Relation/Statistical Plots

1. Scatter Plots

2. Line Plots (Specifically used for time series data)

3. FacetGrids (Plotting multiple graphs side by side)

Scatter Plots

The scatter plot is a mainstay of statistical visualization. It depends the joint distribution of two variables using a cloud of points, where each point represents an observation in the dataset. This depiction allows the eye to infer a substantial amount of information about whether there is any meaningful relationship between them.

There are 2 ways to draw a scatterplot in seaborn

1. relplot [Figure Level Function]

2. scatterplot [Axes Level Function]

In [1]:
```
import seaborn as sns
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
```

In [2]:
```
plt.style.use('fivethirtyeight')
```

In [3]:
```
data=sns.load_dataset('tips')
```

In [4]:
```
data.head()
```

Out[4]:

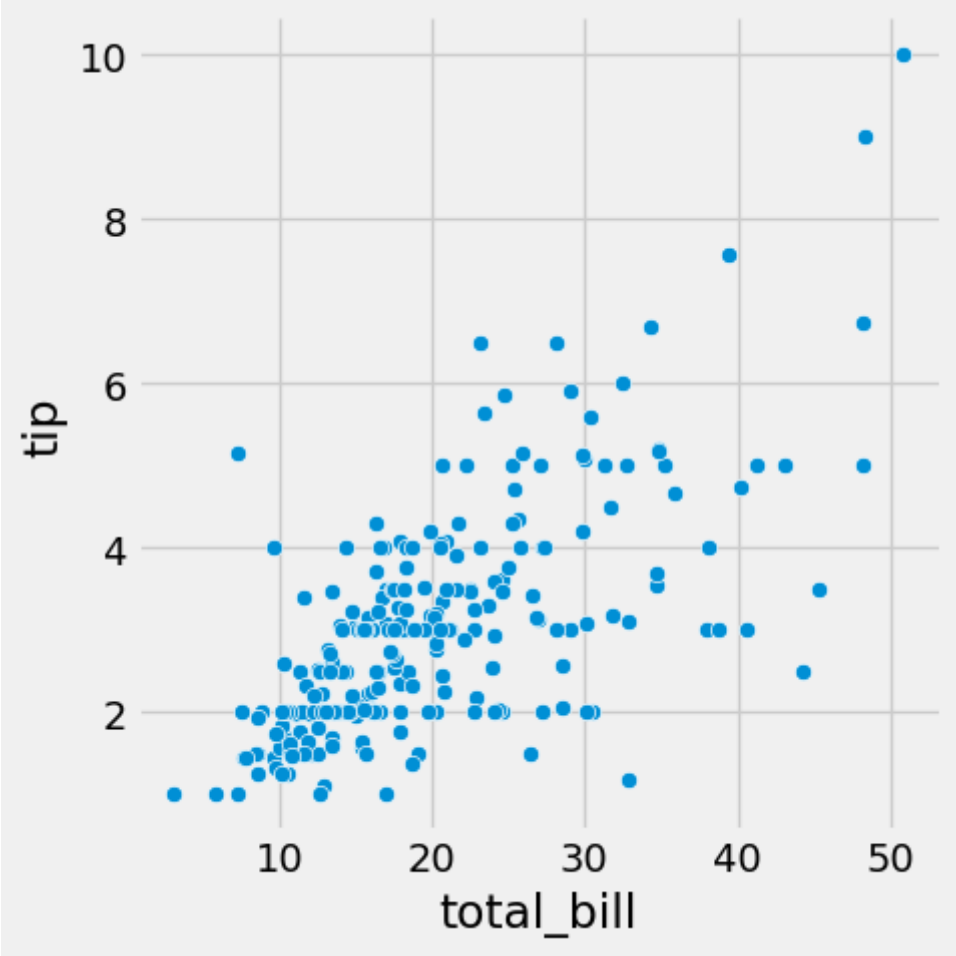
	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

Plot a Scatter Plot between total_bill and tip

In [5]:
```
# Plot here
```

In [9]:
```
sns.relplot(x='total_bill', y='tip',kind='scatter', data=data)
```

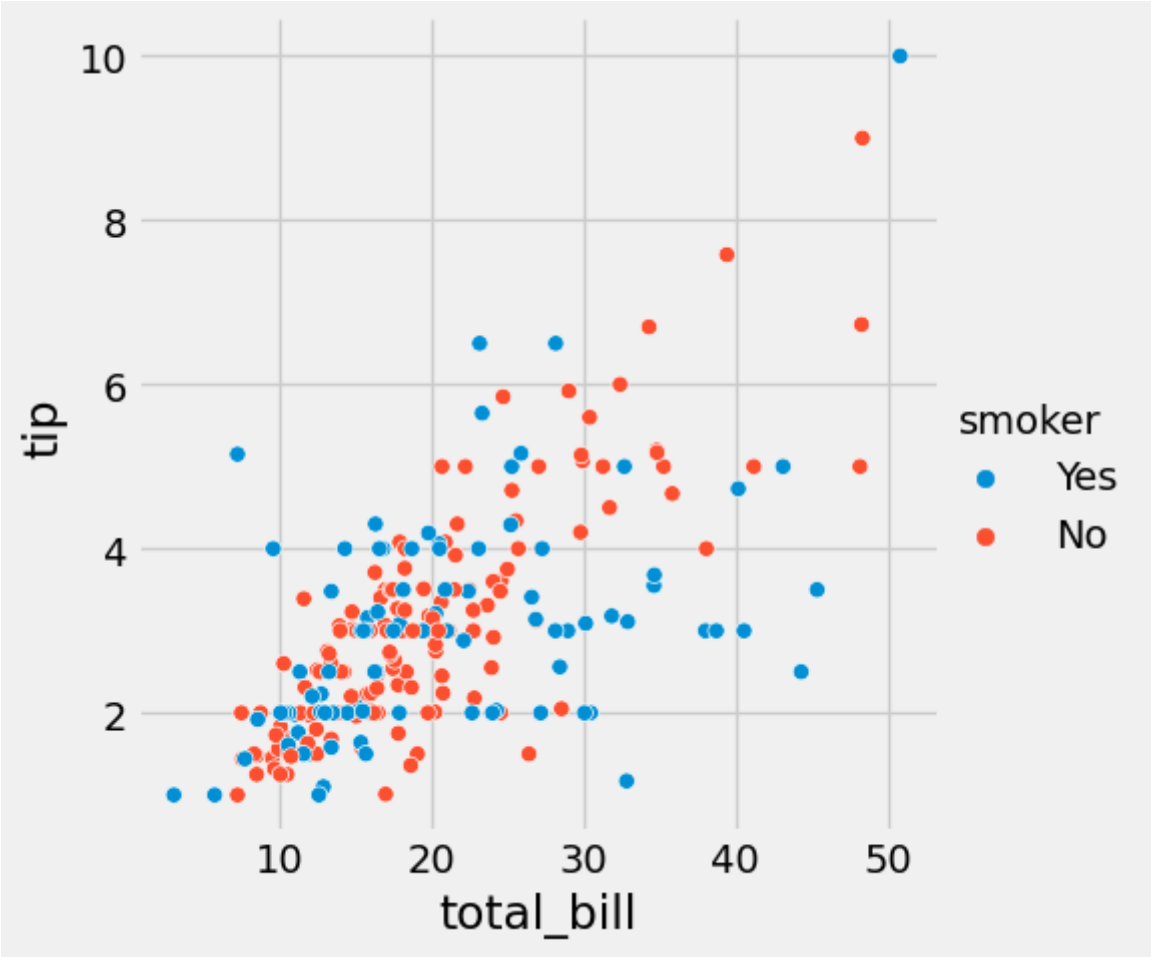
Out[9]:
```
<seaborn.axisgrid.FacetGrid at 0x1b703defac0>
```



The hue parameter

In [10]:
```
# Plot here
sns.relplot(x='total_bill', y='tip', hue='smoker', data=data)
```

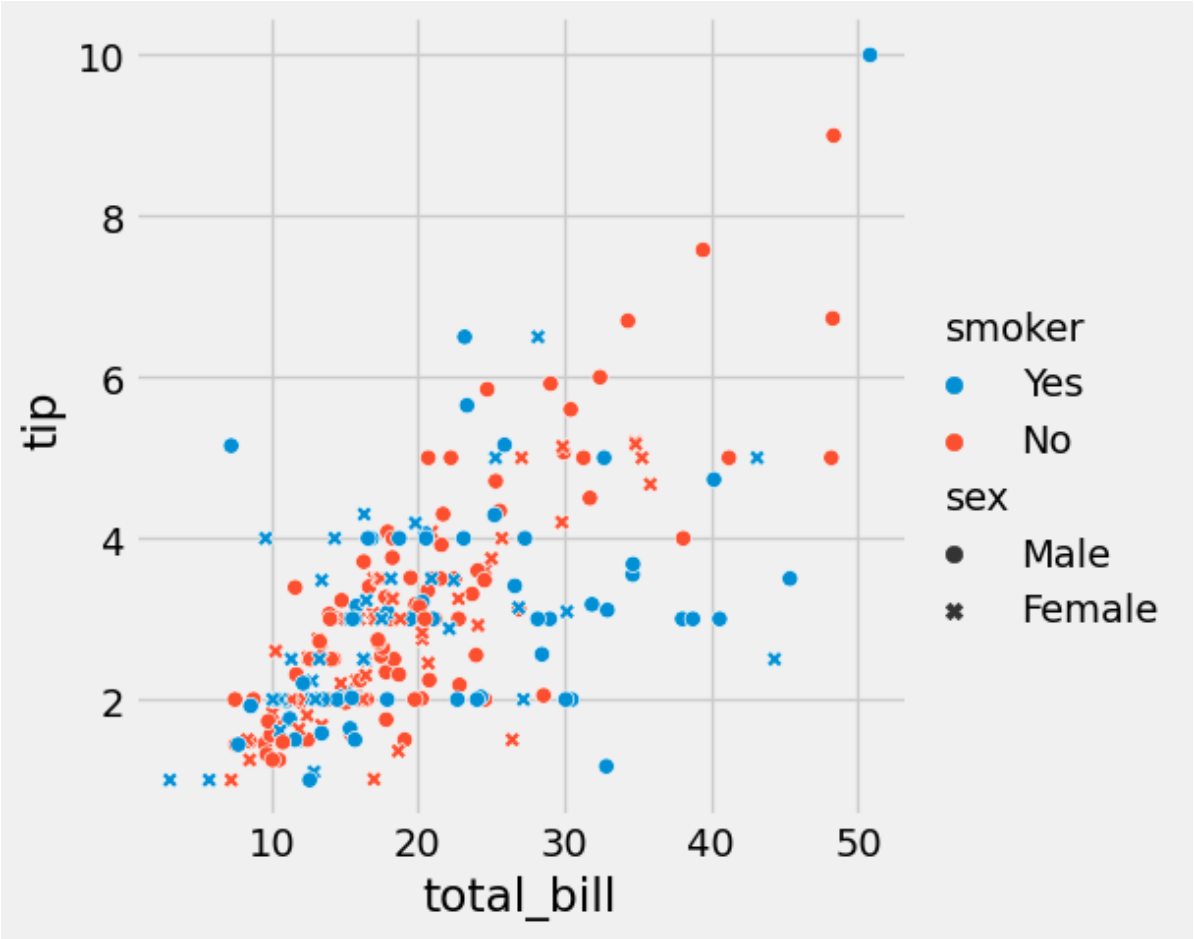
Out[10]:
```
<seaborn.axisgrid.FacetGrid at 0x1b703f3b8e0>
```



The style parameter

In [11]:
```
# Plot here
sns.relplot(x='total_bill', y='tip', hue='smoker', style='sex',data=data)
```

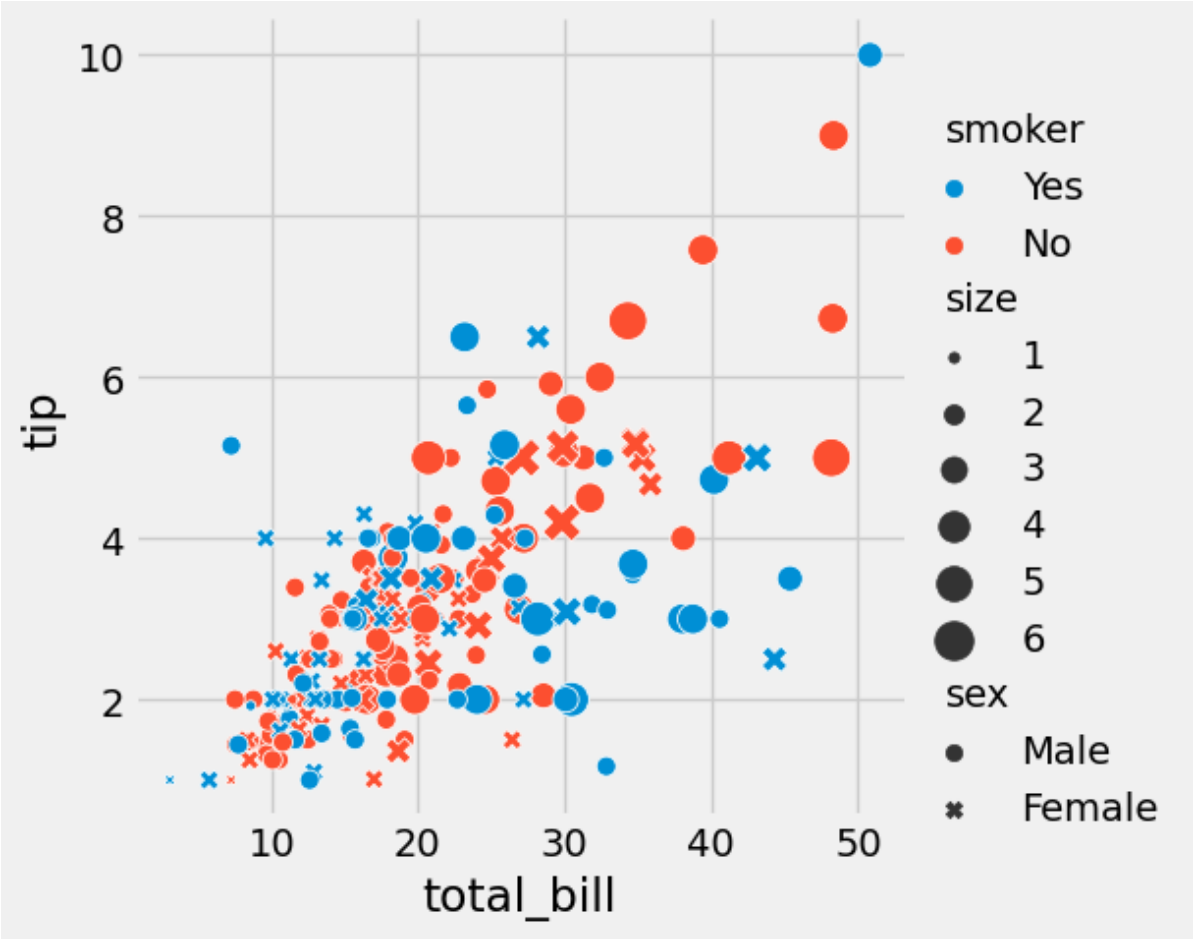
Out[11]:
```
<seaborn.axisgrid.FacetGrid at 0x1b703ea2530>
```



The size parameter

In [14]:
```
# Plot Here
sns.relplot(x='total_bill', y='tip', hue='smoker',style='sex',size='size',sizes=(1
```

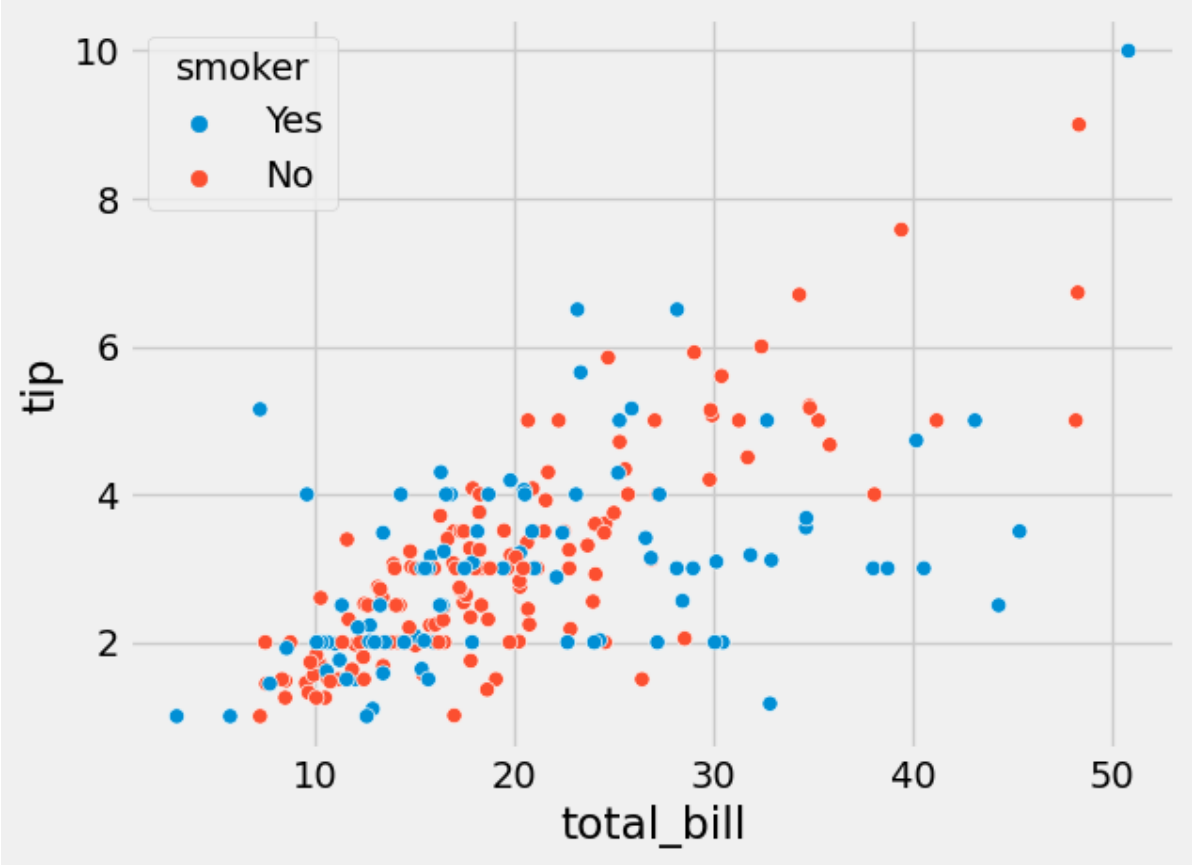
Out[14]:
```
<seaborn.axisgrid.FacetGrid at 0x1b706291930>
```



Using the scatterplot function

In [16]:
```
# Plot here
sns.scatterplot(x='total_bill', y='tip', hue='smoker', data=data)
```

Out[16]:
```
<Axes: xlabel='total_bill', ylabel='tip'>
```



In [ ]: