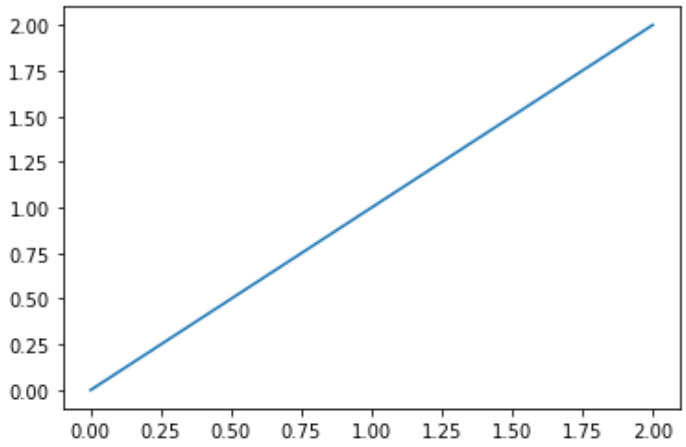
In [ ]:

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

1. **simple line plot**

In [ ]:

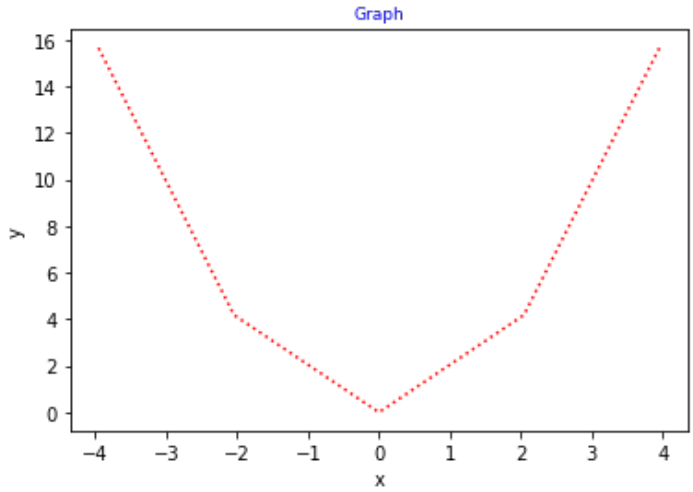
```
plt.plot([0,1,2])
plt.show()
```



1. **Line plot with x and y axes**

In [ ]:

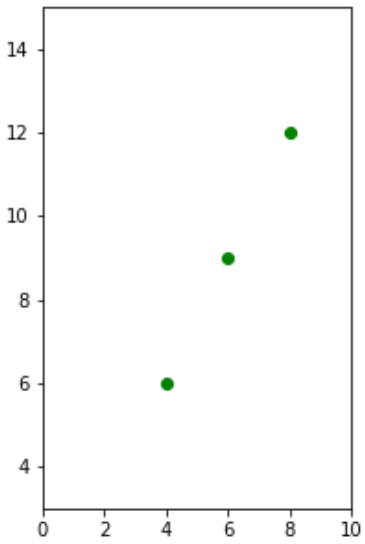
```
plt.plot([-3.955,-2.044,0,2.044,3.955],[15.646,4.179,0,4.179,15.646], linestyle='dotted'
, color='r')
plt.title('Graph', fontsize=9, color='b')
plt.xlabel("x")
plt.ylabel("y")
plt.show()
```



1. **Changing figure size**

In [ ]:

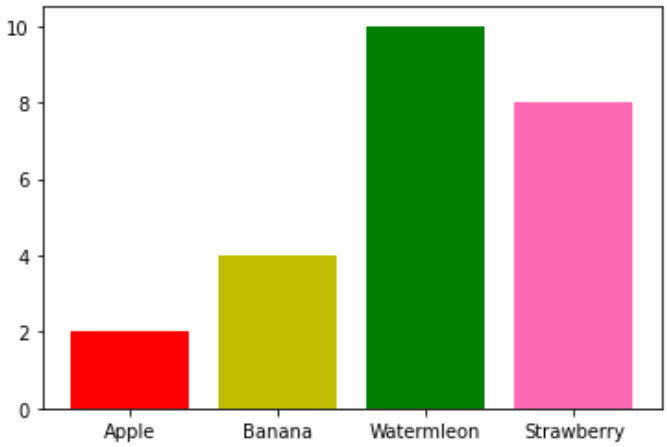
```
plt.figure(figsize=(3,5))
plt.plot([4,6,8],[6,9,12], 'go')  #Here o represents the shape of the point
plt.axis([0,10,3,15])
plt.show()
```



1. Bar graph

In [ ]:

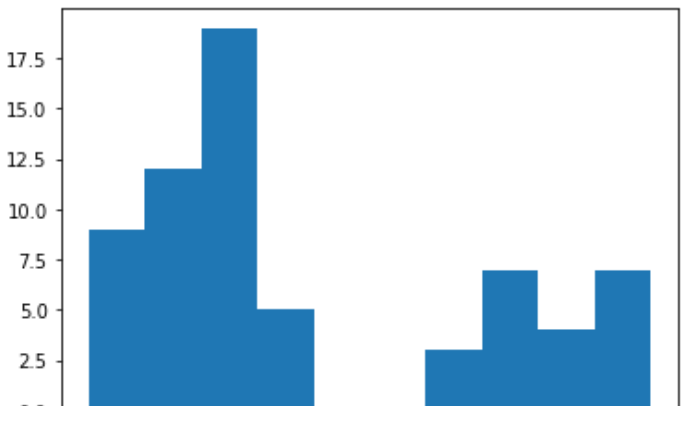
```
plt.clf()
x = np.arange(4)
y = [2,4,10,8]
plt.xticks(x,('Apple','Banana','Watermleon','Strawberry'))
plt.bar(x,y, color=['r','y','g','hotpink'])
plt.show()
```

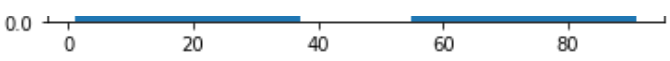


1. Histogram

In [ ]:

```
x = [1,1,2,3,3,5,7,8,9,10,10,11,11,13,13,15,16,17,18,18,18,19,20,21,21,23,24,24,25,25,25,25,26,26,26,27,27,27,27,27,29,30,30,31,33,60,61,63,64,65,66,68,70,71,72,
     74,75,77,81,83,84,87,89,90,90,91]
plt.hist(x, bins=10)
plt.show()
```





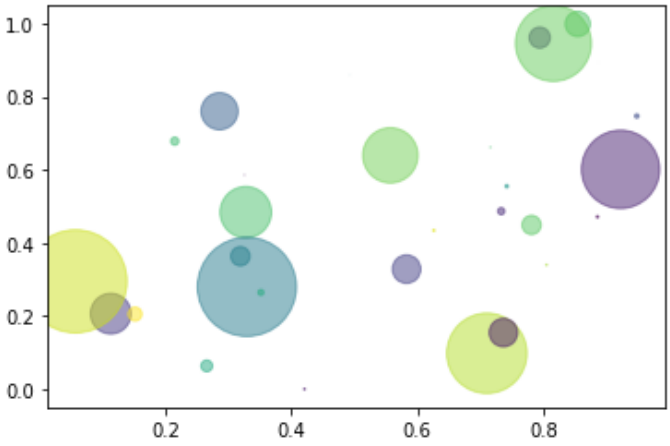
1. Random dots

In [ ]:

```
N = 30
x = np.random.rand(N)
y = np.random.rand(N)
colors = np.random.rand(N)
sizes = (5 * np.random.rand(N))**5
plt.scatter(x,y, s=sizes, c=colors, alpha=0.5)
plt.show
```

Out[ ]:

```
<function matplotlib.pyplot.show>
```



1. Loading cvs file and showing the whole data present in that file

In [ ]:

```
import pandas as pd
import numpy as np
import seaborn as sns
from sklearn.datasets import load_iris
```

In [ ]:

```
dataset=load_iris()
data=pd.DataFrame(dataset['data'],columns=["Petal length","Petal Width","Sepal Length","
Sepal Width"])
data['Species']=dataset['target']
data['Species']=data['Species'].apply(lambda x: dataset['target_names'][x])
```

In [ ]:

```
print(data)
```

```
     Petal length  Petal Width  Sepal Length  Sepal Width     Species
0             5.1          3.5           1.4          0.2      setosa
1             4.9          3.0           1.4          0.2      setosa
2             4.7          3.2           1.3          0.2      setosa
3             4.6          3.1           1.5          0.2      setosa
4             5.0          3.6           1.4          0.2      setosa
..            ...          ...           ...          ...         ...
145           6.7          3.0           5.2          2.3   virginica
146           6.3          2.5           5.0          1.9   virginica
147           6.5          3.0           5.2          2.0   virginica
148           6.2          3.4           5.4          2.3   virginica
149           5.9          3.0           5.1          1.8   virginica

[150 rows x 5 columns]
```

In [1]:

```
! pip install kaggle
```

```
Requirement already satisfied: kaggle in /usr/local/lib/python3.7/dist-packages (1.5.12)
Requirement already satisfied: requests in /usr/local/lib/python3.7/dist-packages (from k
aggle) (2.23.0)
Requirement already satisfied: certifi in /usr/local/lib/python3.7/dist-packages (from ka
ggle) (2021.5.30)
Requirement already satisfied: python-slugify in /usr/local/lib/python3.7/dist-packages (
from kaggle) (5.0.2)
Requirement already satisfied: python-dateutil in /usr/local/lib/python3.7/dist-packages
(from kaggle) (2.8.2)
Requirement already satisfied: tqdm in /usr/local/lib/python3.7/dist-packages (from kaggl
e) (4.62.0)
Requirement already satisfied: urllib3 in /usr/local/lib/python3.7/dist-packages (from ka
ggle) (1.24.3)
Requirement already satisfied: six>=1.10 in /usr/local/lib/python3.7/dist-packages (from
kaggle) (1.15.0)
Requirement already satisfied: text-unidecode>=1.3 in /usr/local/lib/python3.7/dist-packa
ges (from python-slugify->kaggle) (1.3)
Requirement already satisfied: idna<3,>=2.5 in /usr/local/lib/python3.7/dist-packages (fr
om requests->kaggle) (2.10)
Requirement already satisfied: chardet<4,>=3.0.2 in /usr/local/lib/python3.7/dist-package
s (from requests->kaggle) (3.0.4)
```

In [2]:

```
! mkdir ~/.kaggle
```

In [3]:

```
! cp kaggle.json ~/.kaggle/
```

In [4]:

```
! chmod 600 ~/.kaggle/kaggle.json
```

In [5]:

```
! kaggle datasets download ranjeetjain3/seaborn-tips-dataset
```

```
Downloading seaborn-tips-dataset.zip to /content
  0% 0.00/1.86k [00:00<?, ?B/s]
100% 1.86k/1.86k [00:00<00:00, 3.41MB/s]
```

In [6]:

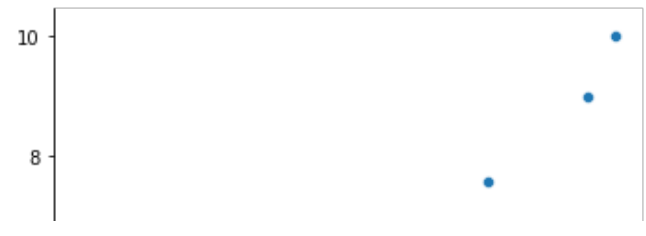
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

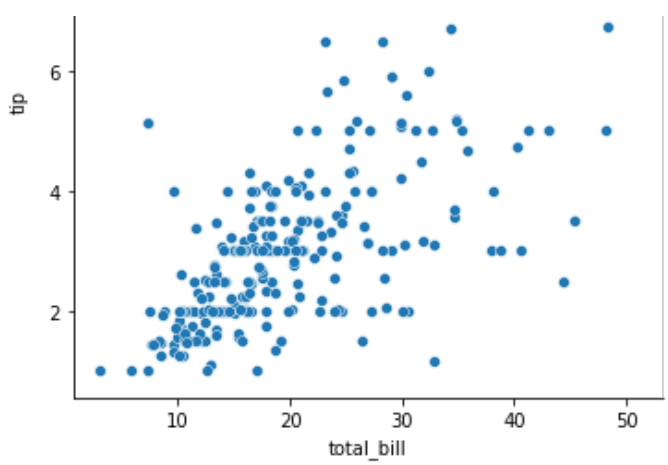
In [16]:

```
a =  sns.load_dataset("tips")
```

In [18]:

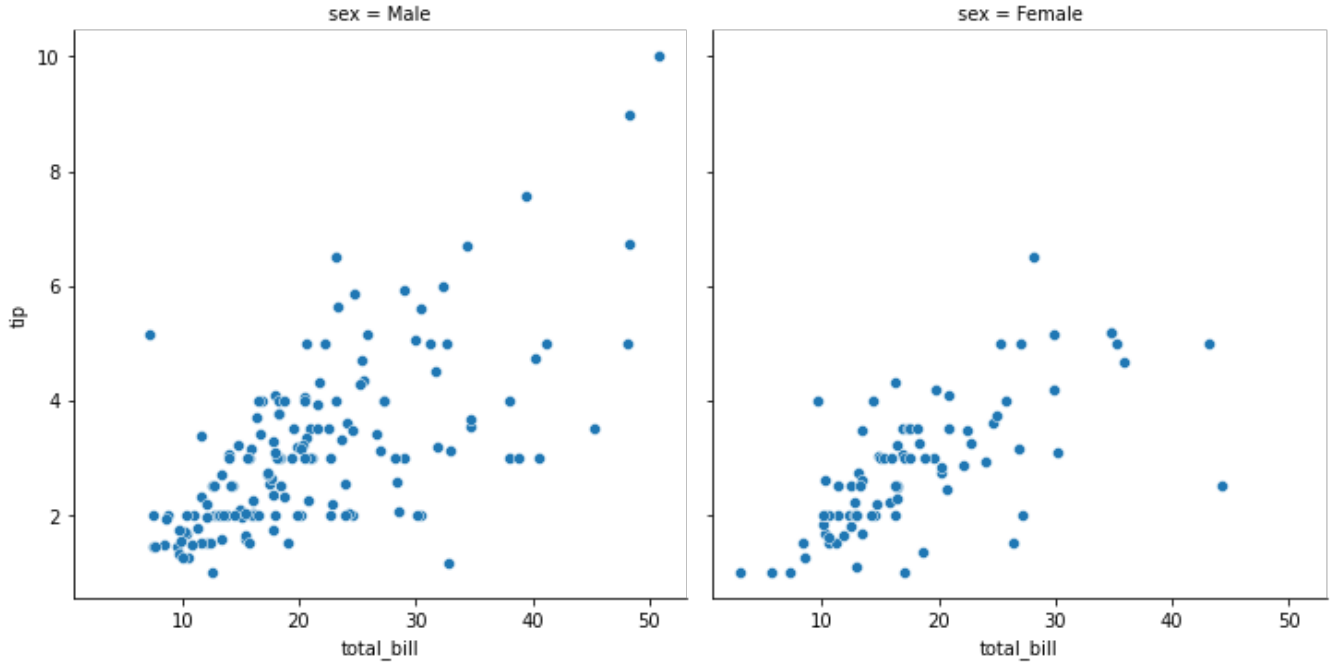
```
sns.relplot(x='total_bill', y='tip', data=a);
```





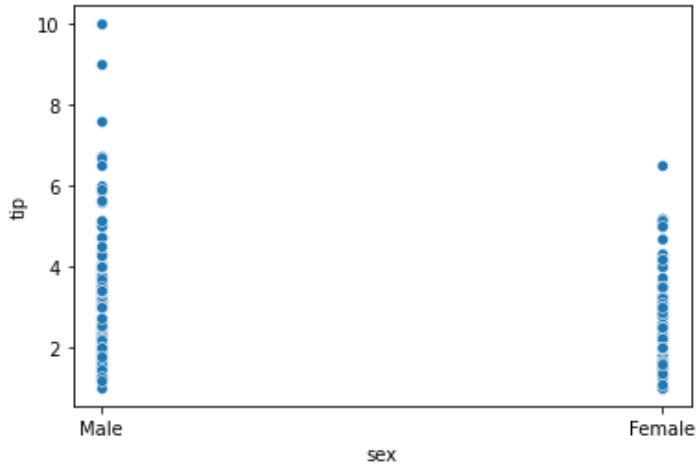
In [19]:

```
sns.relplot(x='total_bill',
            y='tip',
            col='sex',
            data=a);
```



In [20]:

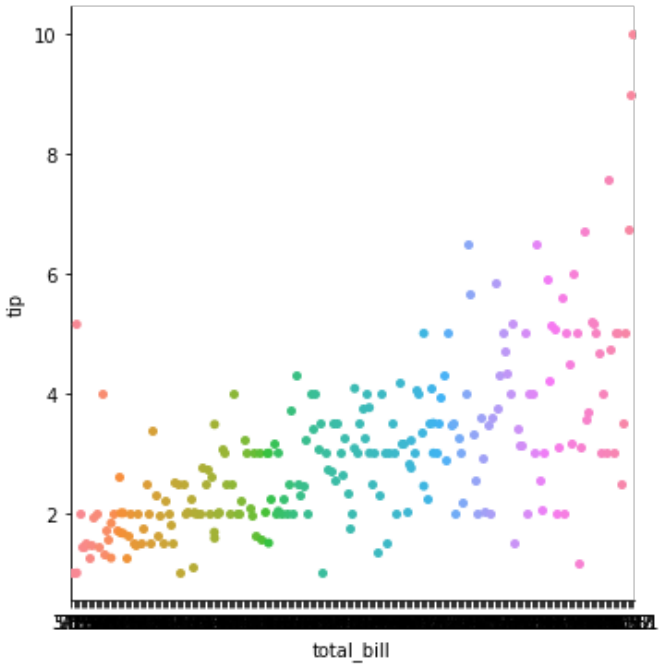
```
sns.scatterplot(x='sex',
                y='tip',
                data=a);
```



In [21]:

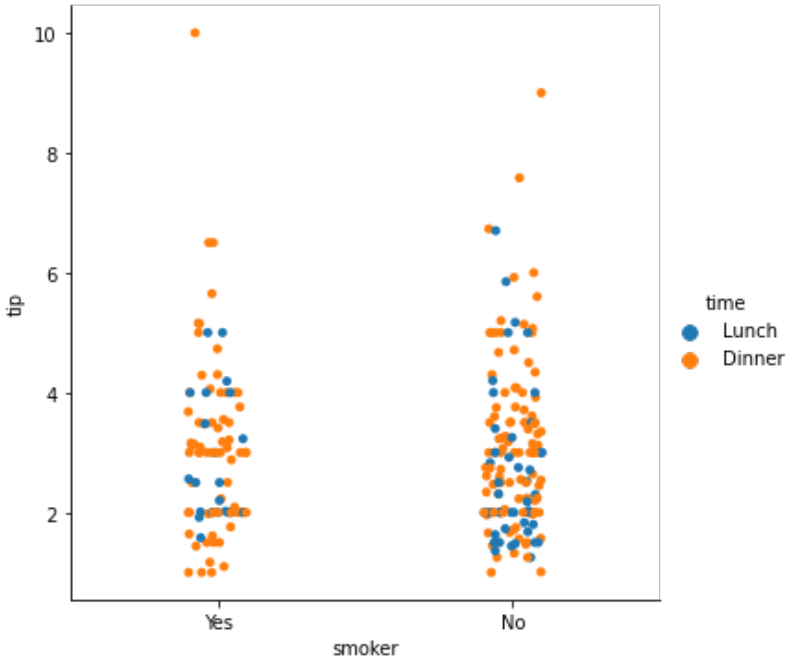
```
sns.catplot(x='total_bill',
```

```
            y='tip',
            data=a);
```



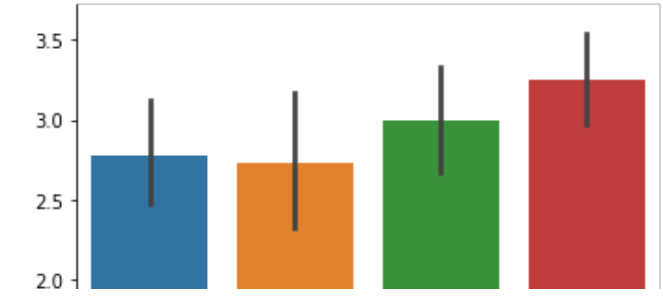
In [23]:

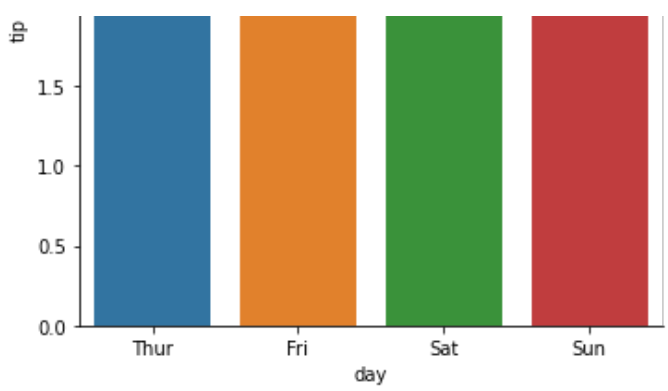
```
sns.catplot(x='smoker',
            y='tip',
            hue='time',
            data=a);
```



In [24]:

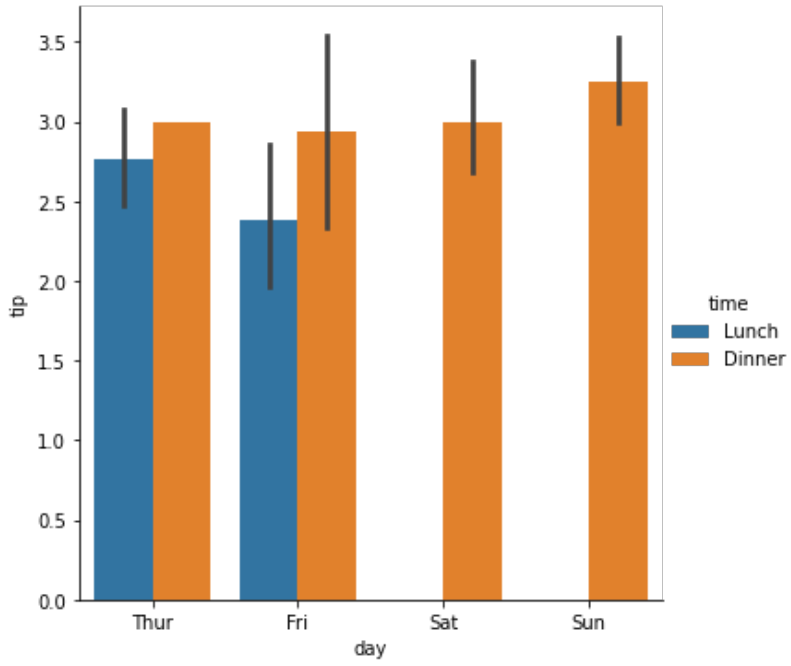
```
sns.catplot(x='day',
            y='tip',
            kind='bar',
            data=a);
```





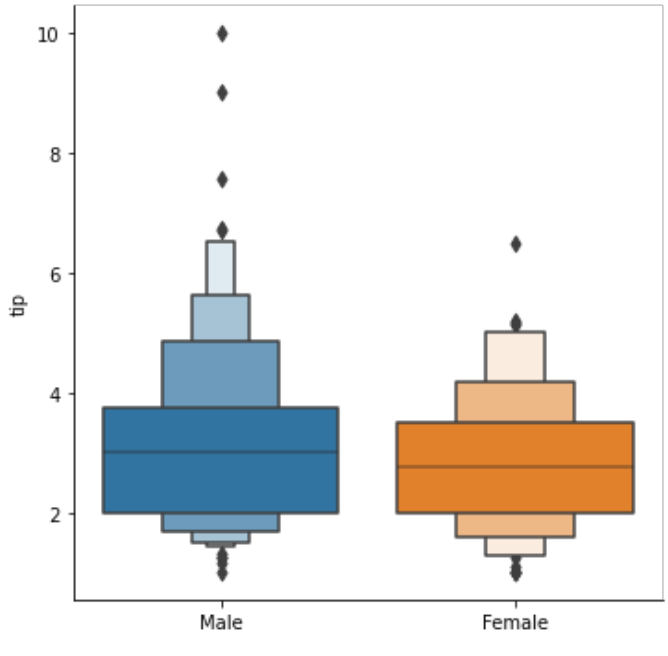
In [25]:

```
sns.catplot(x='day',
            y='tip',
            hue='time',
            kind='bar',
            data=a);
```



In [26]:

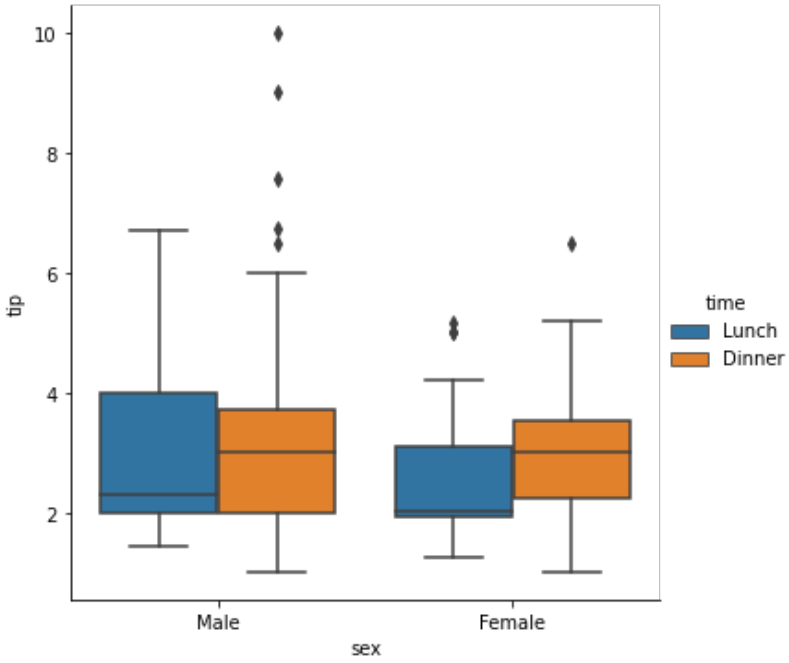
```
sns.catplot(x='sex',
            y='tip',
            kind='boxen',
            data=a);
```



sex

In [27]:

```
sns.catplot(x='sex',
            y='tip',
            hue='time',
            kind='box',
            data=a);
```

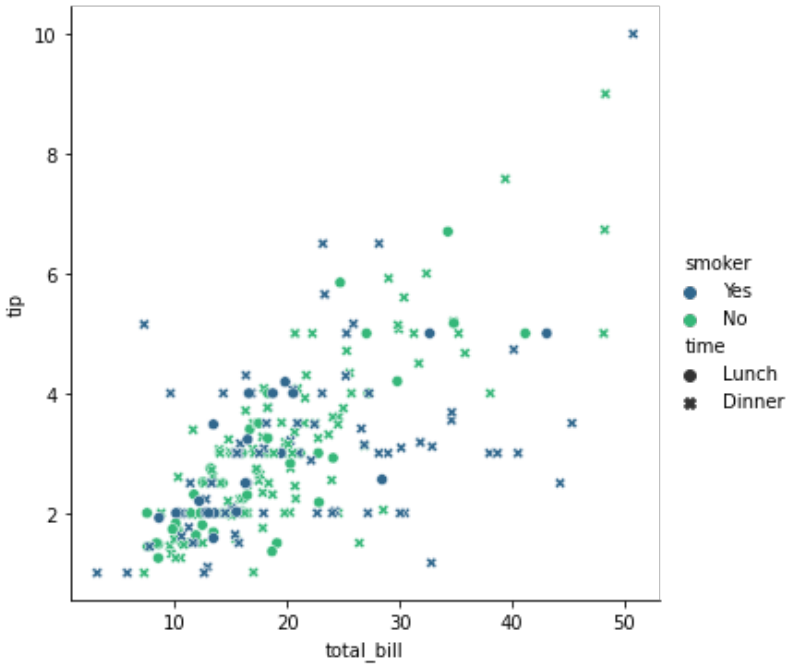


In [29]:

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

Out[29]:

```
<seaborn.axisgrid.FacetGrid at 0x7f23e71aac50>
```

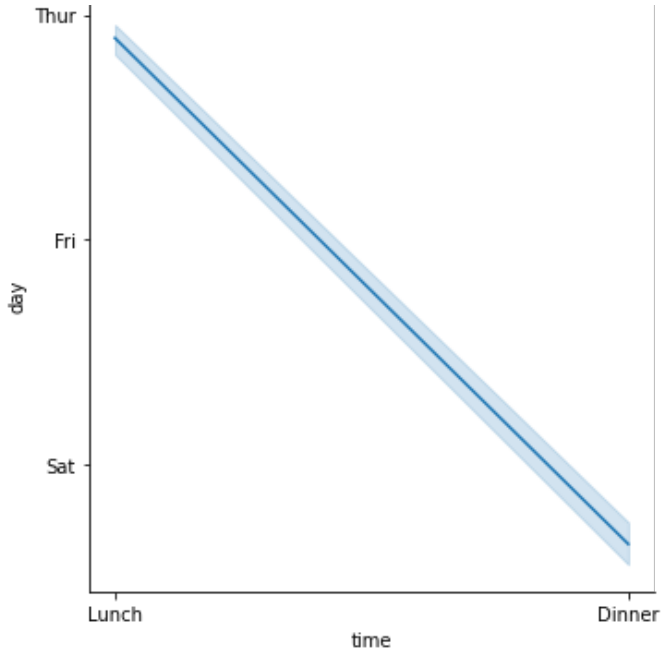


In [30]:

```
sns.relplot(x='time', y='day', kind='line', data=a)
```

Out[30]:

```
<seaborn.axisgrid.FacetGrid at 0x7f23e708c850>
```

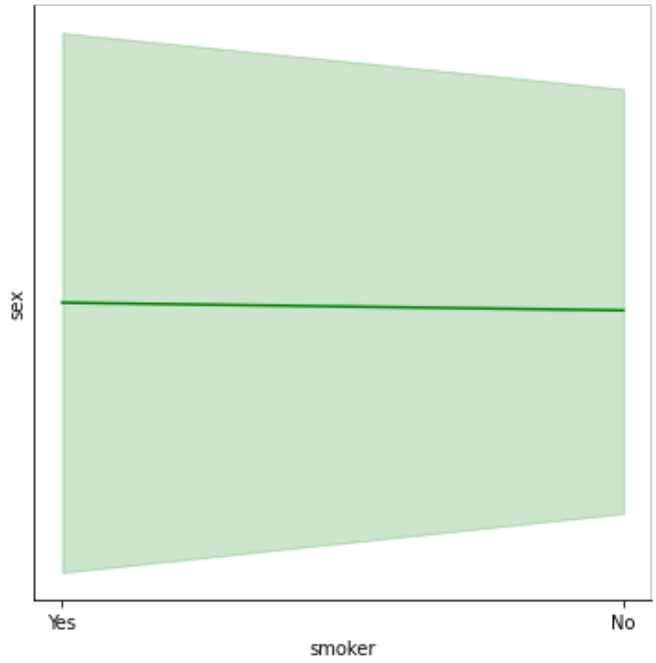


In [31]:

```
sns.relplot(x='smoker', y='sex', kind='line', data=a, color='green')
```

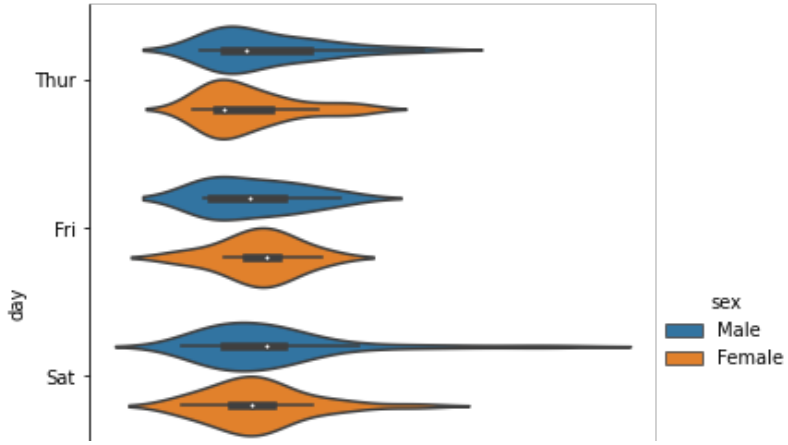
Out[31]:

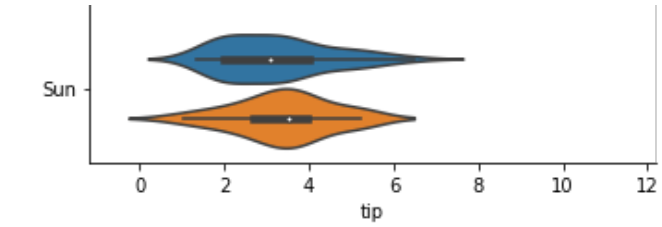
```
<seaborn.axisgrid.FacetGrid at 0x7f23e7077a90>
```



In [34]:

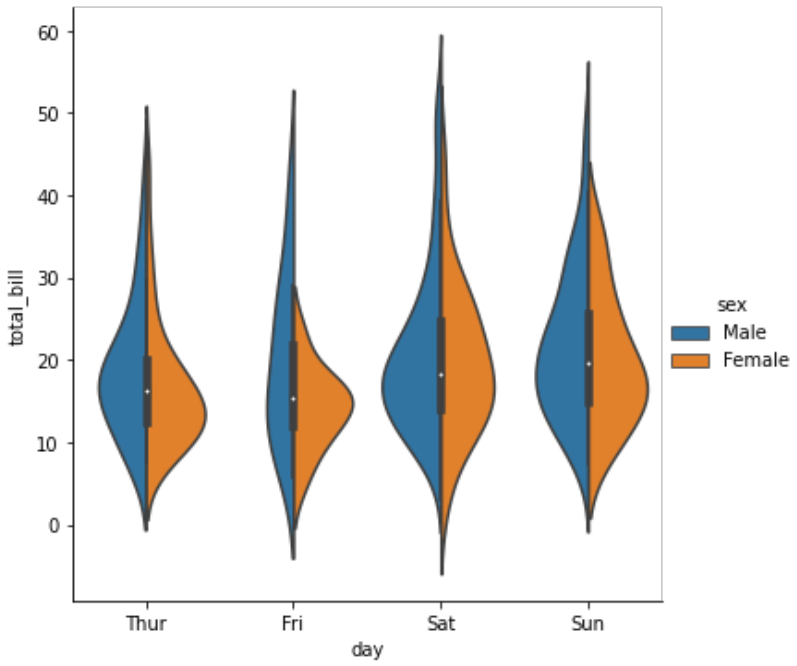
```
sns.catplot(x="tip", y="day", hue="sex",
            kind="violin", data=a);
```





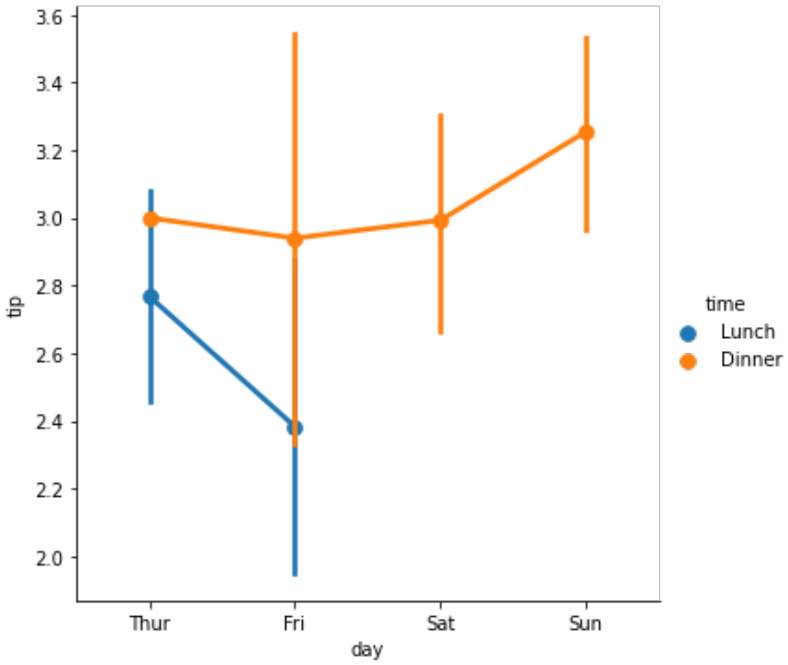
In [35]:

```
sns.catplot(x="day", y="total_bill", hue="sex",
            kind="violin", split=True, data=a);
```



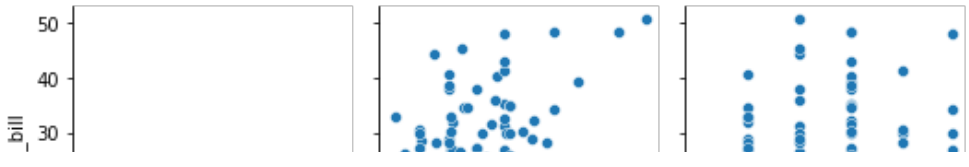
In [39]:

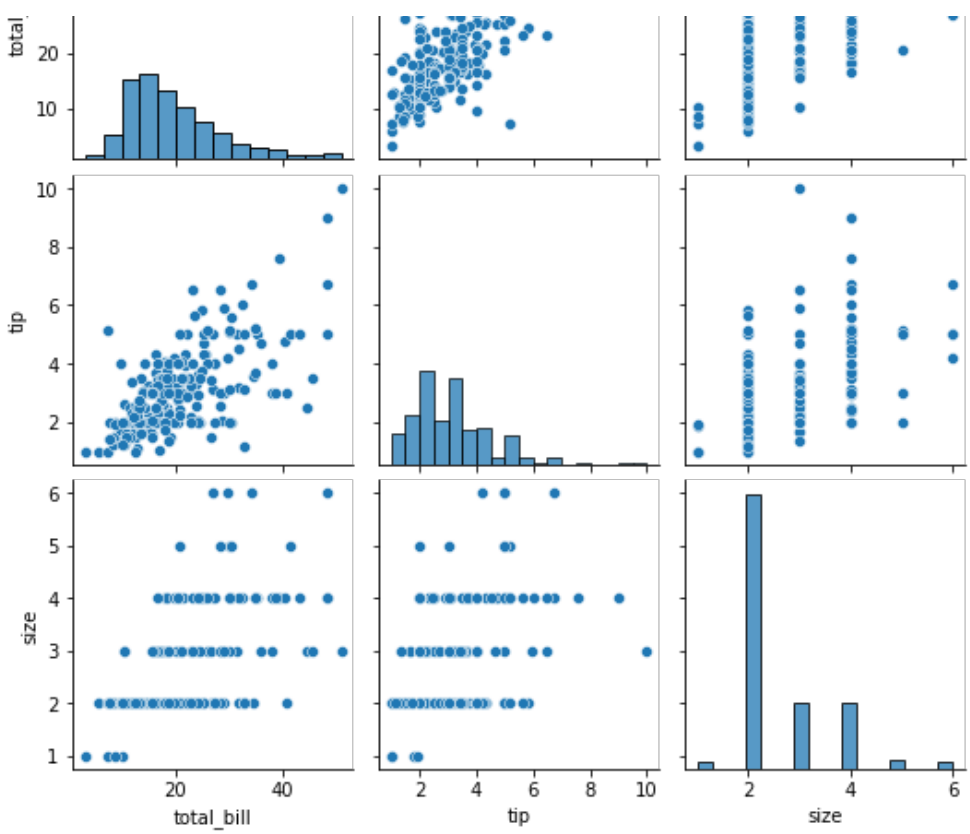
```
sns.catplot(x="day", y="tip", hue="time", kind="point", data=a);
```



In [41]:

```
sns.pairplot(a);
```





In [43]:

```
g = sns.FacetGrid(a, col="sex", hue="smoker")
g.map(plt.scatter, "total_bill", "tip", alpha=.7)
g.add_legend();
```