```
%matplotlib inline
import numpy as np
import pandas as pd
import matplotlib as mpl
import matplotlib.pyplot as plt
import seaborn as sns
sns.set(style="whitegrid", color_codes=True)
import warnings
warnings.filterwarnings("ignore")
np.random.seed(2017)
%config ZMQInteractiveShell.ast_node_interactivity='all'
%pprint
```

```
Pretty printing has been turned ON
```

```
# sns.load_dataset如果报错 请参考 https://blog.csdn.net/weixin_44957635/article/details/105837182 或者 https://www.pianshen.com/article/54661198161/'
```

```
titanic = sns.load_dataset("titanic")
tips = sns.load_dataset("tips")
iris = sns.load_dataset("iris")
```

Seaborn分析数据

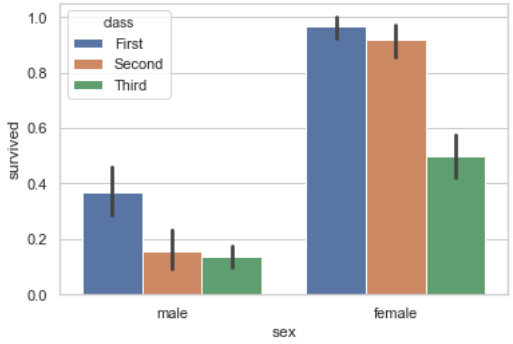
查看数据

```
titanic
sns.barplot(x="sex", y="survived", hue="class", data=titanic)
```

	survived	pclass	sex	age	sibsp	parch	fare	embarked	class	who	adult_male	deck	embark_town	alive
0	0	3	male	22.0	1	0	7.2500	S	Third	man	True	NaN	Southampton	no
1	1	1	female	38.0	1	0	71.2833	C	First	woman	False	C	Cherbourg	yes
2	1	3	female	26.0	0	0	7.9250	S	Third	woman	False	NaN	Southampton	yes
3	1	1	female	35.0	1	0	53.1000	S	First	woman	False	C	Southampton	yes
4	0	3	male	35.0	0	0	8.0500	S	Third	man	True	NaN	Southampton	no
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
886	0	2	male	27.0	0	0	13.0000	S	Second	man	True	NaN	Southampton	no
887	1	1	female	19.0	0	0	30.0000	S	First	woman	False	B	Southampton	yes
888	0	3	female	NaN	1	2	23.4500	S	Third	woman	False	NaN	Southampton	no
889	1	1	male	26.0	0	0	30.0000	C	First	man	True	C	Cherbourg	yes
890	0	3	male	32.0	0	0	7.7500	Q	Third	man	True	NaN	Queenstown	no

891 rows × 15 columns

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a2483e9d0>
```

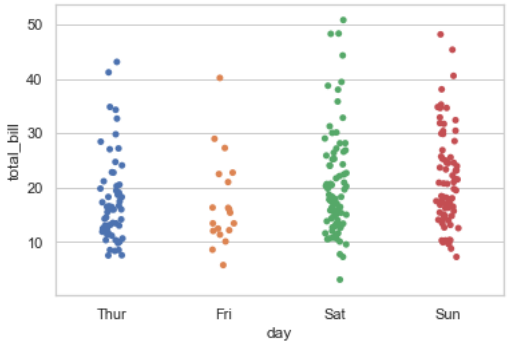



```
## 分类散点图 当有一维数据是分类数据时，散点图成为了条带形状。
# sns.scatterplot(x="day", y="total_bill", data=tips)
```

散点图

```
sns.stripplot(x="day", y="total_bill", data=tips,jitter=True) #jitter是抖动功能,因为一维的时候,有可能是条带形状
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a21a06a50>
```

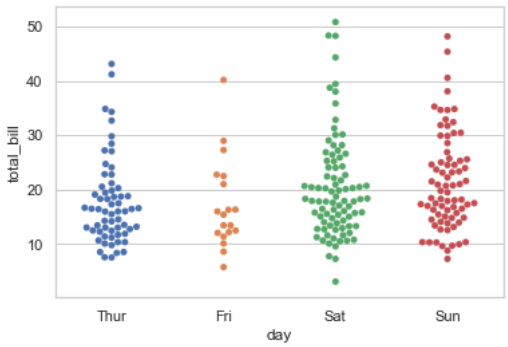


蜂窝图

```
#蜂窝图就是抖动的散点图,适合一维
```

```
sns.swarmplot(x="day", y="total_bill", data=tips)
```

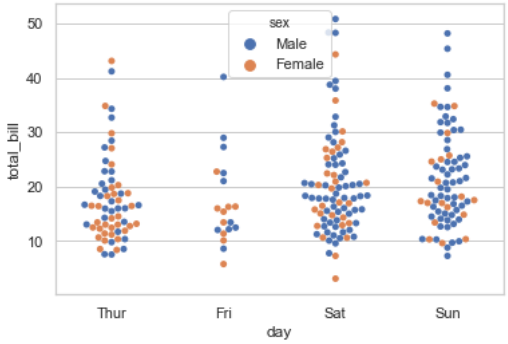
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a219f3250>
```



如果是增加一个空间维度,比如每一个一级分类下面再分二级分类的时候可以用hue

```
sns.swarmplot(x="day", y="total_bill", hue="sex", data=tips)
```

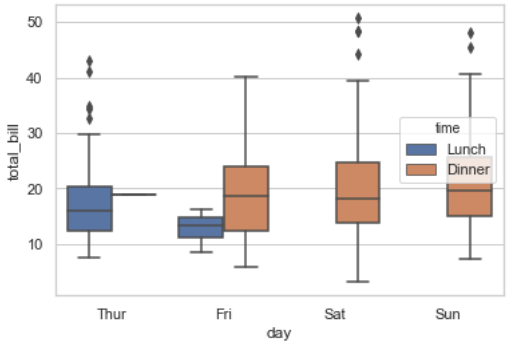
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a21a5aed0>
```



箱图

```
sns.boxplot(x="day", y="total_bill", hue="time", data=tips)
```

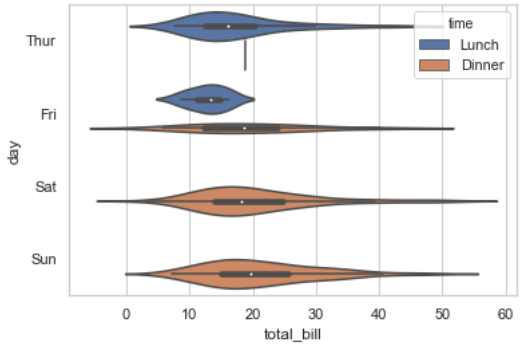
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a1ff5e050>
```



violin图, violin有点像violin形状的barh图

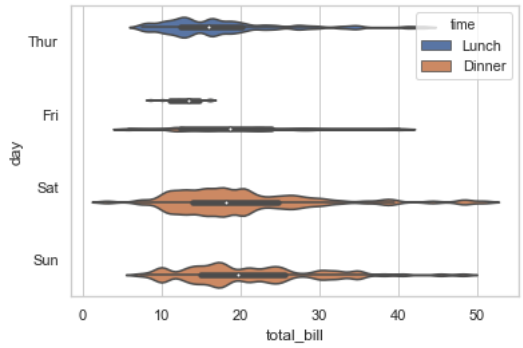
```
sns.violinplot(x='total_bill',y='day',hue='time',data=tips)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a25823d10>
```




```
sns.violinplot(x="total_bill", y="day", hue="time", data=tips, bw=.1, scale="count", scale_hue=False)
```

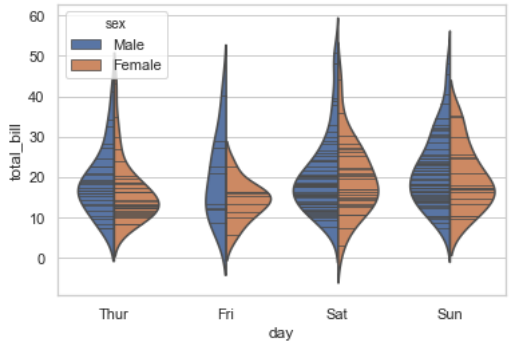
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a25644050>
```



非对称violin图

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

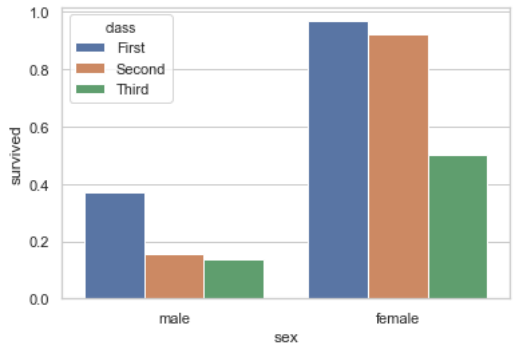
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a25204590>
```



柱状图

```
sns.barplot(x='sex',y='survived',hue='class',data=titanic,ci=None)
```

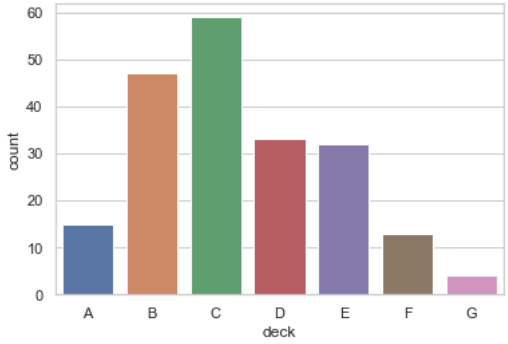
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a269ef850>
```



灰度柱状图-等于pandas的value counts

```
sns.countplot(x="deck", data=titanic)
```

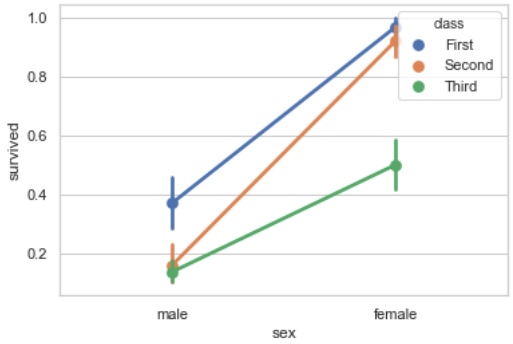
```
<matplotlib.axes._subplots.AxesSubplot at 0x1a26d11dd0>
```



点图

```
sns.pointplot(x="sex", y="survived", hue="class", data=titanic)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a2734df10>
```



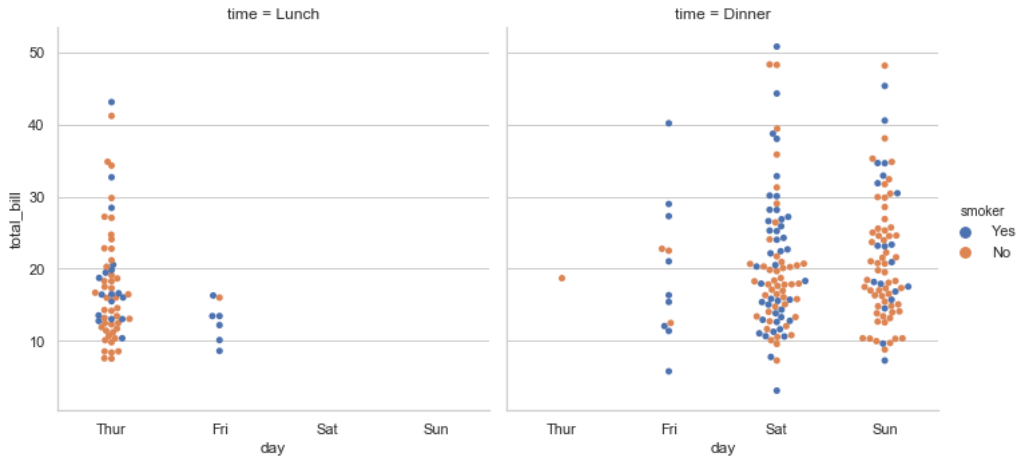
分类子图

```
tips.head()
```

	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

```
sns.factorplot(x='day',y='total_bill',hue='smoker',col='time',data=tips,kind='swarm')
# col用来分类
```

```
<seaborn.axisgrid.FacetGrid at 0x1a279b8710>
```



大杂烩图

```
sns.pairplot(data=tips,hue='smoker')
```

```
<seaborn.axisgrid.PairGrid at 0x1a2685b150>
```