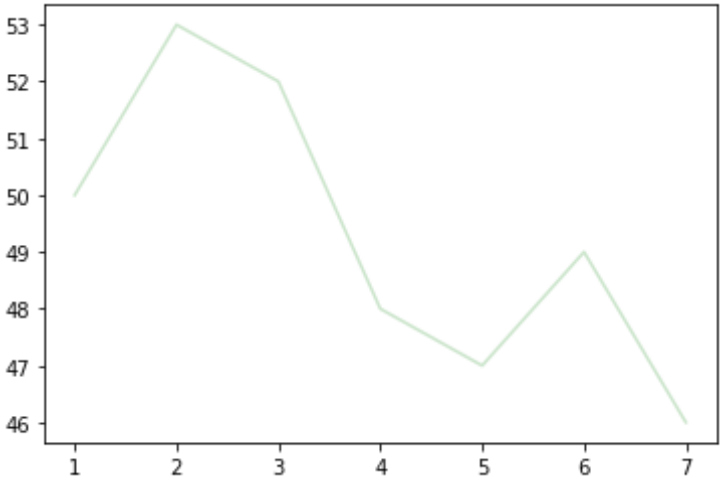
In [30]:
```
plt.plot(x,y, color='green',marker='+',linestyle='',markersize=20)
```

Out[30]:
```
[<matplotlib.lines.Line2D at 0x22d05e5aa48>]
```



In [31]:
```
plt.plot(x,y, color='green',alpha=0.2) #Transparency
```

Out[31]:
```
[<matplotlib.lines.Line2D at 0x22d05ec6b48>]
```



Axes labels, Legend, Grid

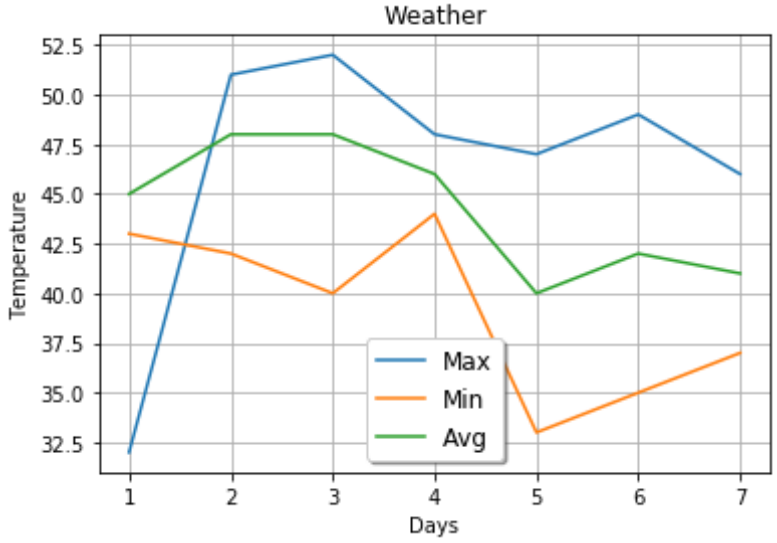
In [32]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [50]:
```
days=[1,2,3,4,5,6,7]
max_t=[32,51,52,48,47,49,46]
min_t=[43,42,40,44,33,35,37]
avg_t=[45,48,48,46,40,42,41]
```

In [59]:
```
plt.xlabel("Days")
plt.ylabel("Temperature")
plt.title("Weather")
plt.plot(days,max_t, label="Max")
plt.plot(days,min_t, label= "Min")
plt.plot(days,avg_t, label= "Avg")

plt.legend(loc="best", shadow=True, fontsize="large")

plt.grid()
```



Bar Chart

In [83]:
```
import matplotlib.pyplot as plt
import numpy as np
%matplotlib inline
```

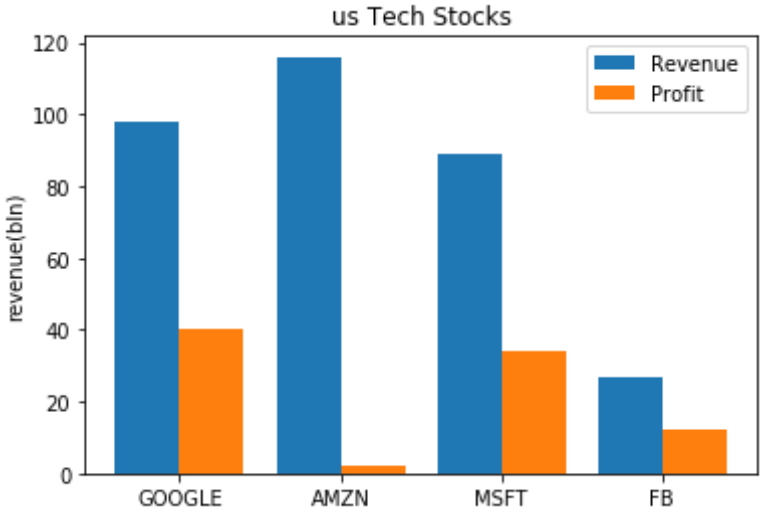
In [84]:
```
company = ['GOOGLE','AMZN','MSFT','FB']
revenue=[98,116,89,27]
profit=[40,2,34,12]
```

In [85]:
```
xpos = np.arange(len(company))
xpos
```

Out[85]:
```
array([0, 1, 2, 3])
```

In [81]:
```
plt.xticks(ypos,company) #replace number with company name
plt.ylabel("revenue(bIn)")
plt.title("us Tech Stocks")
plt.bar(xpos-0.2,revenue,width=0.4,label="Revenue")
plt.bar(xpos+0.2,profit,width=0.4,label="Profit")
plt.legend()
```

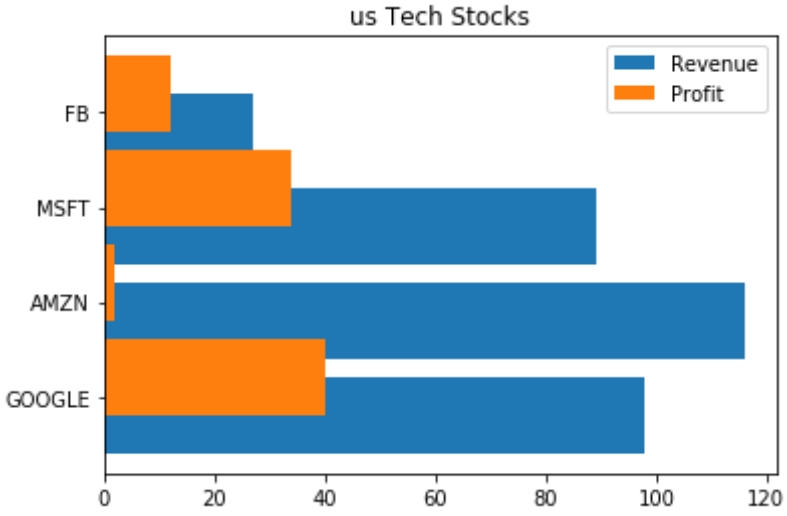
Out[81]:
```
<matplotlib.legend.Legend at 0x22d07a6ab08>
```



In [91]:
```
plt.yticks(ypos,company) #replace number with company name
plt.title("us Tech Stocks")

plt.barh(xpos-0.2,revenue,label="Revenue")
plt.barh(xpos+0.2,profit,label="Profit")
plt.legend()
```

Out[91]:
```
<matplotlib.legend.Legend at 0x22d07b105c8>
```



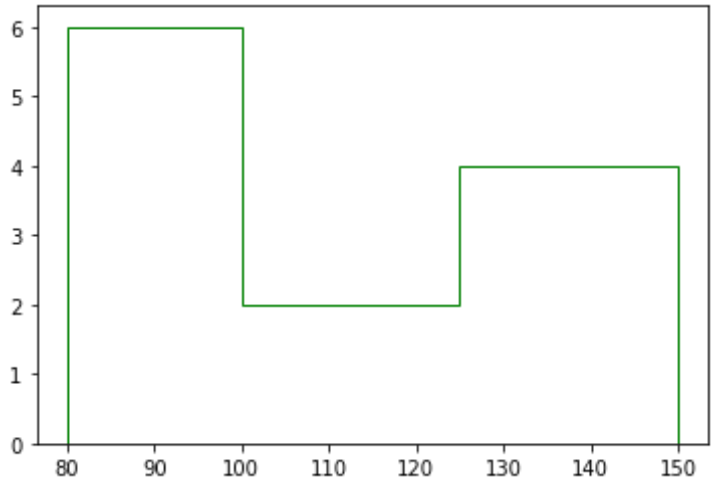
Histograms

In [ ]:
```
import matplotlip.pyplot as plt
%matplotlip inline
```

In [98]:
```
blood_sugar = [113, 85, 90, 150, 149, 88, 93, 115, 135, 80, 77, 82, 129
]
plt.hist(blood_sugar,bins=[80,100,125,150], rwidth=0.95,color='g',histt
ype='step')
```

Out[98]:
```
(array([6., 2., 4.]), array([ 80, 100, 125, 150]), <a list of 1 Patch o
```

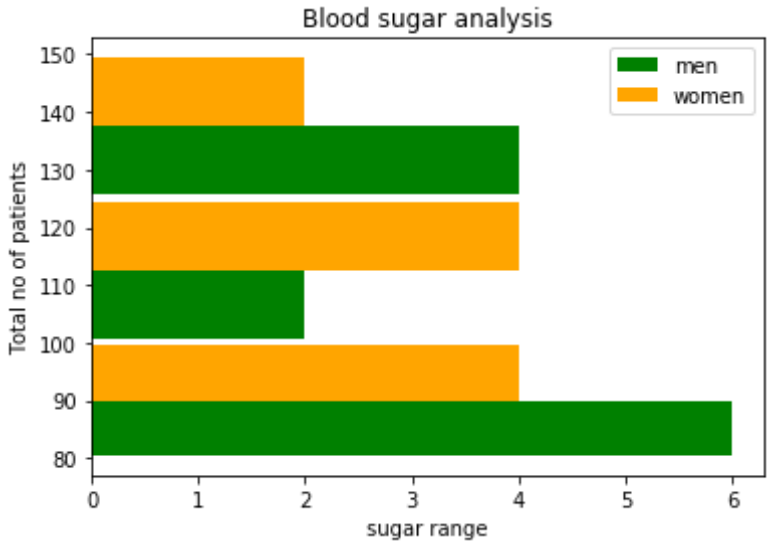
bjects>)



In [106]:
```
blood_sugar_man = [113, 85, 90, 150, 149, 88, 93, 115, 135, 80, 77, 82,
 129]
blood_sugar_women = [67, 98, 89, 120, 133, 150, 84, 69, 89, 79, 120, 11
2, 100]

plt.xlabel('sugar range')
plt.ylabel('Total no of patients')
plt.title('Blood sugar analysis')
plt.hist([blood_sugar_man, blood_sugar_women], bins=[80,100,125,150], r
width=0.95,color=['green','orange']
        , label=['men','women'],orientation='horizontal')
plt.legend()
```

Out[106]: <matplotlib.legend.Legend at 0x22d0901bb48>



Pie Chart

In [111]:
```
import matplotlib.pyplot as plt
%matplotlib inline
```

In [112]:
```
exp_vals = [1400,600,300,410,250]
exp_labels = ["Home Rent","Food","Phone/Internet Bill","Car","Other Uti
lities"]
```

In [123]:
```
plt.axis("equal")
plt.pie(exp_vals , labels = exp_labels, radius=1.5, autopct='%0.1f%%',s
hadow=True, explode=[0,0.1,0.1,0,0],startangle=180)
plt.show() #get rid of all the useless documentation
```