

```
In [3]: ▶ import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
```

```
In [4]: ▶ #list the available styles and themes
print(plt.style.available)
```

...

```
In [6]: ▶ #change the style
plt.style.use('seaborn-pastel')

plt.style.use('seaborn-whitegrid')
```

```
In [7]: tips = sns.load_dataset("tips") # Load data
print(tips)
```

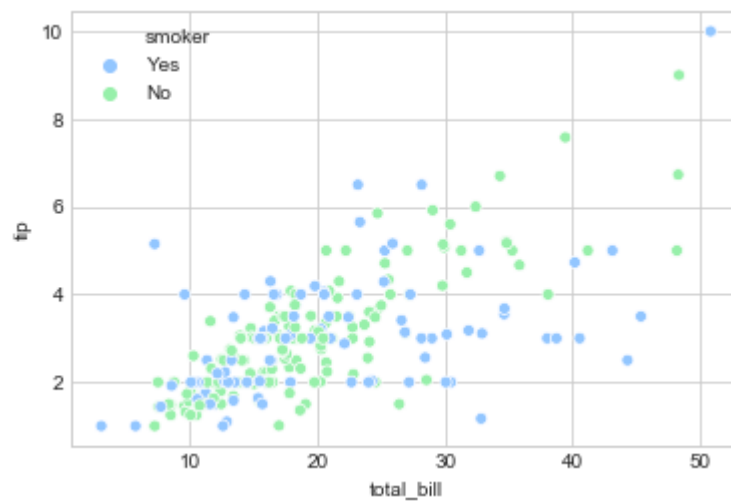
	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4
5	25.29	4.71	Male	No	Sun	Dinner	4
6	8.77	2.00	Male	No	Sun	Dinner	2
7	26.88	3.12	Male	No	Sun	Dinner	4
8	15.04	1.96	Male	No	Sun	Dinner	2
9	14.78	3.23	Male	No	Sun	Dinner	2
10	10.27	1.71	Male	No	Sun	Dinner	2
11	35.26	5.00	Female	No	Sun	Dinner	4
12	15.42	1.57	Male	No	Sun	Dinner	2
13	18.43	3.00	Male	No	Sun	Dinner	4
14	14.83	3.02	Female	No	Sun	Dinner	2
15	21.58	3.92	Male	No	Sun	Dinner	2
16	10.33	1.67	Female	No	Sun	Dinner	3
17	16.29	3.71	Male	No	Sun	Dinner	3
18	16.97	3.50	Female	No	Sun	Dinner	3
19	20.65	3.35	Male	No	Sat	Dinner	3
20	17.92	4.08	Male	No	Sat	Dinner	2
21	20.29	2.75	Female	No	Sat	Dinner	2
22	15.77	2.23	Female	No	Sat	Dinner	2
23	39.42	7.58	Male	No	Sat	Dinner	4
24	19.82	3.18	Male	No	Sat	Dinner	2
25	17.81	2.34	Male	No	Sat	Dinner	4
26	13.37	2.00	Male	No	Sat	Dinner	2
27	12.69	2.00	Male	No	Sat	Dinner	2
28	21.70	4.30	Male	No	Sat	Dinner	2
29	19.65	3.00	Female	No	Sat	Dinner	2
..
214	28.17	6.50	Female	Yes	Sat	Dinner	3
215	12.90	1.10	Female	Yes	Sat	Dinner	2
216	28.15	3.00	Male	Yes	Sat	Dinner	5
217	11.59	1.50	Male	Yes	Sat	Dinner	2
218	7.74	1.44	Male	Yes	Sat	Dinner	2
219	30.14	3.09	Female	Yes	Sat	Dinner	4
220	12.16	2.20	Male	Yes	Fri	Lunch	2
221	13.42	3.48	Female	Yes	Fri	Lunch	2
222	8.58	1.92	Male	Yes	Fri	Lunch	1
223	15.98	3.00	Female	No	Fri	Lunch	3
224	13.42	1.58	Male	Yes	Fri	Lunch	2
225	16.27	2.50	Female	Yes	Fri	Lunch	2
226	10.09	2.00	Female	Yes	Fri	Lunch	2
227	20.45	3.00	Male	No	Sat	Dinner	4
228	13.28	2.72	Male	No	Sat	Dinner	2
229	22.12	2.88	Female	Yes	Sat	Dinner	2
230	24.01	2.00	Male	Yes	Sat	Dinner	4
231	15.69	3.00	Male	Yes	Sat	Dinner	3
232	11.61	3.39	Male	No	Sat	Dinner	2
233	10.77	1.47	Male	No	Sat	Dinner	2
234	15.53	3.00	Male	Yes	Sat	Dinner	2

235	10.07	1.25	Male	No	Sat	Dinner	2
236	12.60	1.00	Male	Yes	Sat	Dinner	2
237	32.83	1.17	Male	Yes	Sat	Dinner	2
238	35.83	4.67	Female	No	Sat	Dinner	3
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 x 7 columns]

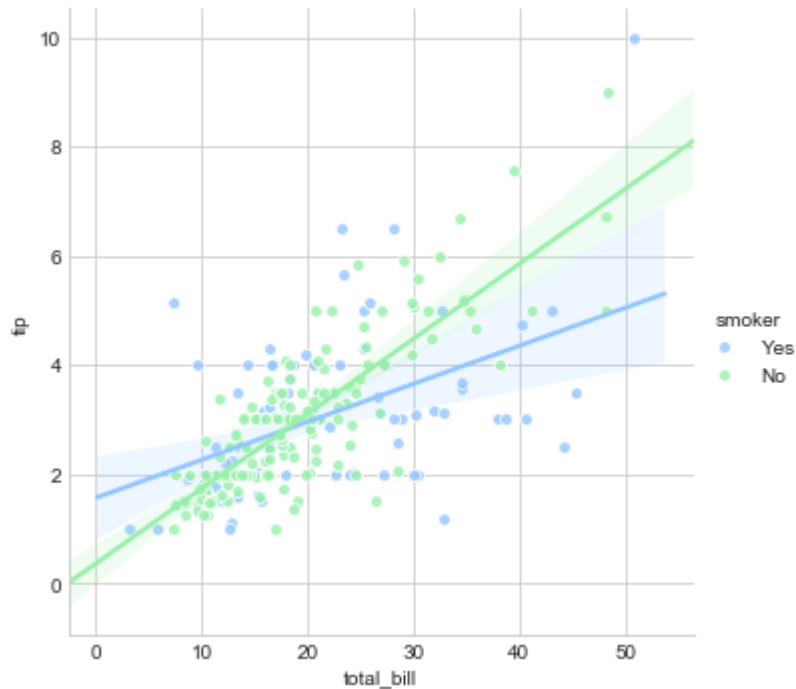
```
In [8]: #scatterplot  
sns.scatterplot(x='total_bill', y='tip', hue='smoker', data=tips)
```

Out[8]: <matplotlib.axes._subplots.AxesSubplot at 0x23d98ff4ba8>



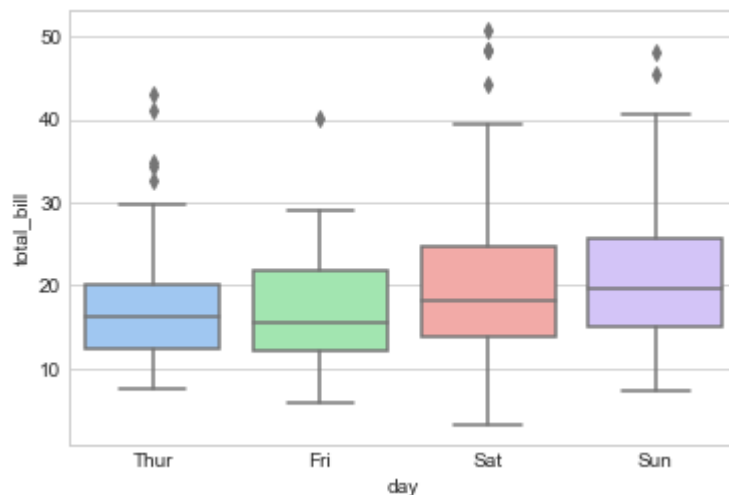
```
In [10]: ▶ #regression plot
# sns.regplot(x="total_bill", y="tip", data=tips, ci = False, scatter_kws={"color": "smoker"})

# Scatterplot with Seaborn
# sns.lmplot(x='total_bill', y='tip', hue='smoker', data=tips, scatter_kws={
# plt.show()
```



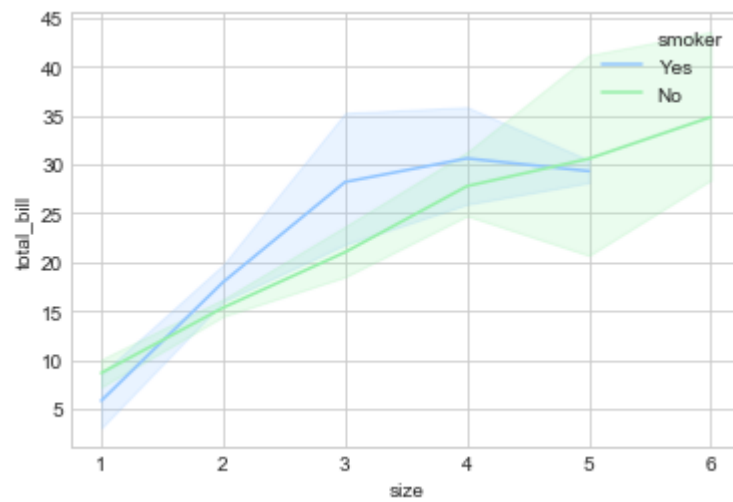
```
In [11]: ▶ # Boxplot with Seaborn
sns.boxplot(x="day", y="total_bill", data=tips)

#fig.suptitle('Boxplot', fontsize=18)
plt.show()
```

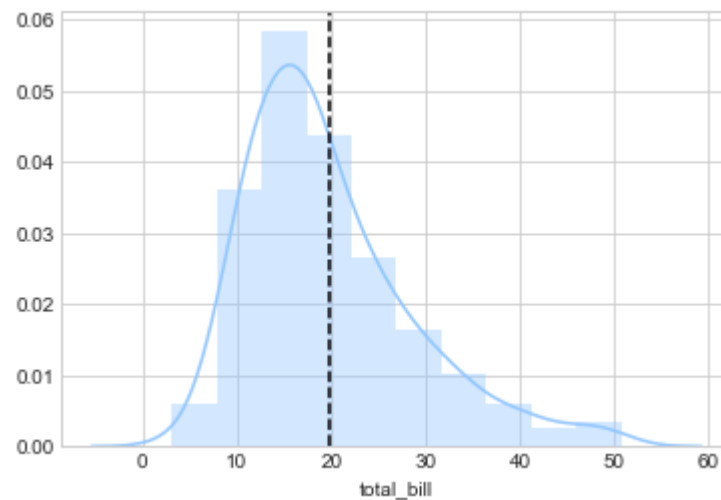


```
In [12]: #line plots  
sns.lineplot(x='size', y='total_bill', legend='full', data=tips , hue='smoker')
```

Out[12]: <matplotlib.axes._subplots.AxesSubplot at 0x23d9a4cfe10>



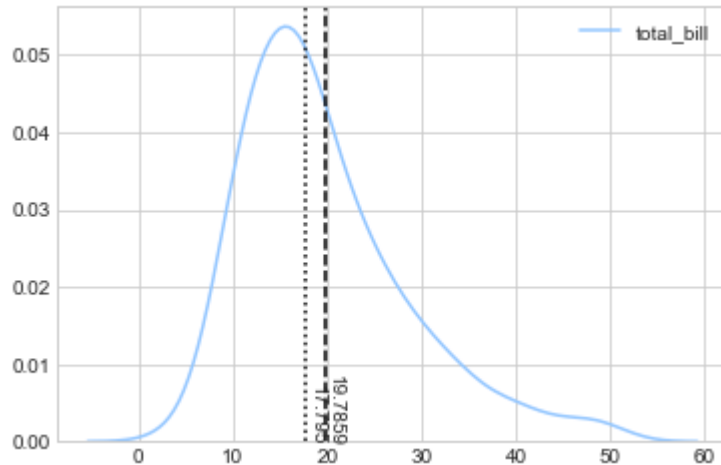
```
In [15]: #histograms  
sns.distplot(tips['total_bill'], bins=10, kde=True)  
plt.axvline(tips['total_bill'].mean(), color="k", linestyle="--");
```



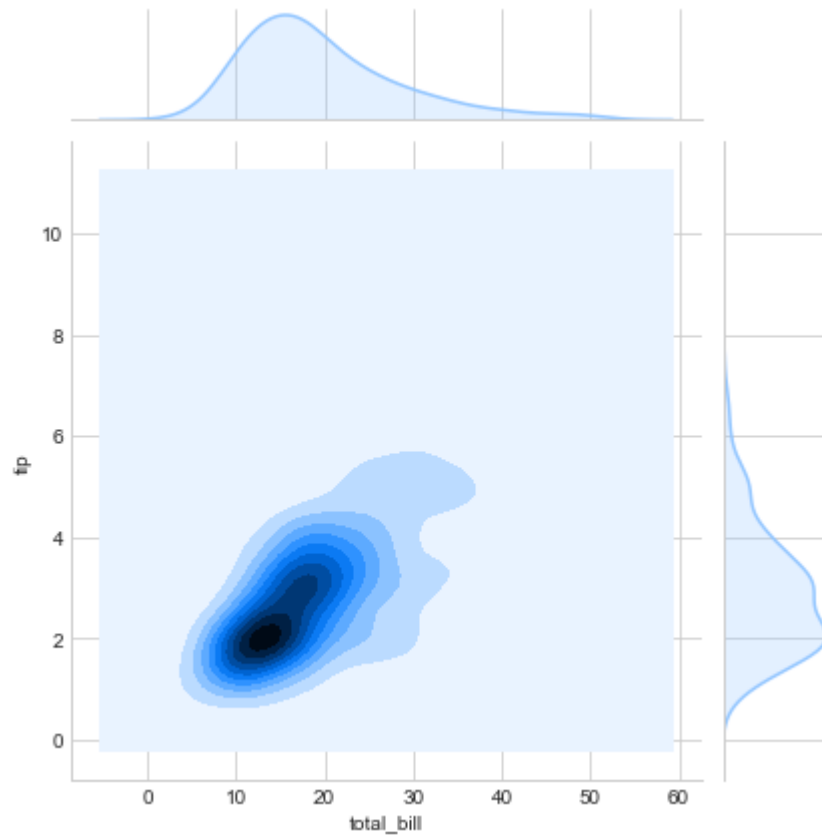
```
In [16]: ▶ sns.kdeplot(tips['total_bill'])
plt.axvline(tips['total_bill'].mean(), color="k", linestyle="--", animated=True)
plt.text(tips['total_bill'].mean(), 0, np.round(tips['total_bill'].mean(), 4), color="k",
         fontweight="bold", fontfamily="serif", size=12, align="center", baseline="bottom",
         dy=5)

plt.axvline(tips['total_bill'].median(), color="k", linestyle=":", animated=True)
plt.text(tips['total_bill'].median(), 0, np.round(tips['total_bill'].median(), 4), color="k",
         fontweight="bold", fontfamily="serif", size=12, align="center", baseline="bottom",
         dy=5)
```

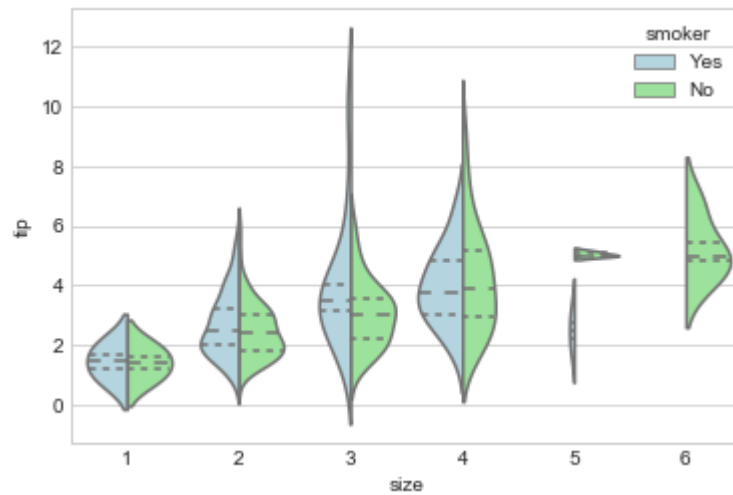
Out[16]: Text(17.795, 0, '17.795')



```
In [17]: ▶ #density plots  
#with sns.axes_style('white'):  
sns.jointplot("total_bill", "tip", tips, kind='kde');
```

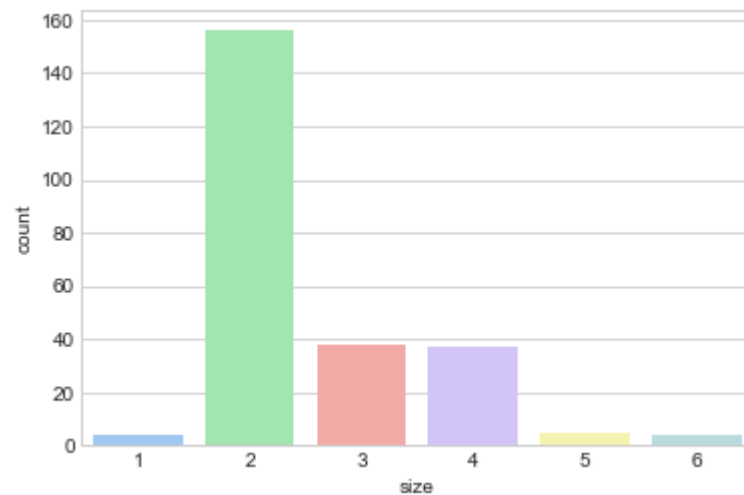


```
In [18]: #violenplots  
sns.violinplot("size", "tip", hue="smoker", data=tips, palette=["lightblue", "lightgreen"])
```



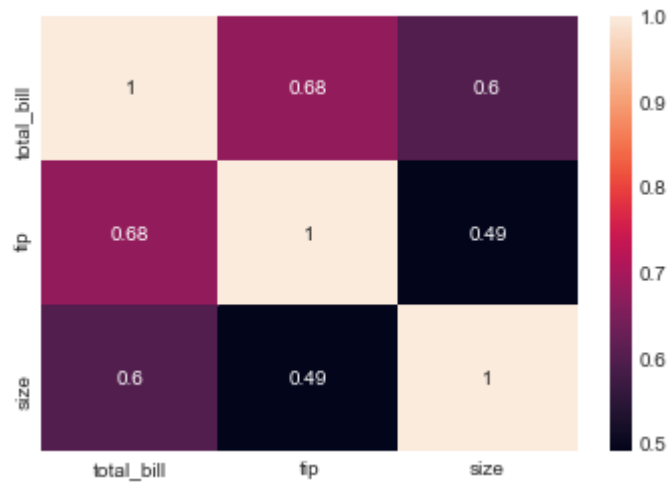
```
In [19]: #count plots  
sns.countplot(tips['size'])
```

Out[19]: <matplotlib.axes._subplots.AxesSubplot at 0x23d9a46d2e8>




```
In [20]: #finding correlation using heatmaps  
sns.heatmap(tips.corr(), annot=True)
```

```
Out[20]: <matplotlib.axes._subplots.AxesSubplot at 0x23d9a5f76a0>
```



```
In [21]: #pair plots of all measures  
sns.pairplot(tips)
```

```
Out[21]: <seaborn.axisgrid.PairGrid at 0x23d9a4a8240>
```

