In [2]:

```
import matplotlib.pyplot as plt
import seaborn as sns
import numpy as np
import pandas as pd
```

In [3]:

```
tips=sns.load_dataset('tips')
```

In [4]:

```
tips
```

Out[4]:

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4
...	...	...	...	...	...	...	...
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2
243	18.78	3.00	Female	No	Thur	Dinner	2

244 rows × 7 columns

In [5]:

```
tips.head()
```

Out[5]:

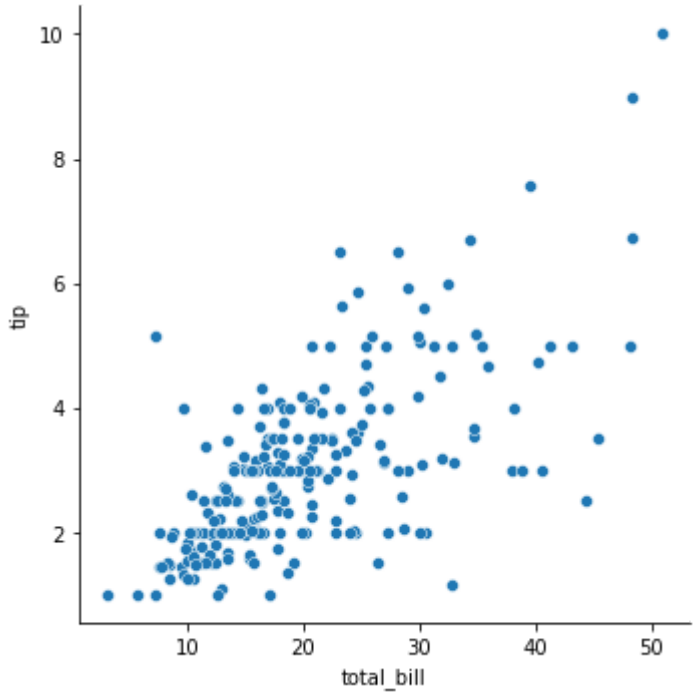
	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

In [6]:

```
sns.relplot(x='total_bill',y='tip',data=tips)
```

Out[6]:

```
<seaborn.axisgrid.FacetGrid at 0x21097992b20>
```

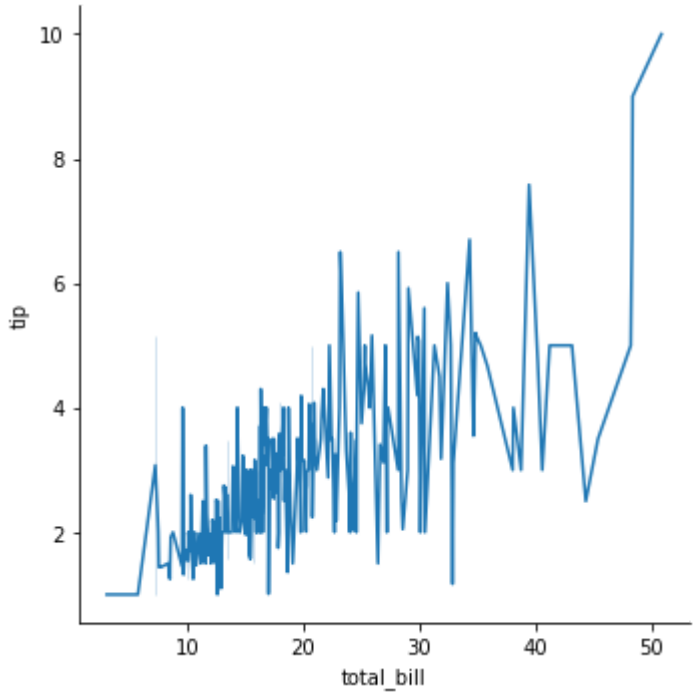


In [7]:

```
sns.relplot(x='total_bill',y='tip',data=tips,kind='line')
```

Out[7]:

```
<seaborn.axisgrid.FacetGrid at 0x210932c2430>
```

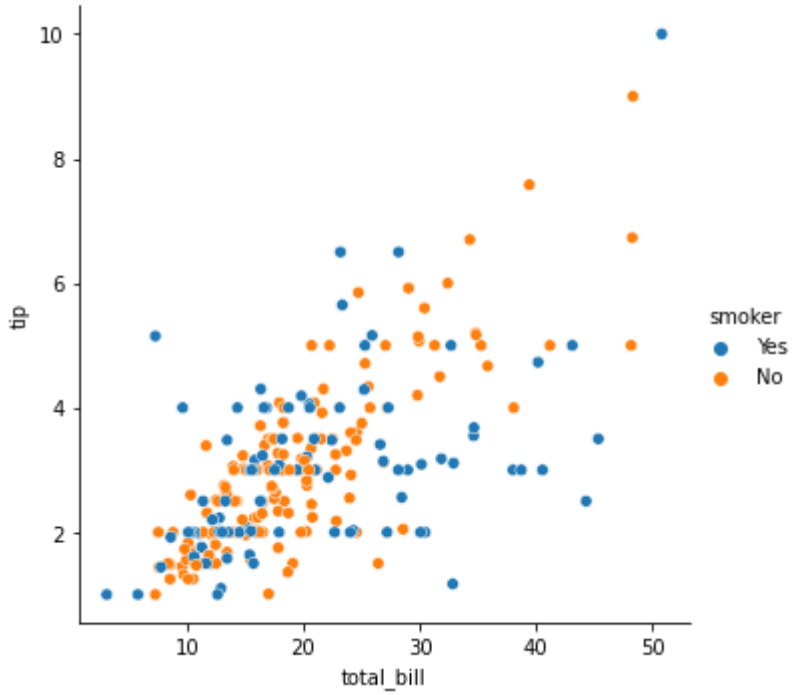


In [8]:

```
sns.relplot(x='total_bill',y='tip',data=tips,hue='smoker')
```

Out[8]:

```
<seaborn.axisgrid.FacetGrid at 0x21098343880>
```

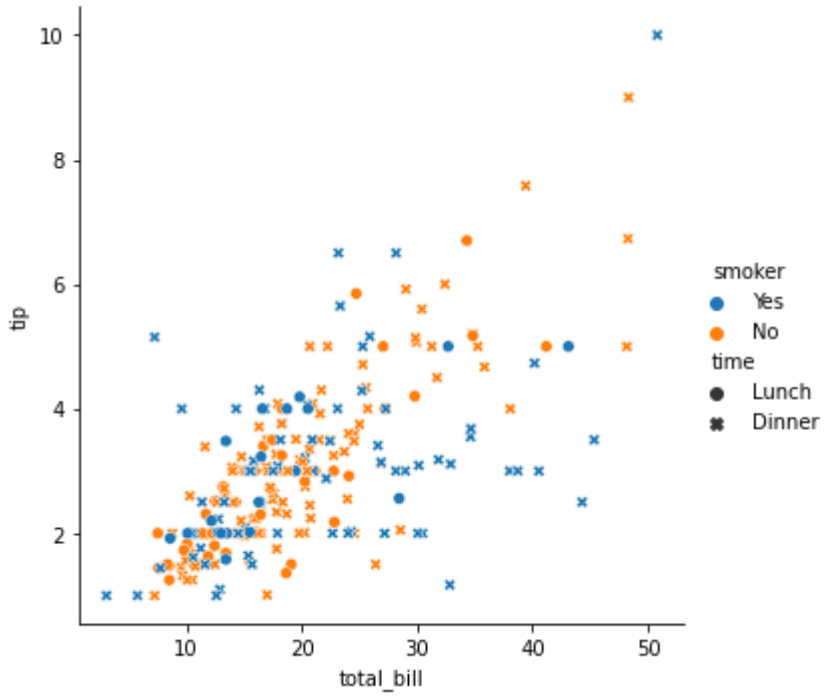


In [9]:

```
sns.relplot(x='total_bill',y='tip',data=tips,hue='smoker',style='time')
```

Out[9]:

```
<seaborn.axisgrid.FacetGrid at 0x2109840cd90>
```

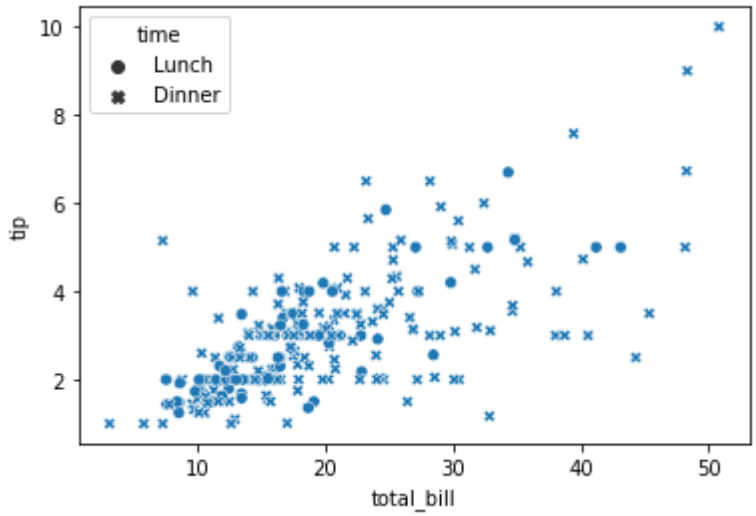


In [12]:

```
sns.scatterplot(x ="total_bill",y ="tip",style ="time",data = tips)
```

Out[12]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```

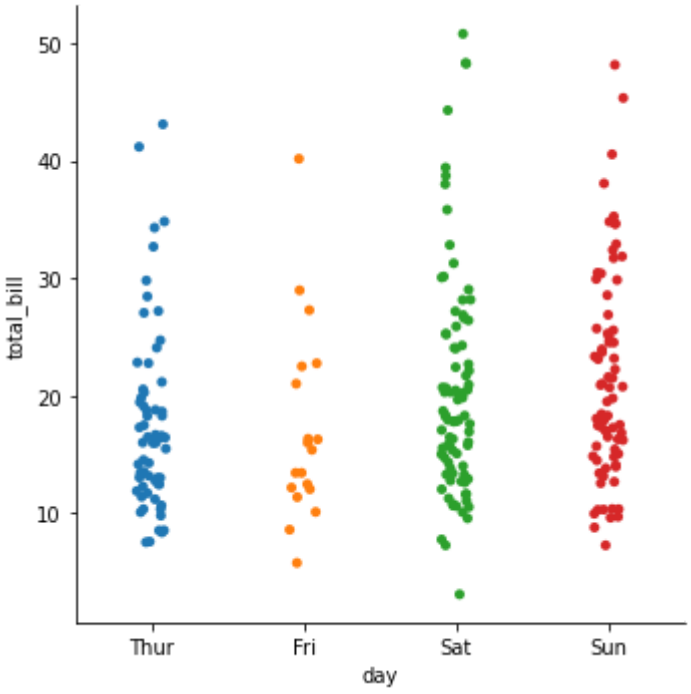


In [13]:

```
sns.catplot(x='day',y='total_bill',data=tips)
```

Out[13]:

```
<seaborn.axisgrid.FacetGrid at 0x2109858d8e0>
```

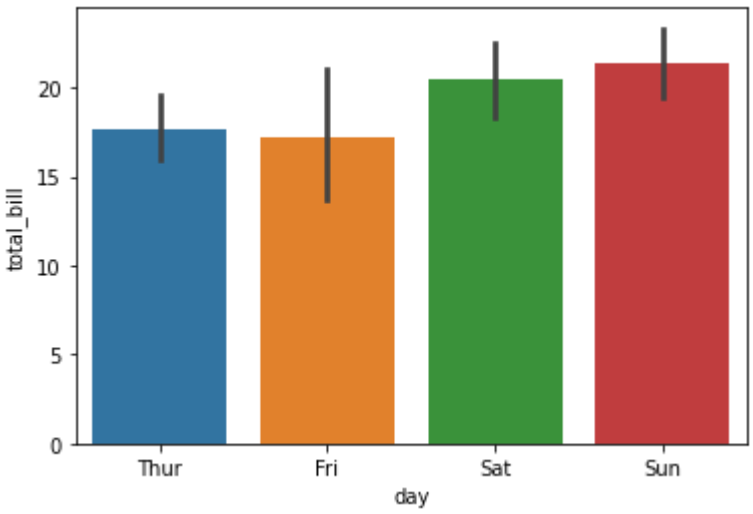


In [14]:

```
sns.barplot(x='day',y='total_bill',data=tips)
```

Out[14]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```

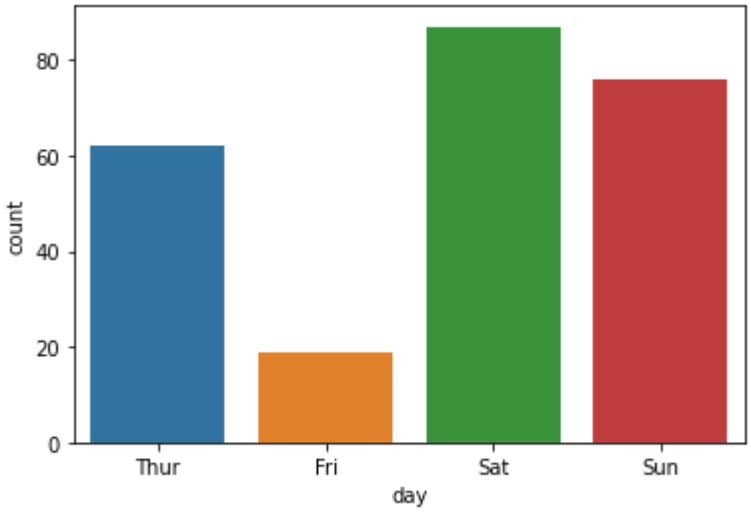


In [15]:

```
sns.countplot(x='day',data=tips)
```

Out[15]:

```
<AxesSubplot:xlabel='day', ylabel='count'>
```

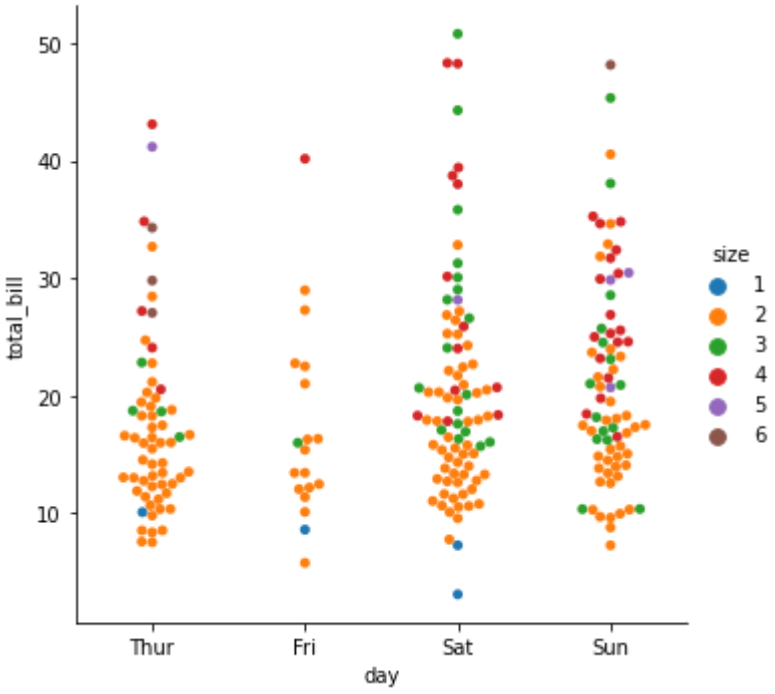


In [16]:

```
sns.catplot(x='day',y='total_bill',data=tips,kind='swarm',hue='size')
```

Out[16]:

```
<seaborn.axisgrid.FacetGrid at 0x210996e4550>
```



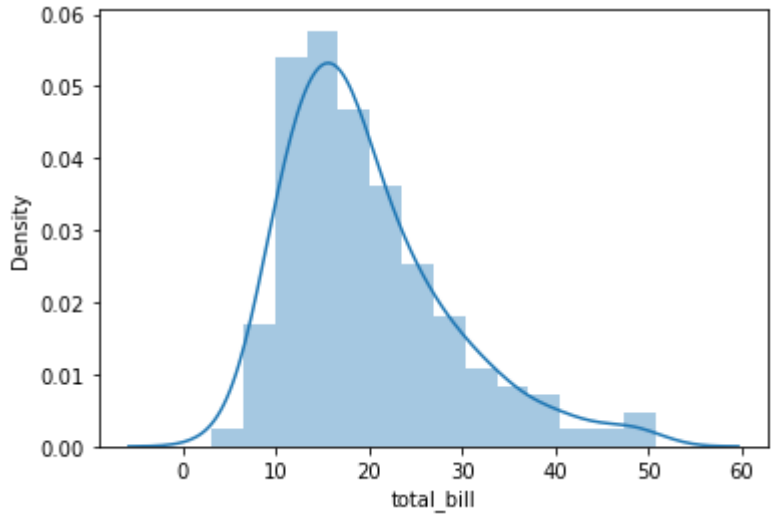
In [17]:

```
sns.distplot(tips['total_bill'])
```

```
C:\Users\admin\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

Out[17]:

```
<AxesSubplot:xlabel='total_bill', ylabel='Density'>
```



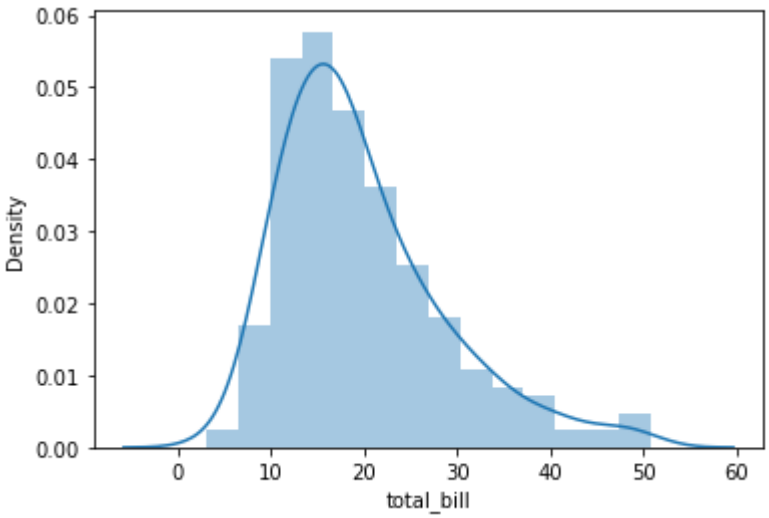
In [18]:

```
sns.distplot(tips['total_bill'],kde=True)
```

```
C:\Users\admin\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `histplot` (an axes-level function for
histograms).
  warnings.warn(msg, FutureWarning)
```

Out[18]:

```
<AxesSubplot:xlabel='total_bill', ylabel='Density'>
```



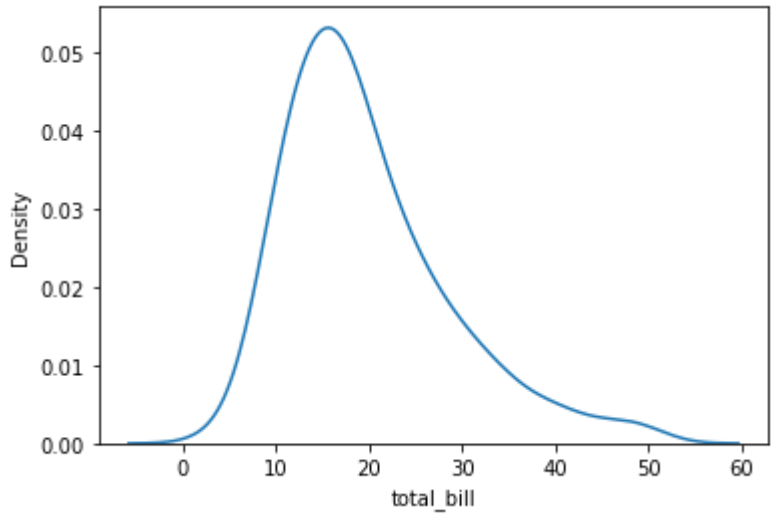
In [21]:

```
sns.distplot(tips['total_bill'],kde=True,hist=False)
```

```
C:\Users\admin\anaconda3\lib\site-packages\seaborn\distributions.py:2619: Fu
tureWarning: `distplot` is a deprecated function and will be removed in a fu
ture version. Please adapt your code to use either `displot` (a figure-level
function with similar flexibility) or `kdeplot` (an axes-level function for
kernel density plots).
  warnings.warn(msg, FutureWarning)
```

Out[21]:

```
<AxesSubplot:xlabel='total_bill', ylabel='Density'>
```

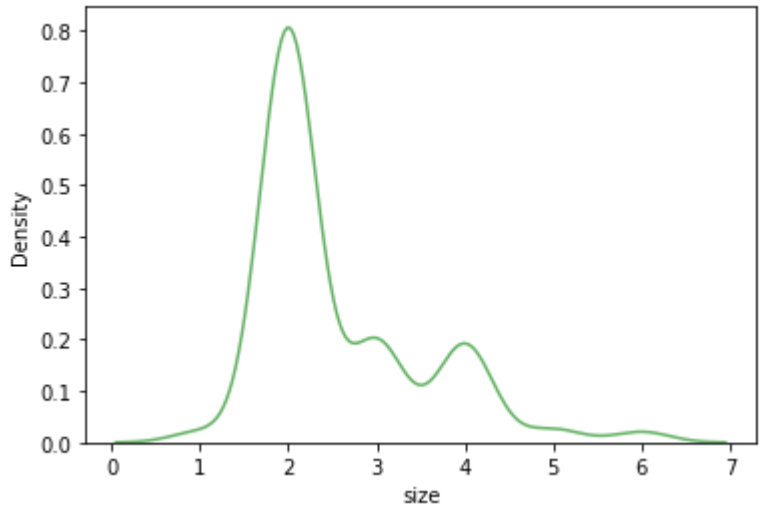


In [23]:

```
sns.kdeplot(tips['size'],shade=False,color='g',alpha=0.6)
```

Out[23]:

```
<AxesSubplot:xlabel='size', ylabel='Density'>
```



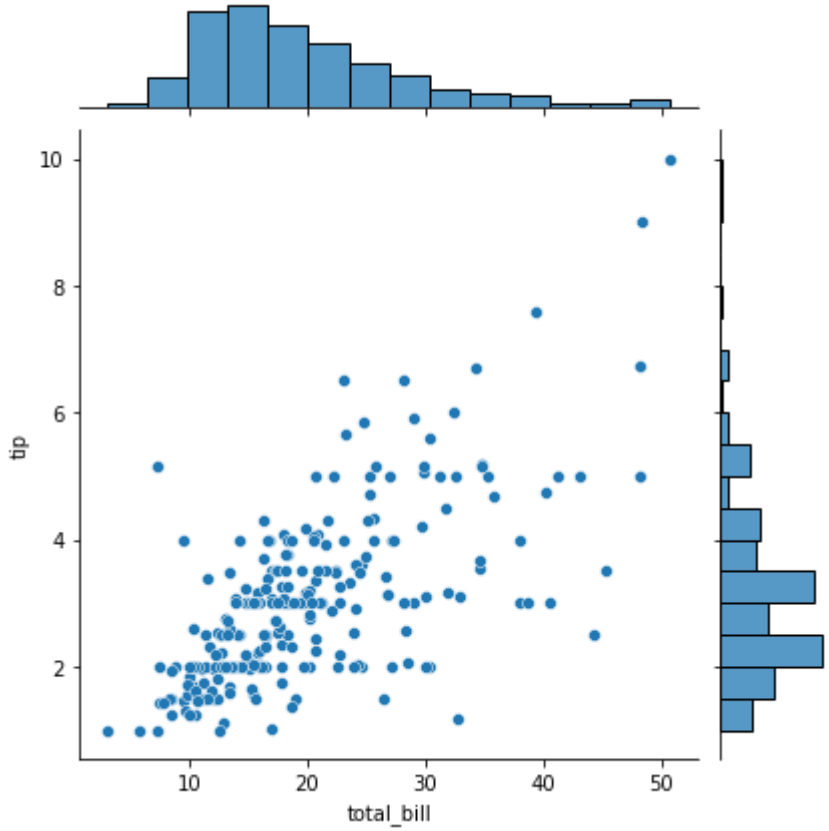
In [24]:

```
sns.jointplot(tips['total_bill'],tips['tip'])
```

```
C:\Users\admin\anaconda3\lib\site-packages\seaborn\_decorators.py:36: Future
Warning: Pass the following variables as keyword args: x, y. From version 0.
12, the only valid positional argument will be `data`, and passing other arg
uments without an explicit keyword will result in an error or misinterpretat
ion.
  warnings.warn(
```

Out[24]:

```
<seaborn.axisgrid.JointGrid at 0x21099e3f160>
```

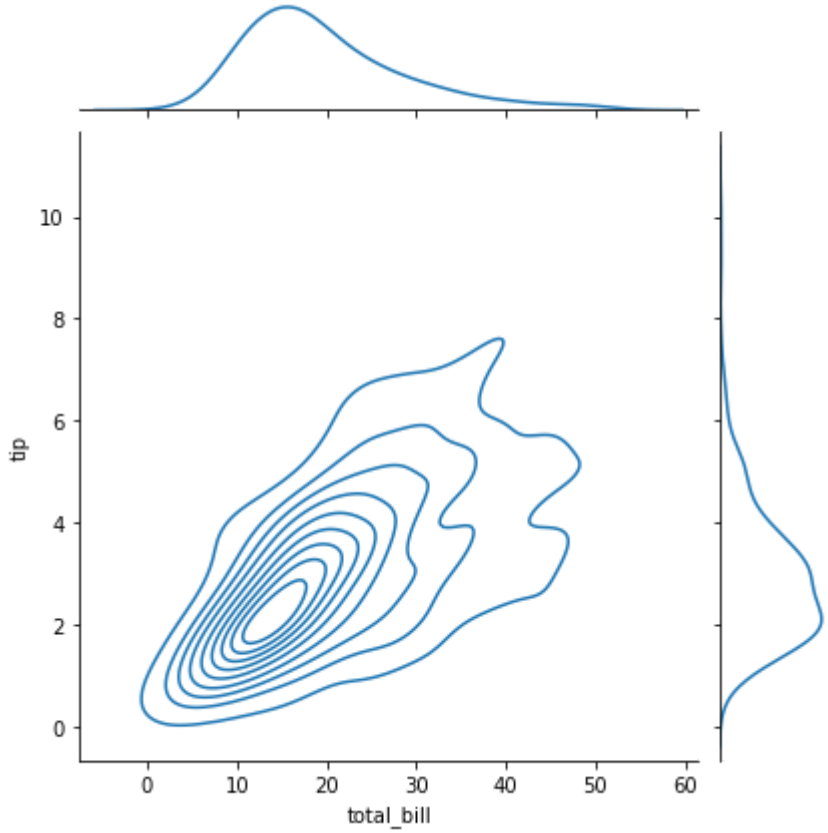


In [25]:

```
sns.jointplot(x ='total_bill', y ='tip', data = tips, kind ='kde')
# KDE shows the density where the points match up the most
```

Out[25]:

```
<seaborn.axisgrid.JointGrid at 0x21099e67a90>
```



In [ ]:

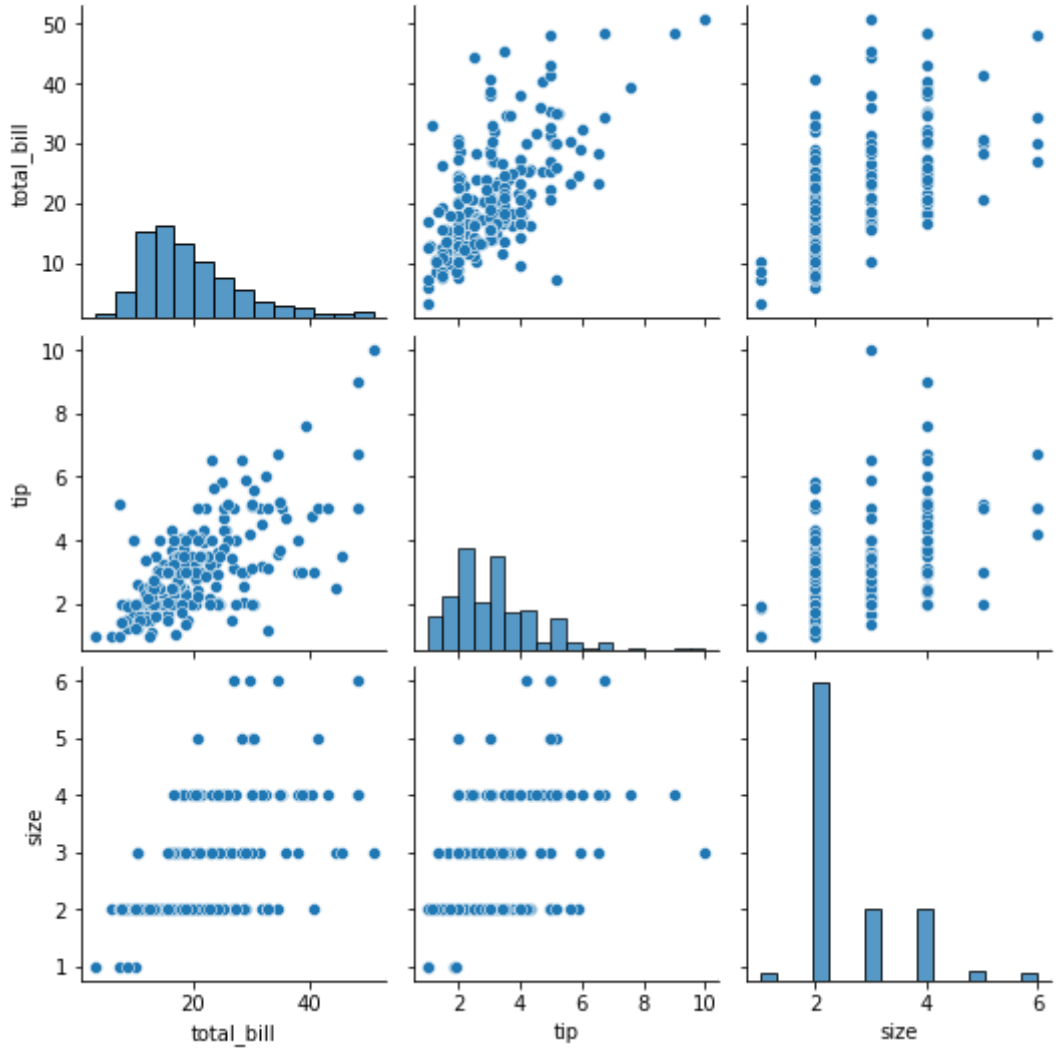
```
x=[2,3,4,4,5,4.5,4.5,9,12,13]
y=list(range(0,10))
sns.scatterplot(x,y)
```

In [28]:

```
sns.pairplot(tips)
```

Out[28]:

```
<seaborn.axisgrid.PairGrid at 0x21099e507c0>
```



In [ ]:

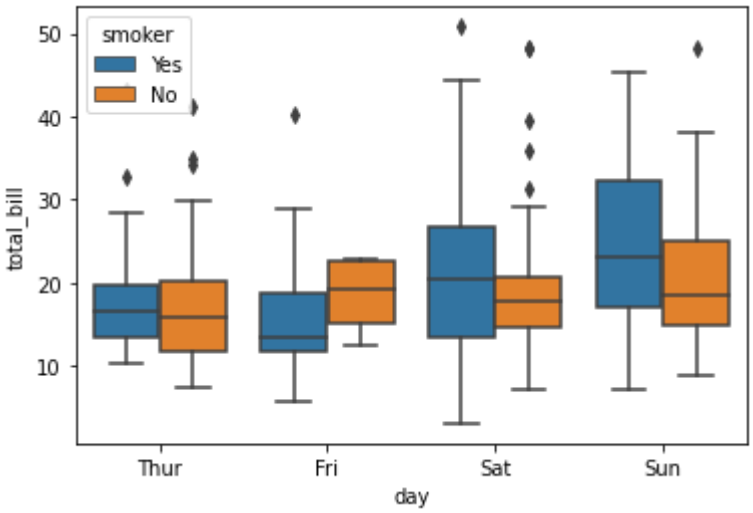
```
sns.distplot(x)
```

In [31]:

```
sns.boxplot(x ='day', y ='total_bill', data = tips,hue='smoker')
```

Out[31]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```

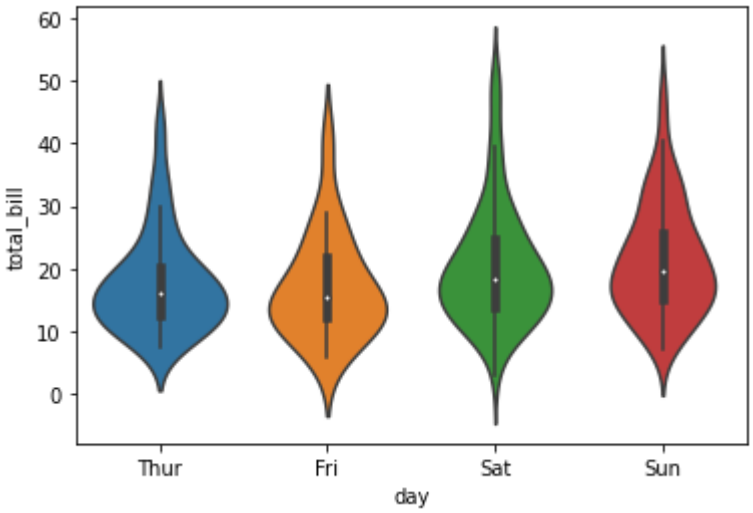


In [32]:

```
sns.violinplot(x ='day', y ='total_bill', data = tips)
```

Out[32]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```

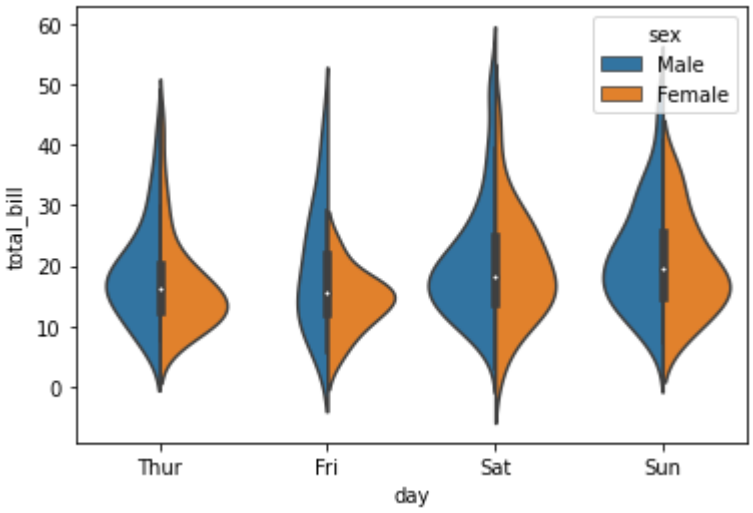


In [34]:

```
sns.violinplot(x ='day', y ='total_bill', data = tips,hue='sex',split=True)
```

Out[34]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```

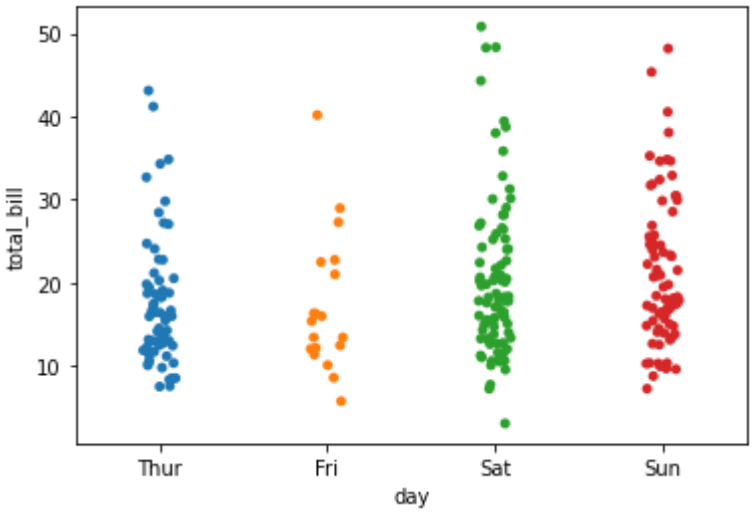


In [35]:

```
sns.stripplot(x ='day', y ='total_bill', data = tips)
```

Out[35]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```

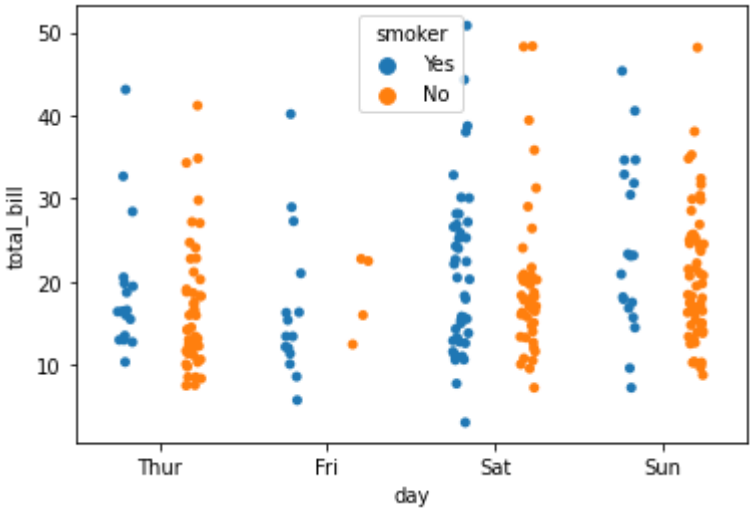


In [39]:

```
sns.stripplot(x ='day', y ='total_bill', data = tips,jitter = True,
              hue ='smoker' ,dodge=True)
```

Out[39]:

```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```



In [ ]:

```
sns.boxplot(x)
```

In [ ]:

```
x=[2,3,4,4,5,4.5,4.5,9,12,13,60]
sns.boxplot(x)
```

In [ ]:

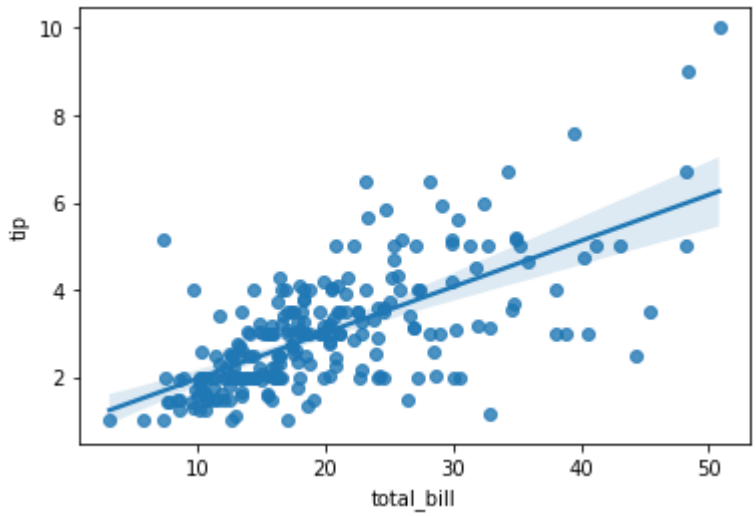
```
x=[-7,2,3,4,4,5,4.5,4.5,9,12,13]
sns.boxplot(x)
```

In [40]:

```
sns.regplot(x='total_bill',y='tip',data=tips)
```

Out[40]:

```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```

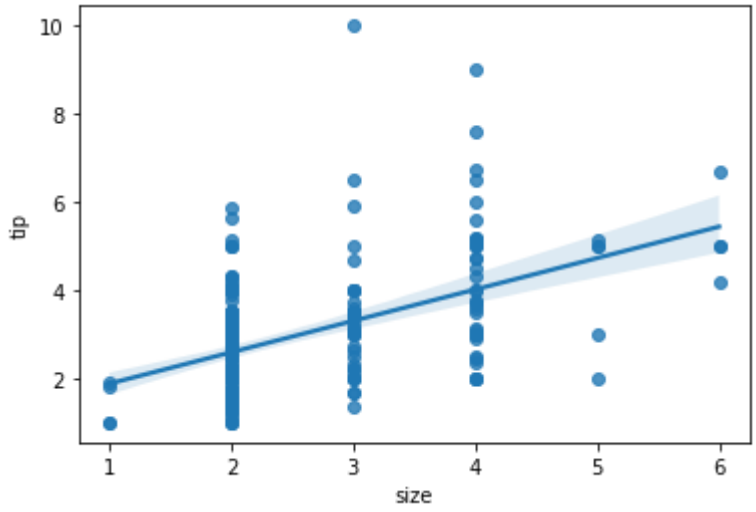


In [41]:

```
sns.regplot(x='size',y='tip',data=tips)
```

Out[41]:

```
<AxesSubplot:xlabel='size', ylabel='tip'>
```



In [ ]:

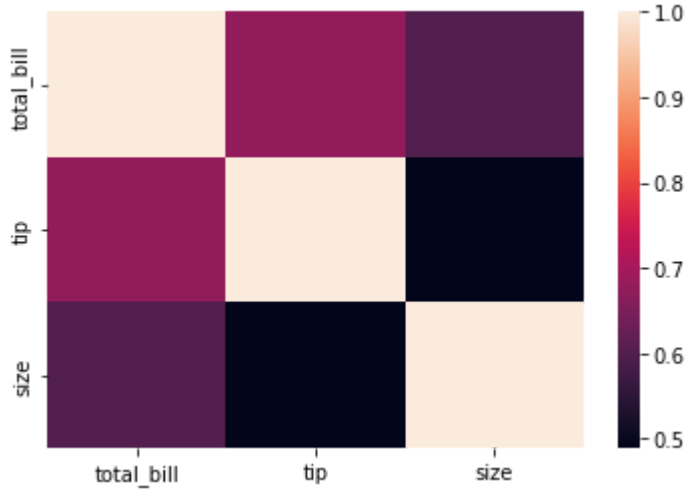
```

```

In [42]:

```
a=tips.corr()
sns.heatmap(a)
```

Out[42]:

```
<AxesSubplot:>
```

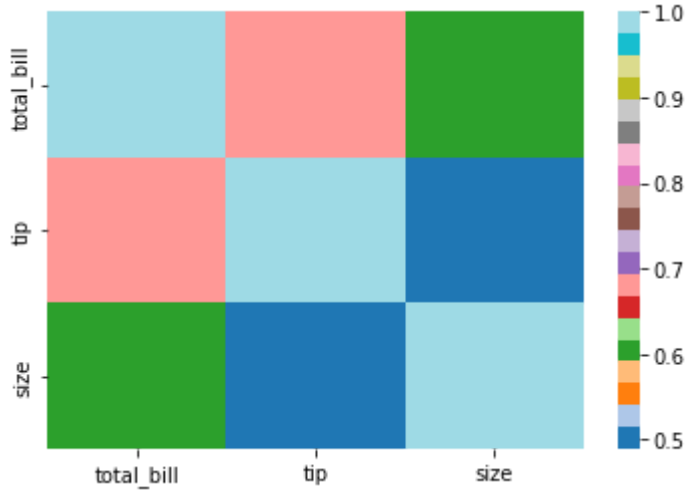


In [43]:

```
sns.heatmap(tips.corr(),cmap='tab20')
```

Out[43]:

<AxesSubplot:>

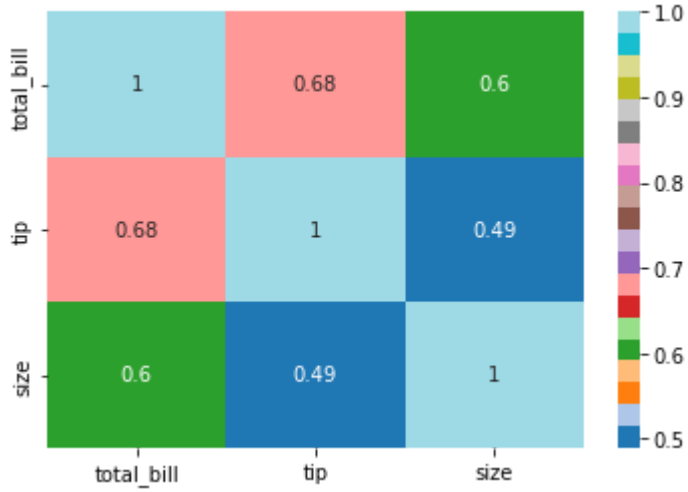


In [44]:

```
sns.heatmap(tips.corr(),cmap='tab20',annot=True)
```

Out[44]:

<AxesSubplot:>

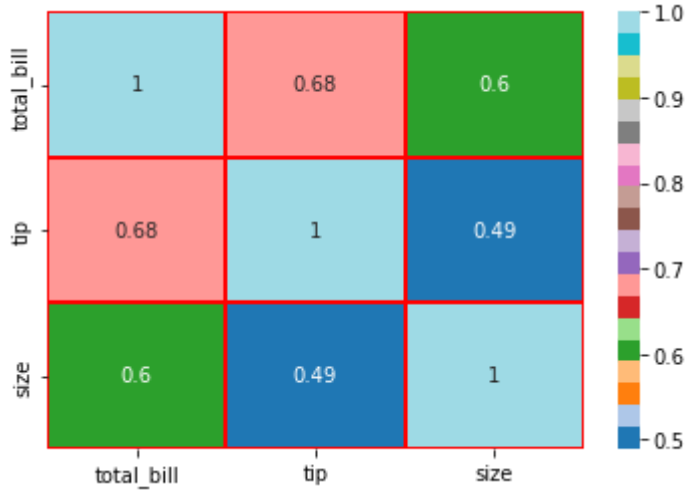


In [45]:

```
sns.heatmap(tips.corr(),cmap='tab20',annot=True,linewidth=2,linecolor='red')
```

Out[45]:

<AxesSubplot:>

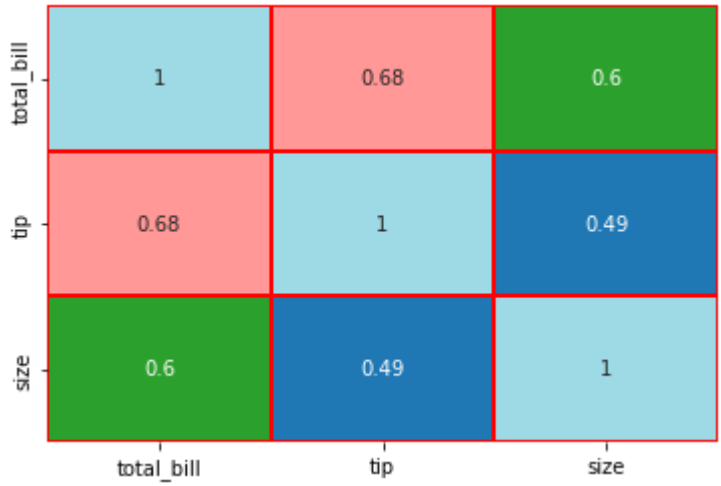


In [46]:

```
sns.heatmap(tips.corr(),cmap='tab20',cbar=False,annot=True,linewidth=2,linecolor='red')
```

Out[46]:

<AxesSubplot:>



In [ ]:

```

```