

# Seaborn

January 17, 2021

```
[28]: import seaborn as sns
import numpy as np
```

```
[29]: tips = sns.load_dataset('tips')
tips.head()
```

```
[29]:
```

	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

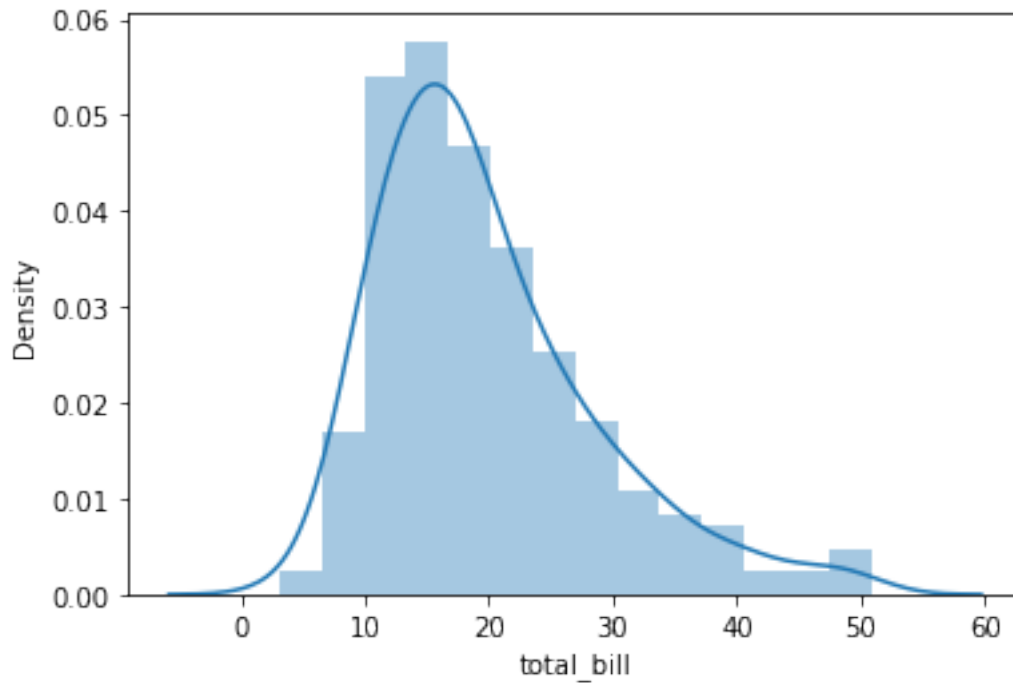
## 1 Distribution Plot

### 1.1 distplot

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

```
/home/quachhuytung/.pyenv/versions/3.8.6/envs/ml-dl/lib/python3.8/site-
packages/seaborn/distributions.py:2551: FutureWarning: `distplot` is a
deprecated function and will be removed in a future 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)
```

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

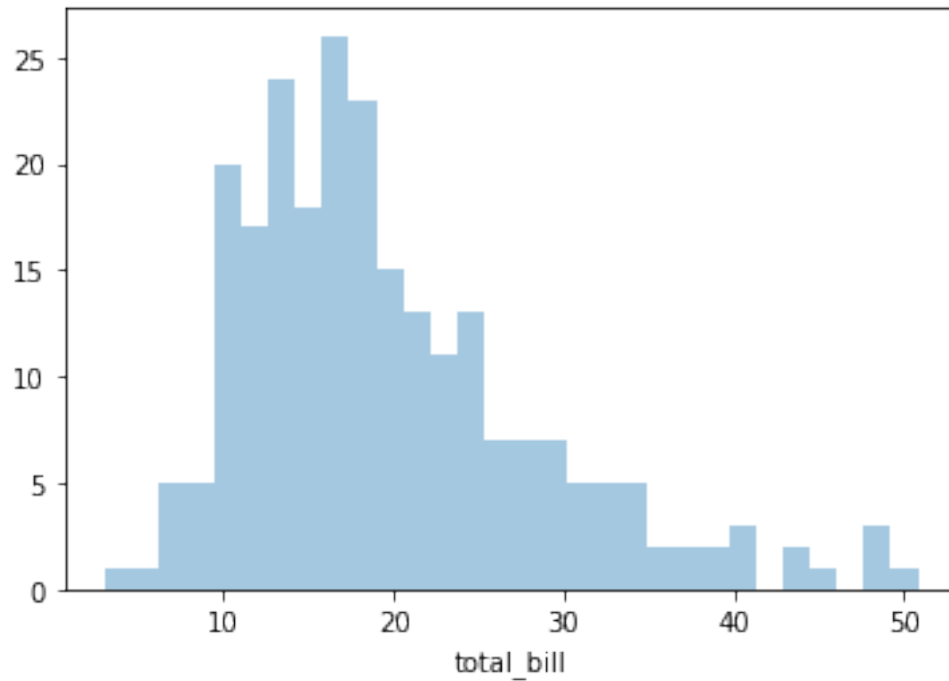


Remove KDE

```
[31]: sns.distplot(tips['total_bill'],kde=False,bins=30)
```

```
/home/quachhuytung/.pyenv/versions/3.8.6/envs/ml-dl/lib/python3.8/site-  
packages/seaborn/distributions.py:2551: FutureWarning: `distplot` is a  
deprecated function and will be removed in a future 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)
```

```
[31]: <AxesSubplot:xlabel='total_bill'>
```



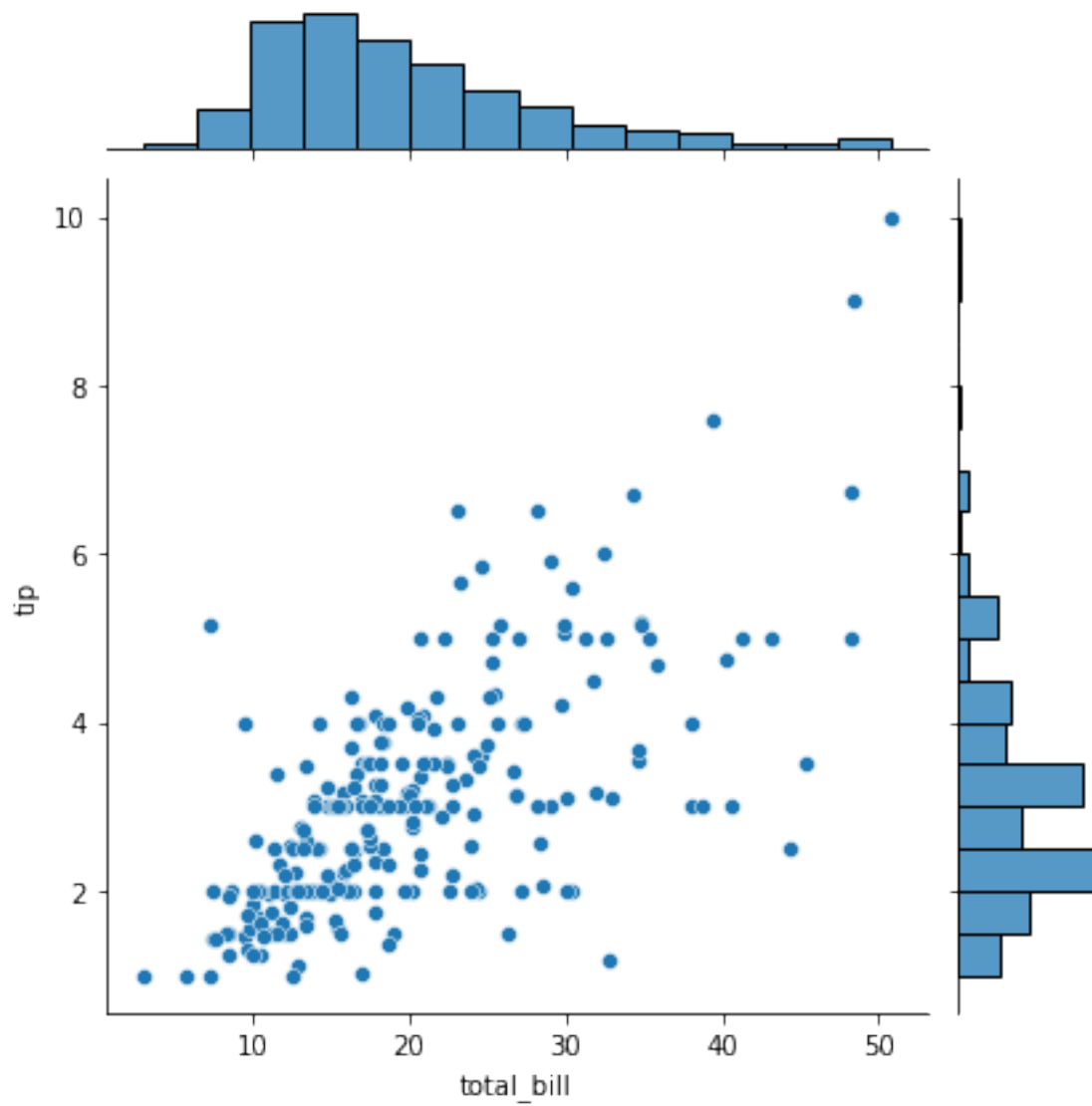
## 1.2 jointplot

`jointplot()` allows you to basically match up two distplots for bivariate data. With your choice of what kind parameter to compare with:

1. “scatter”
2. “reg”
3. “resid”
4. “kde”
5. “hex”

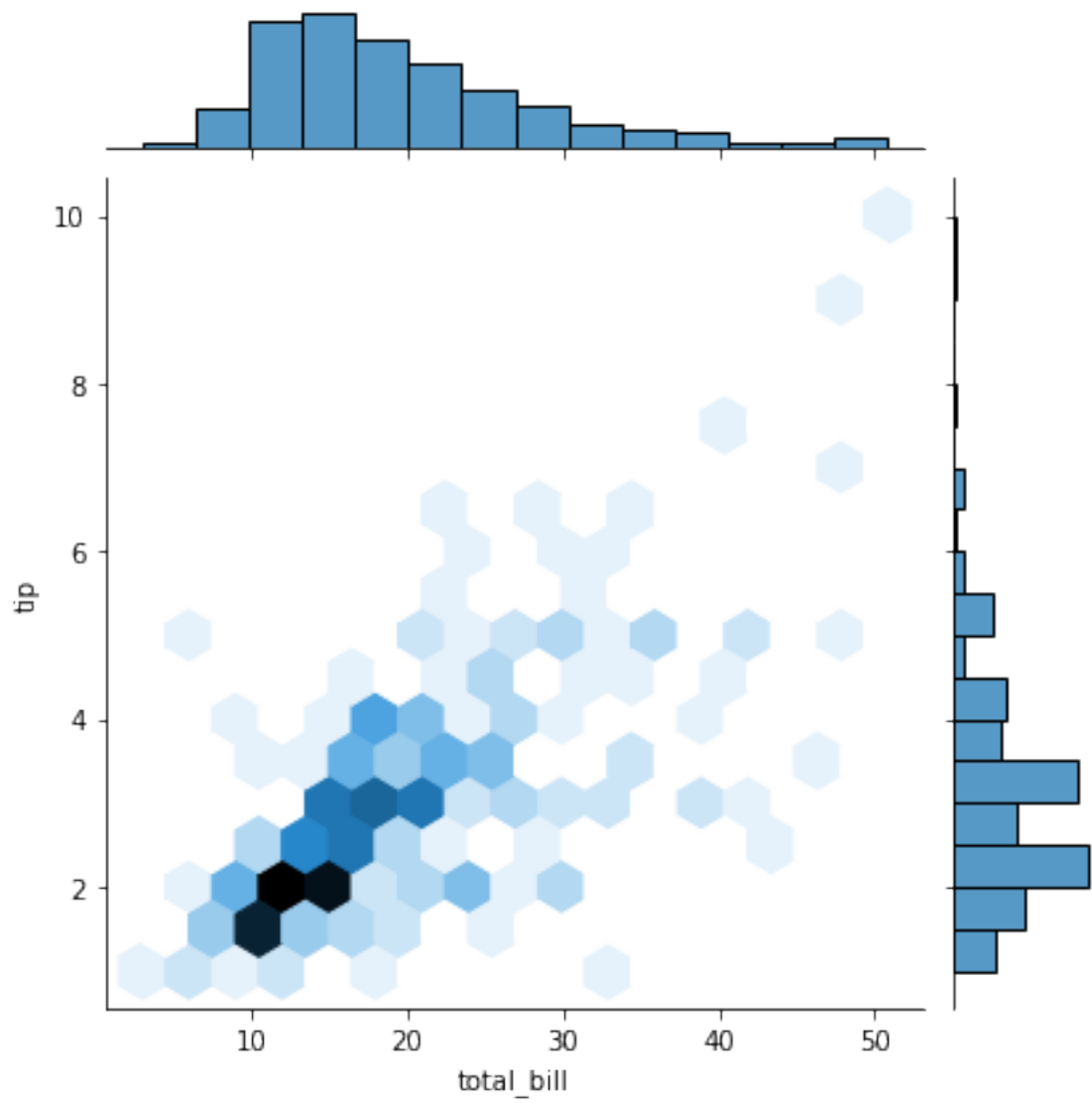
```
[32]: sns.jointplot(x='total_bill',y='tip',data=tips,kind='scatter')
```

```
[32]: <seaborn.axisgrid.JointGrid at 0x7f9664838100>
```



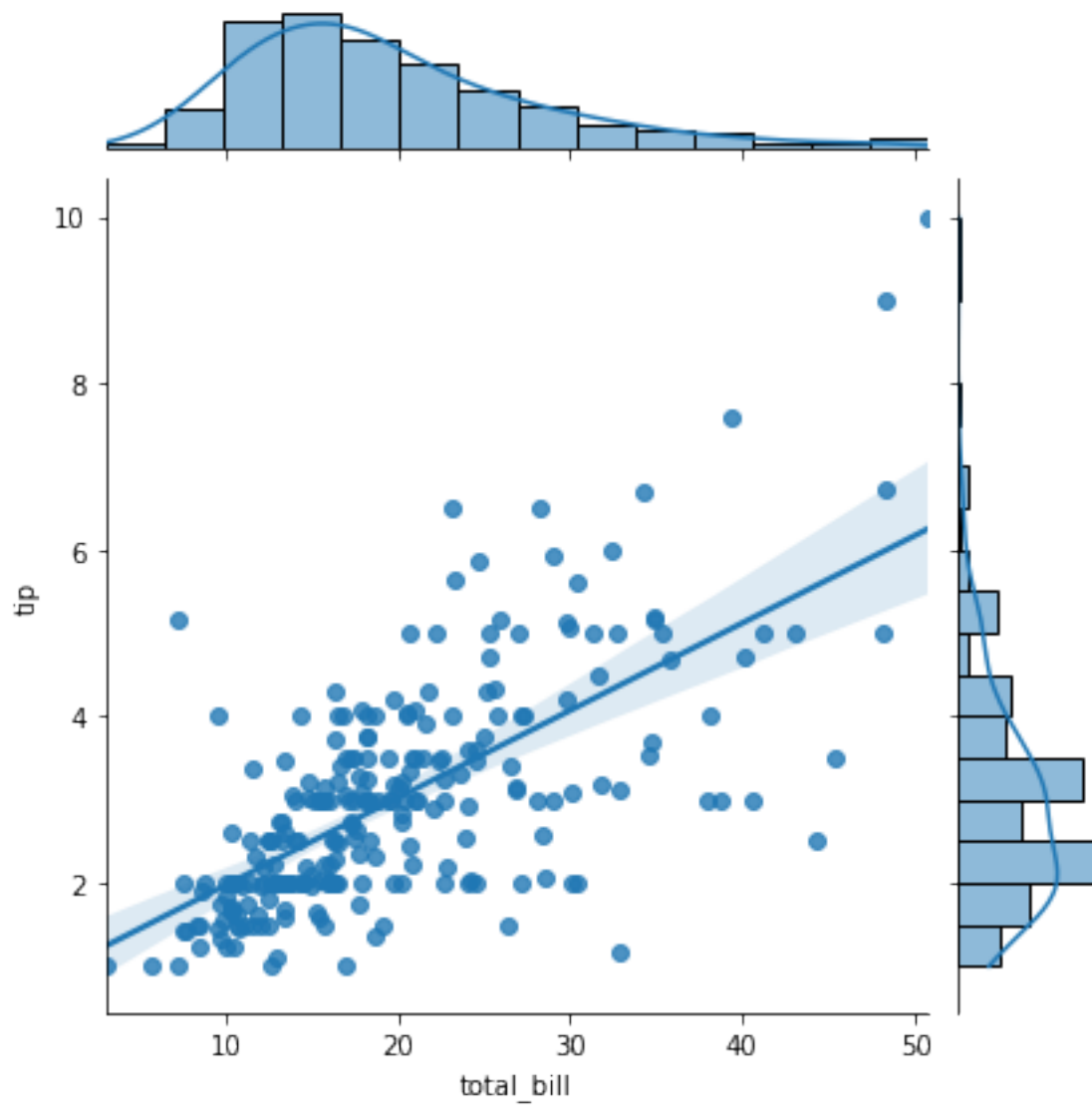
```
[33]: sns.jointplot(x='total_bill',y='tip',data=tips,kind='hex')
```

```
[33]: <seaborn.axisgrid.JointGrid at 0x7f9666acd9a0>
```



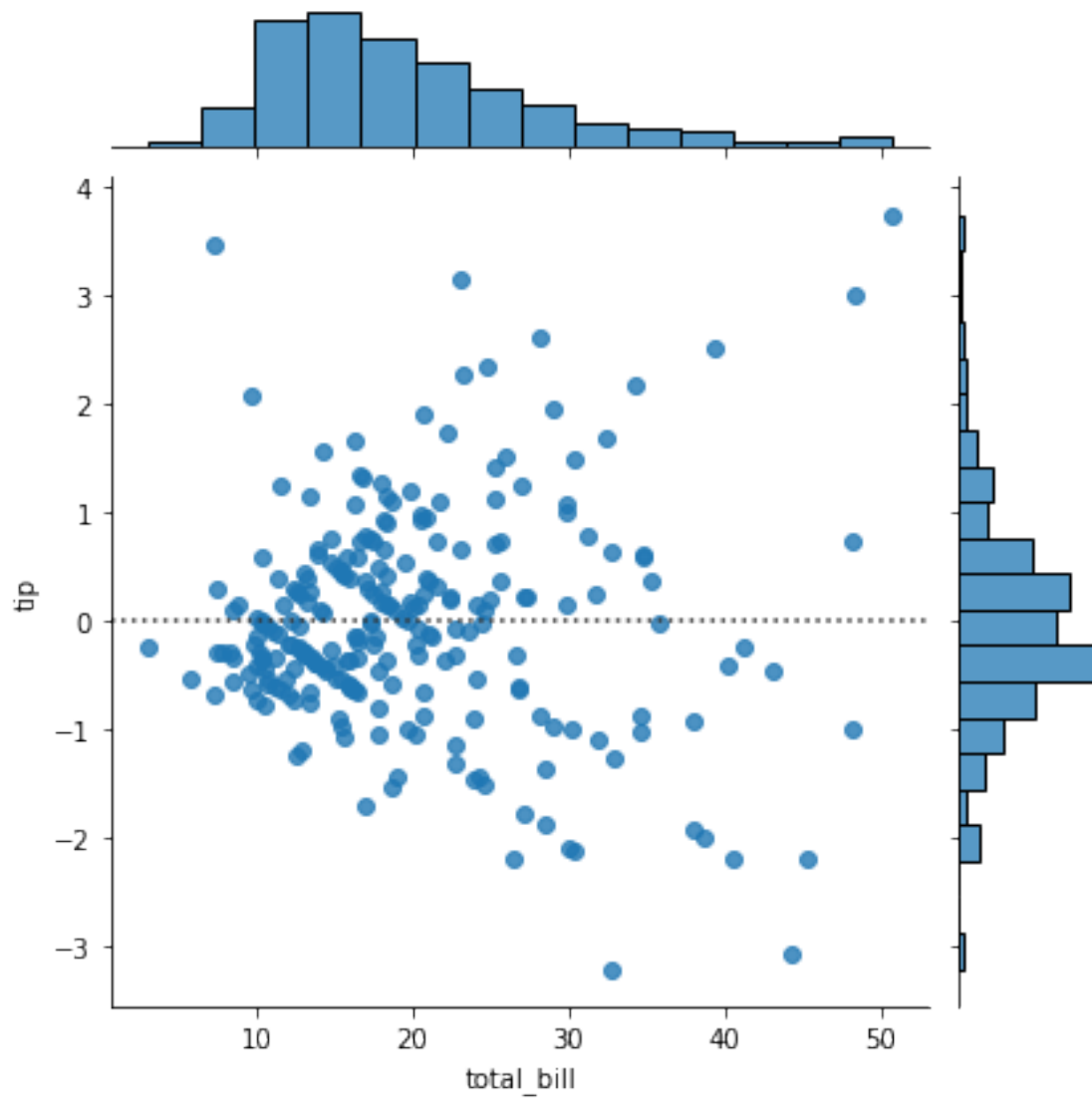
```
[34]: sns.jointplot(x='total_bill',y='tip',data=tips,kind='reg')
```

```
[34]: <seaborn.axisgrid.JointGrid at 0x7f966467b250>
```



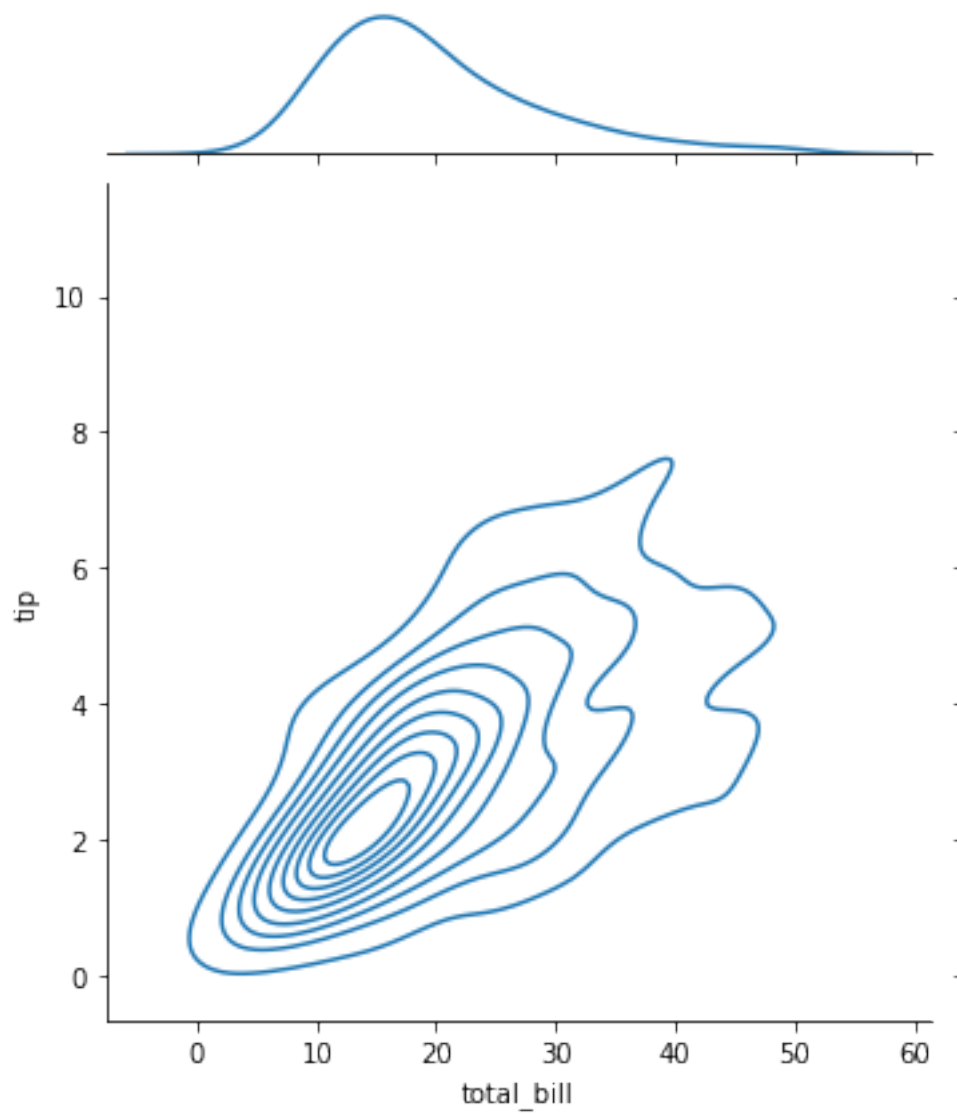
```
[35]: sns.jointplot(x='total_bill',y='tip',data=tips,kind='resid')
```

```
[35]: <seaborn.axisgrid.JointGrid at 0x7f9664540b80>
```



```
[36]: sns.jointplot(x='total_bill',y='tip',data=tips,kind='kde')
```

```
[36]: <seaborn.axisgrid.JointGrid at 0x7f9664372070>
```

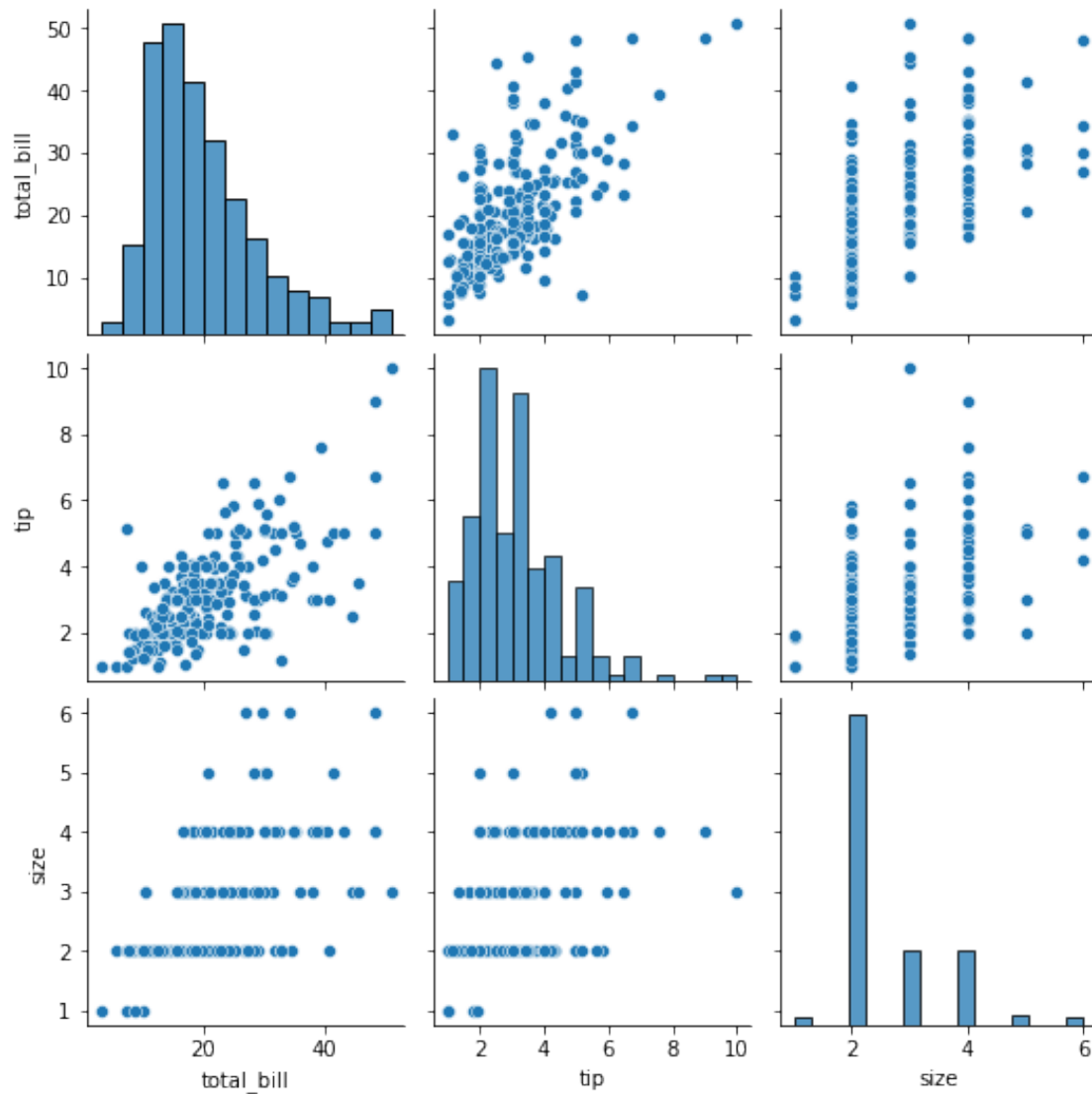


### 1.3 pairplot

```
[37]: sns.pairplot(tips)
```

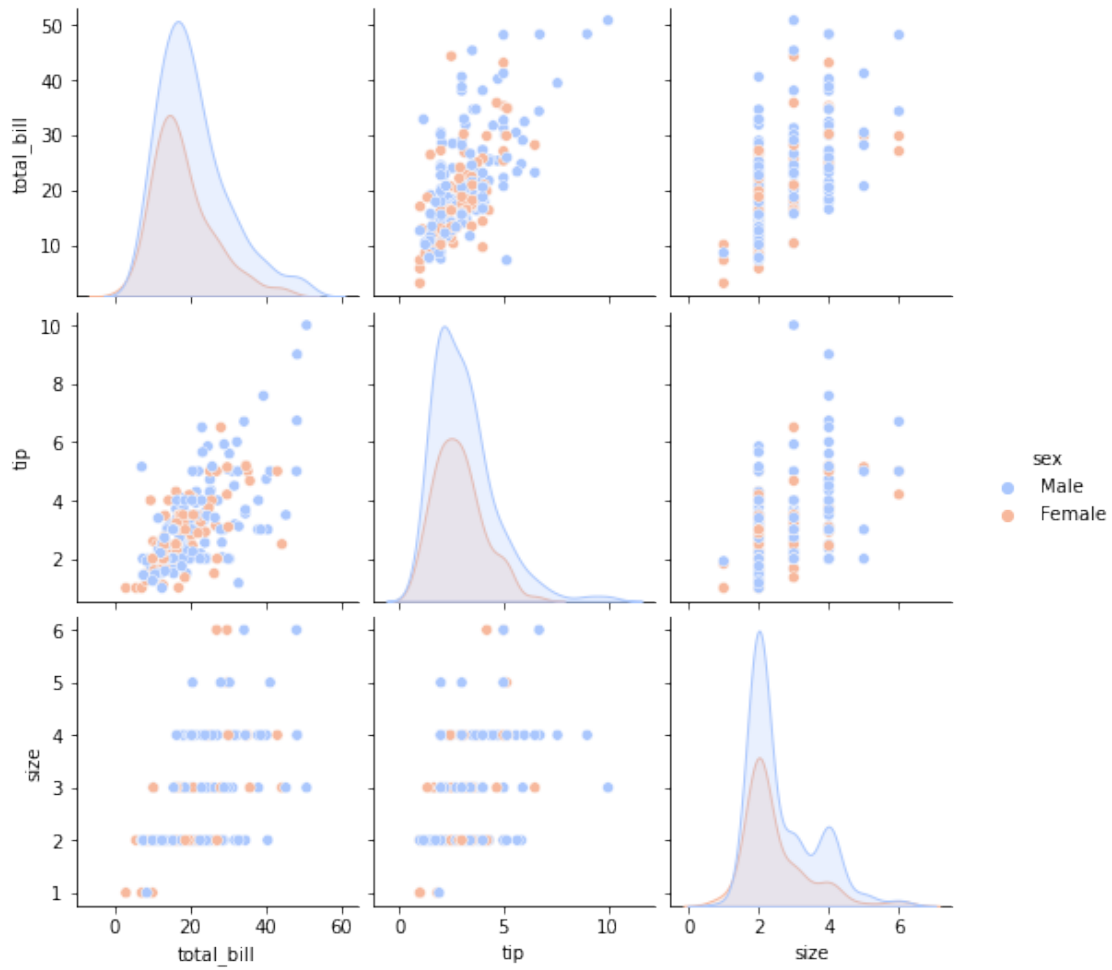
```
[37]: <seaborn.axisgrid.PairGrid at 0x7f9664278c70>
```





```
[38]: sns.pairplot(tips,hue='sex',palette='coolwarm')
```

```
[38]: <seaborn.axisgrid.PairGrid at 0x7f9664237e20>
```



## 2 Categorical Data Plots

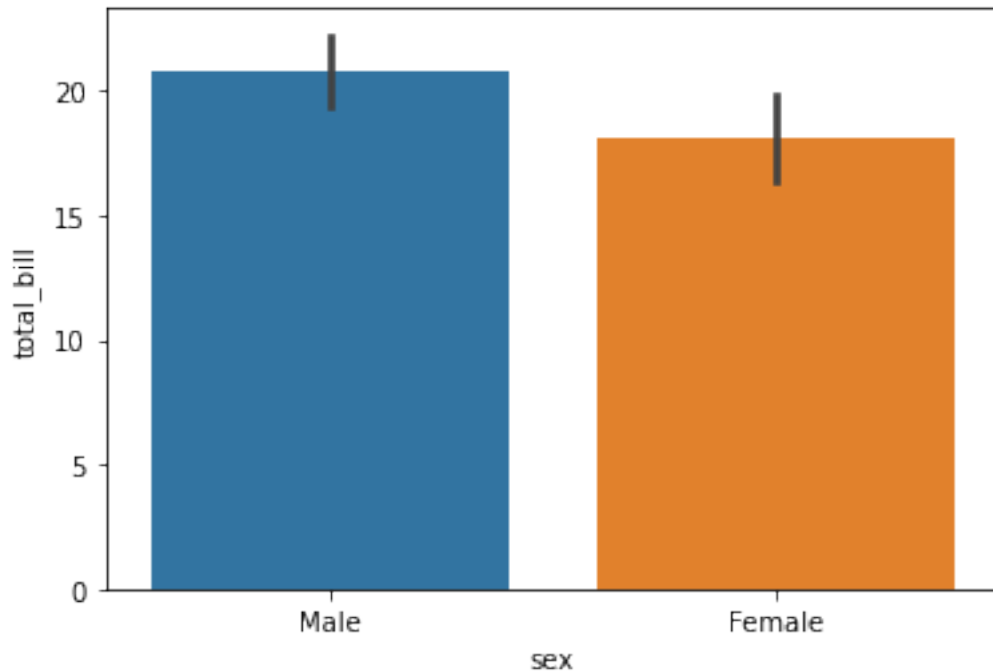
1. factorplot
2. boxplot
3. violinplot
4. barplot
5. countplot

## 2.1 barplot and countplot

### 2.1.1 barplot

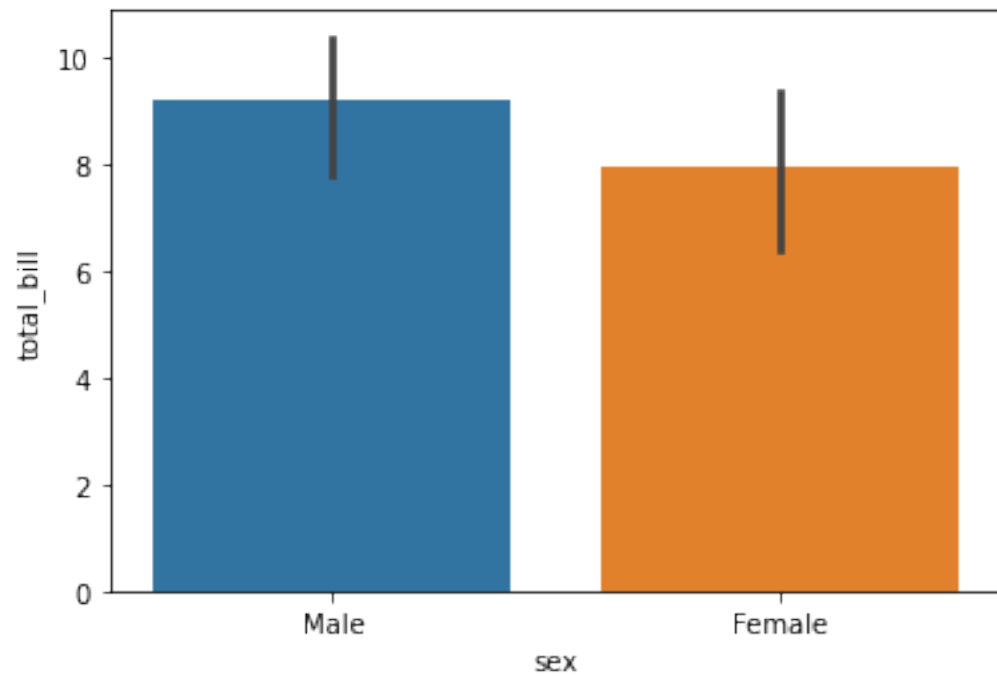
```
[39]: # plot mean  
sns.barplot(x='sex',y='total_bill',data=tips)
```

```
[39]: <AxesSubplot:xlabel='sex', ylabel='total_bill'>
```



```
[40]: # plot std  
sns.barplot(x='sex',y='total_bill',data=tips,estimator=np.std)
```

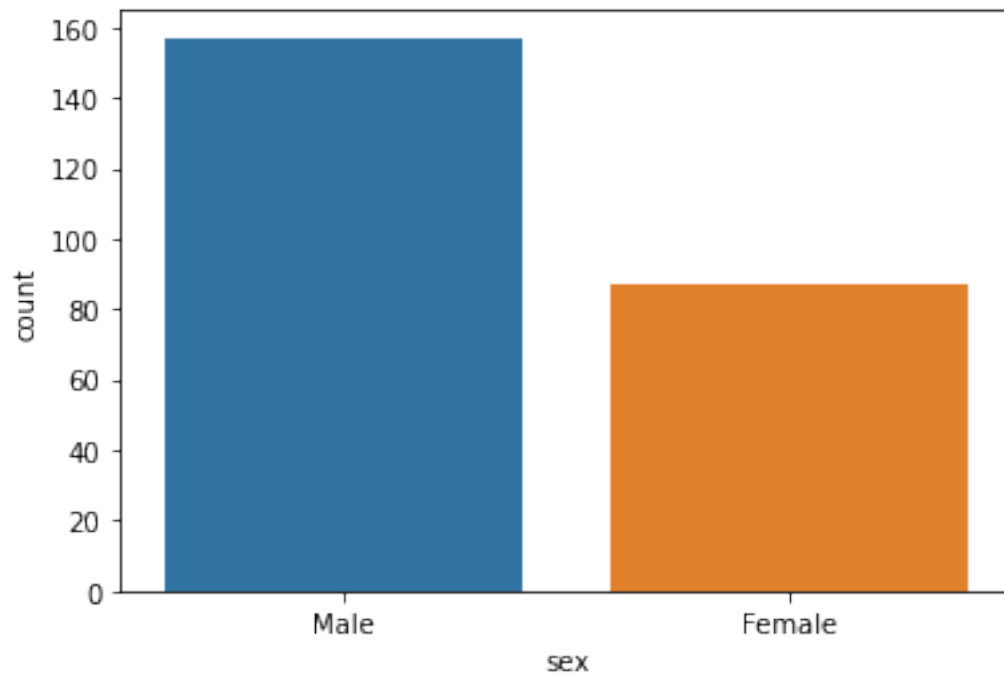
```
[40]: <AxesSubplot:xlabel='sex', ylabel='total_bill'>
```



### 2.1.2 count plot

```
[41]: sns.countplot(x='sex',data=tips)
```

```
[41]: <AxesSubplot:xlabel='sex', ylabel='count'>
```

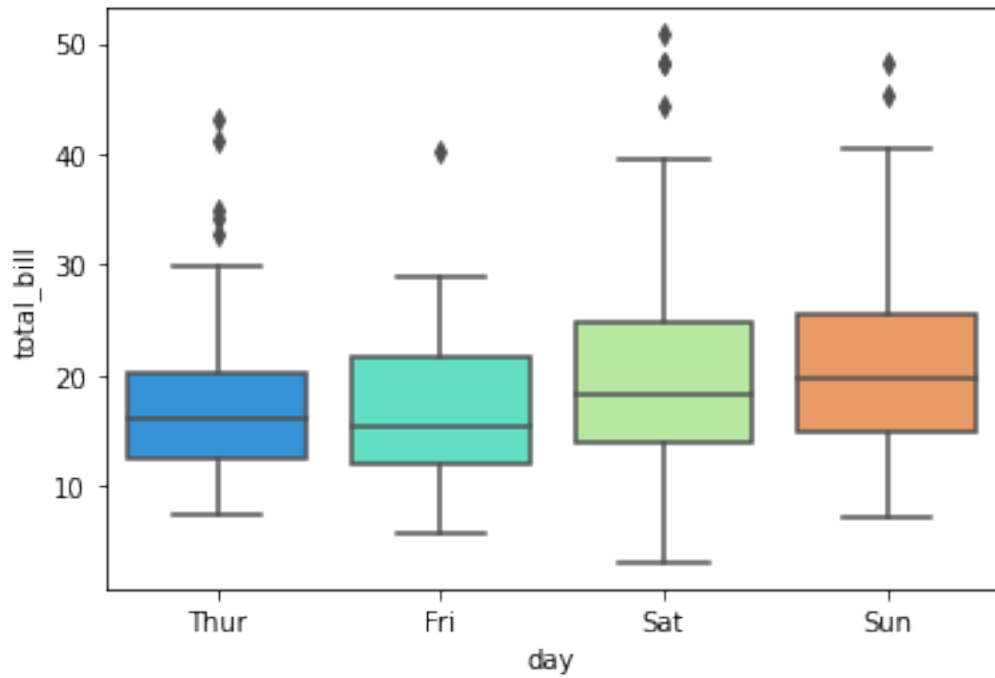


## 2.2 boxplot and violinplot

### 2.2.1 boxplot

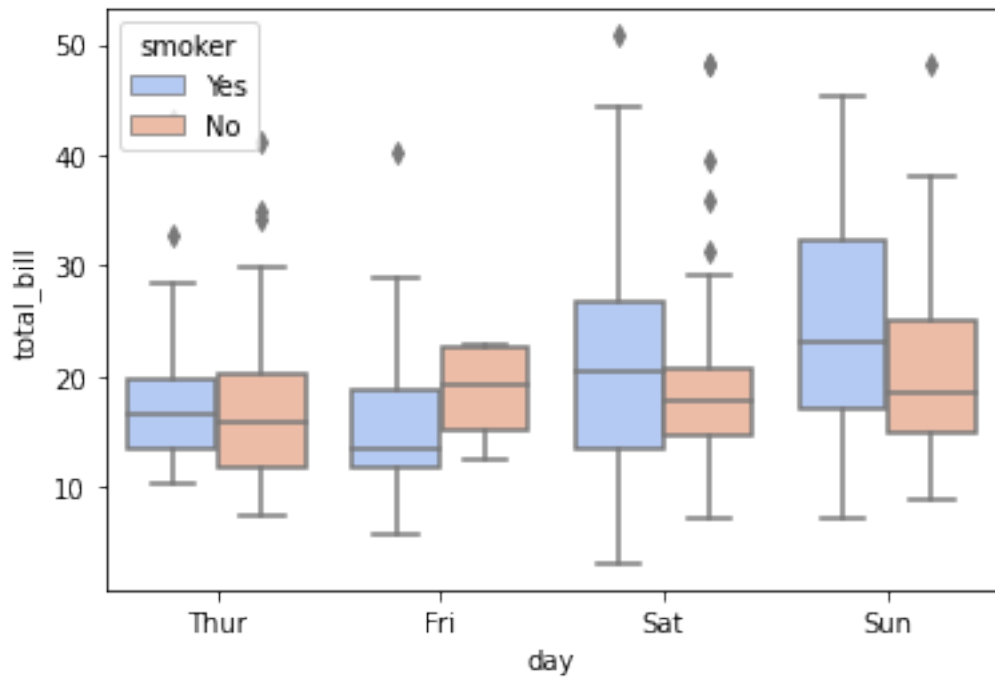
```
[42]: sns.boxplot(x="day", y="total_bill", data=tips,palette='rainbow')
```

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



```
[43]: sns.boxplot(x="day", y="total_bill", hue="smoker",data=tips, palette="coolwarm")
```

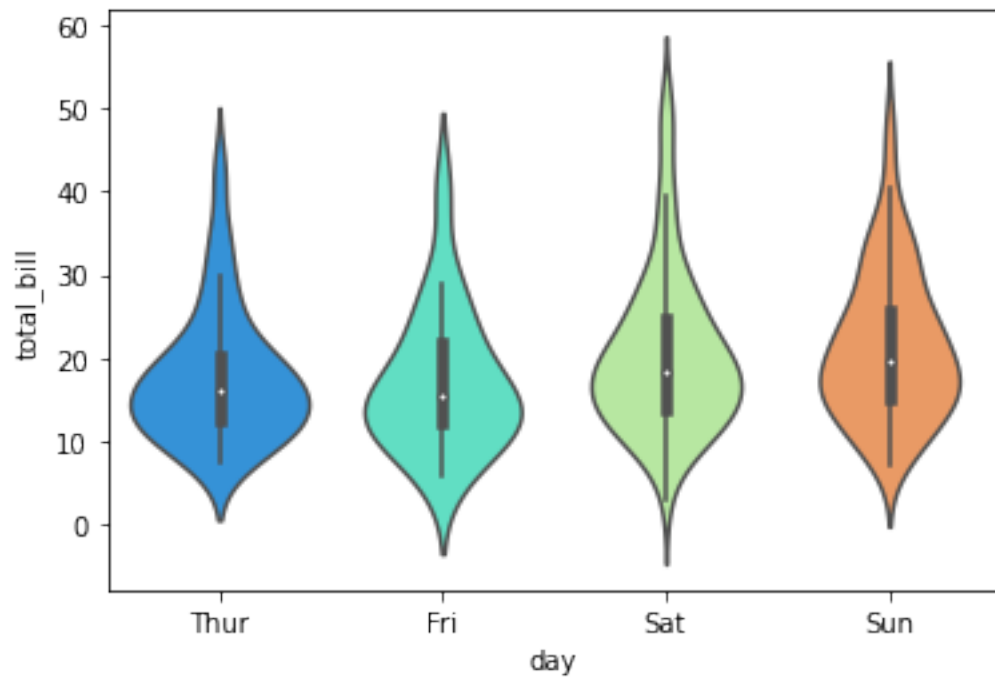
```
[43]: <AxesSubplot:xlabel='day', ylabel='total_bill'>
```



### 2.2.2 violinplot

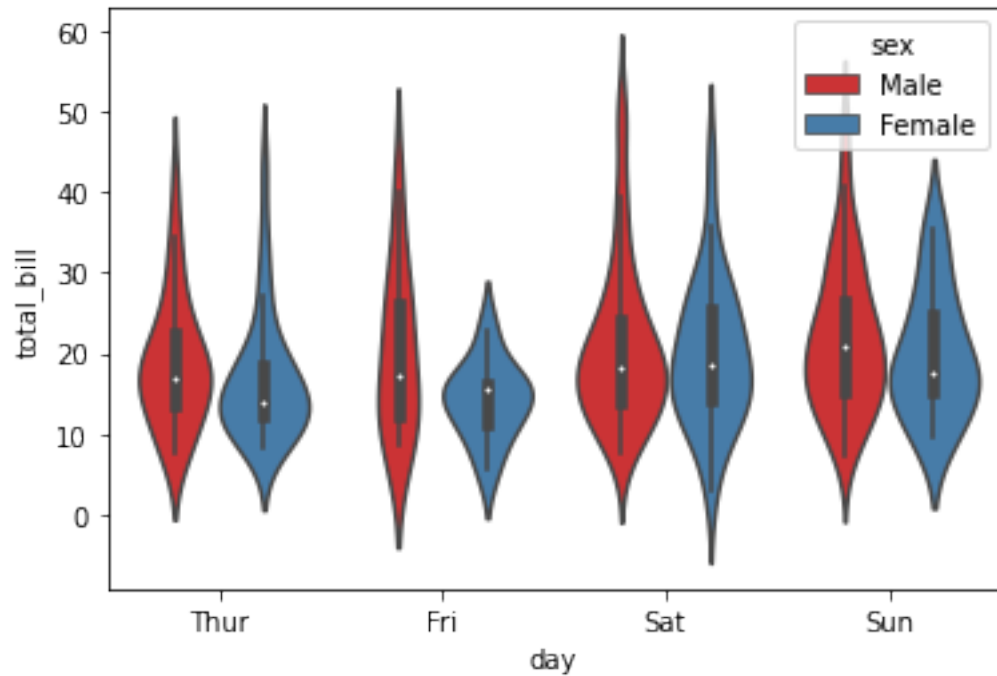
```
[44]: sns.violinplot(x="day", y="total_bill", data=tips,palette='rainbow')
```

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



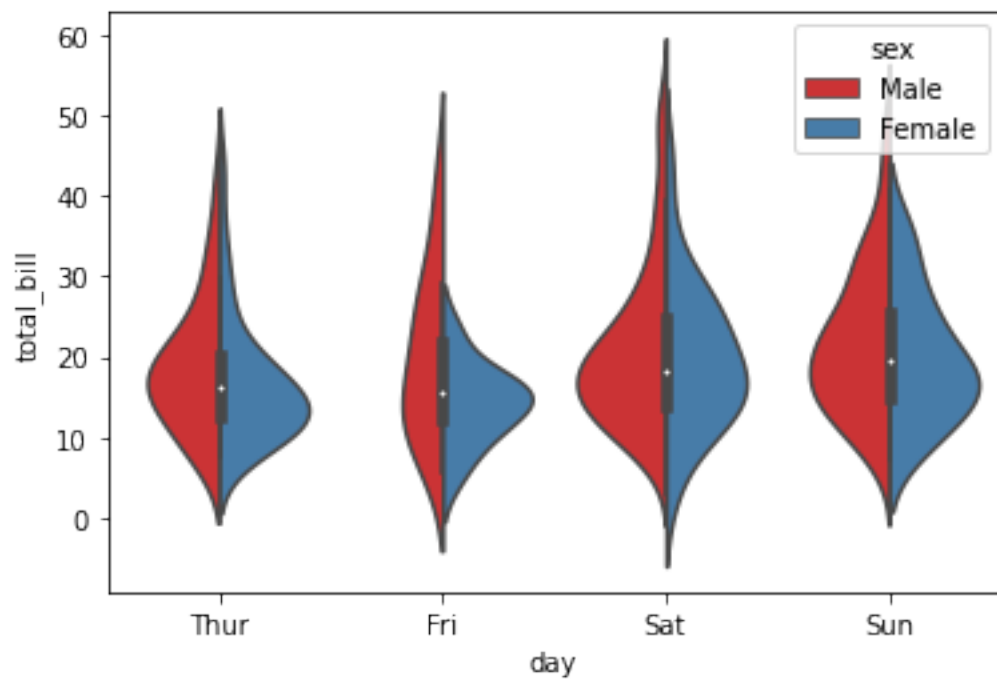
```
[45]: sns.violinplot(x="day", y="total_bill", data=tips,hue='sex',palette='Set1')
```

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



```
[46]: sns.violinplot(x="day", y="total_bill",  
    ↳data=tips,hue='sex',split=True,palette='Set1')
```

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





### 3 Matrix plot

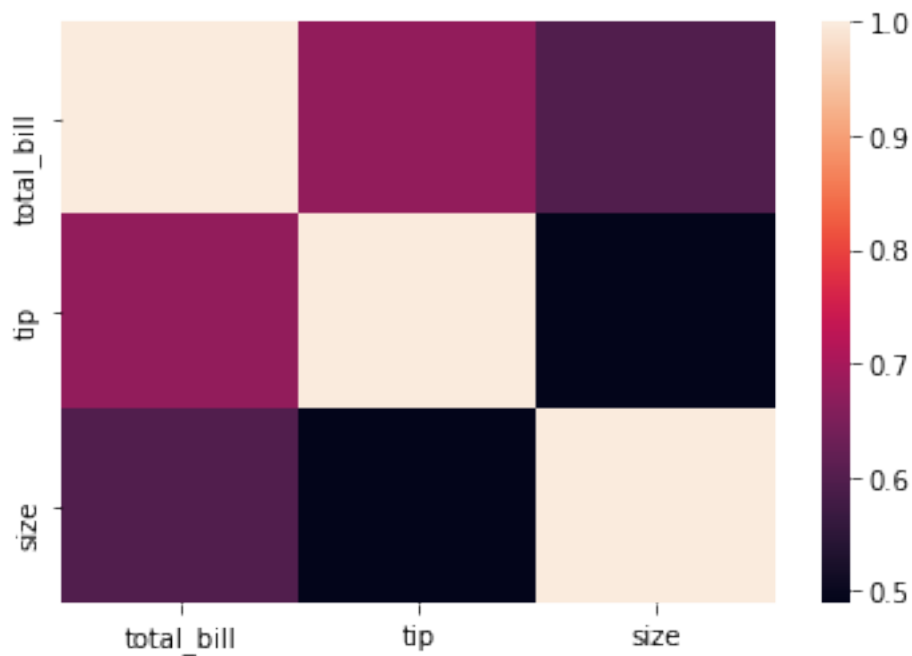
```
[47]: tips.corr()
```

```
[47]:
```

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

```
[48]: sns.heatmap(tips.corr())
```

```
[48]: <AxesSubplot:>
```



```
[49]: sns.heatmap(tips.corr(), cmap='coolwarm', annot=True)
```

```
[49]: <AxesSubplot:>
```

