Alexandre Petit

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Barplot, Boxplots, Violinplots and more

seaborn

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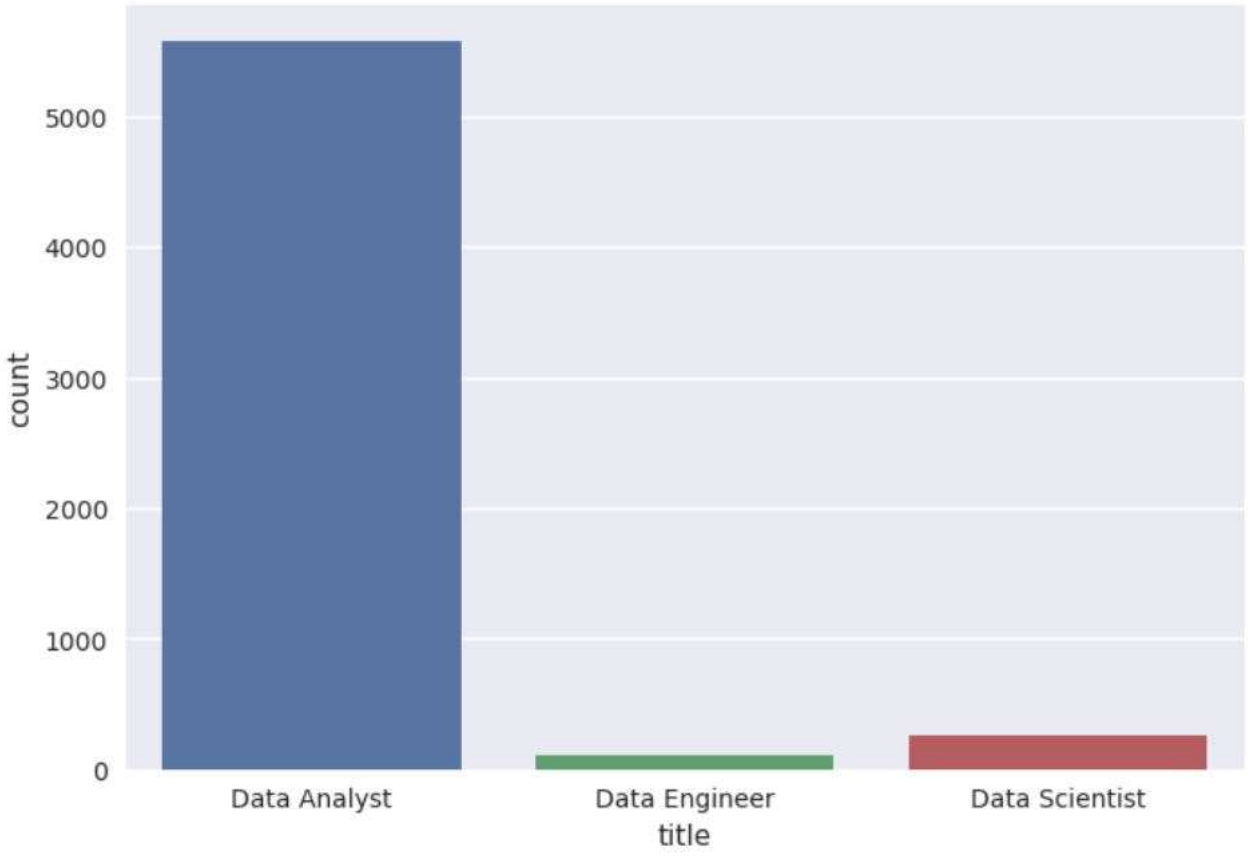
```python
import seaborn as sns

sns.countplot(data=df, x='title')

plt.show()
```



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Countplot is a simple graph used to count the occurrence of categorical variable in the dataset

The hue parameter allow comparaison between two categorical variables. It is perfect to see how a variable influences the outcome in a classification problem

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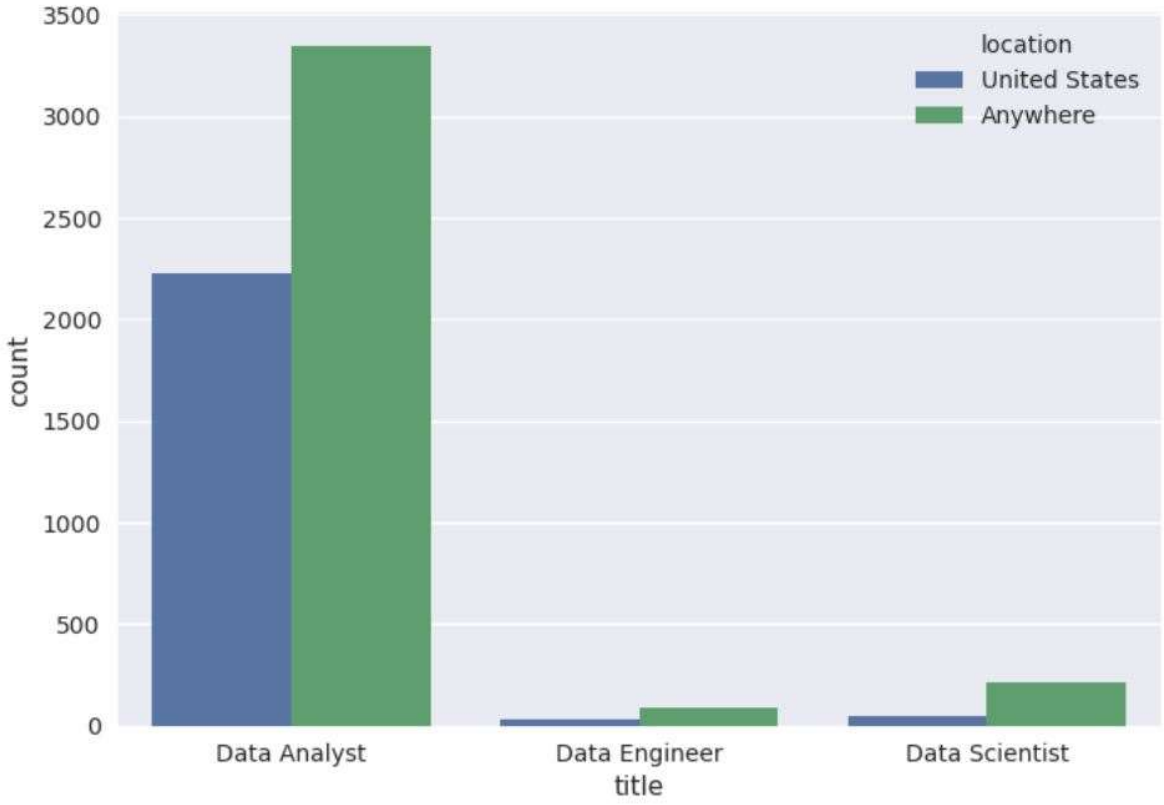
```
import seaborn as sns

sns.countplot(data=df, x='title', hue='location')

plt.show()
```



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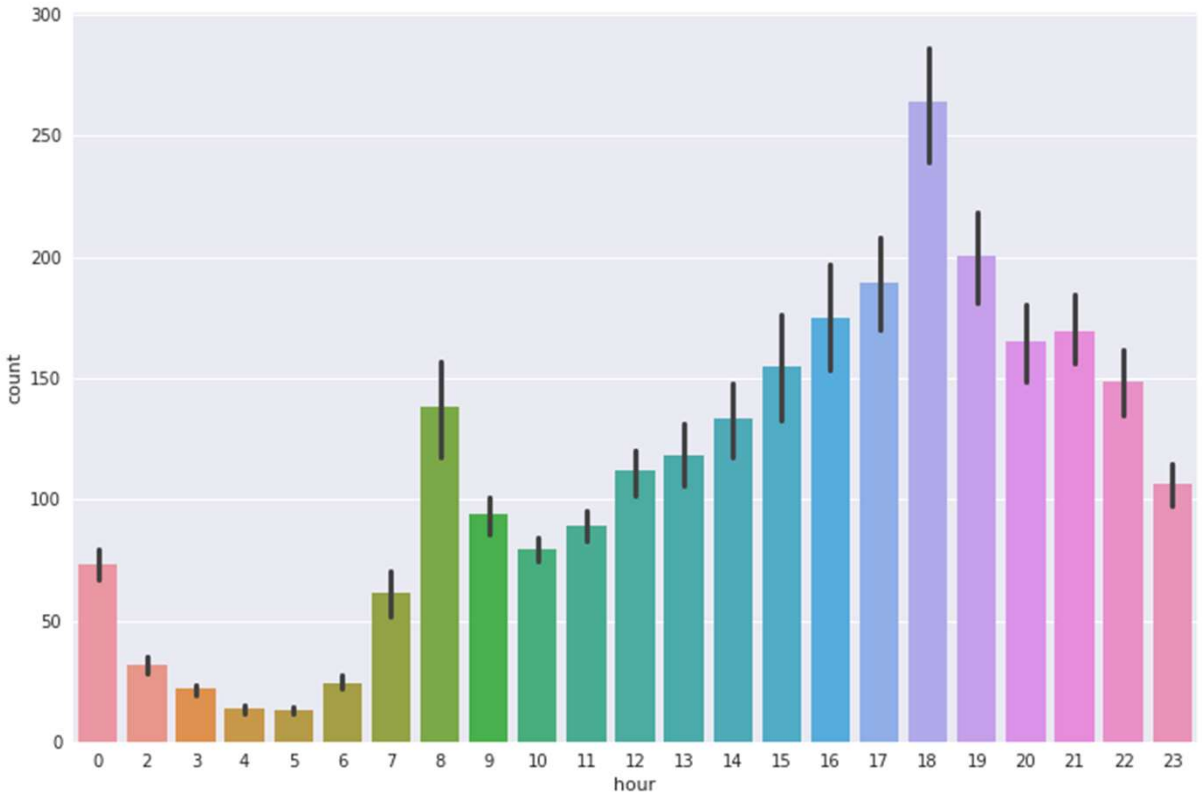
```
import seaborn as sns

sns.barplot(data=df, x='hour', y='count')

plt.show()
```



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Seaborn barplot will represent the mean of the y parameter (x if orient='h' is used) over a categorical or discrete numerical column.

The function used can be changed with the parameter estimator to display another statistic (median, sum, min, max, etc.)

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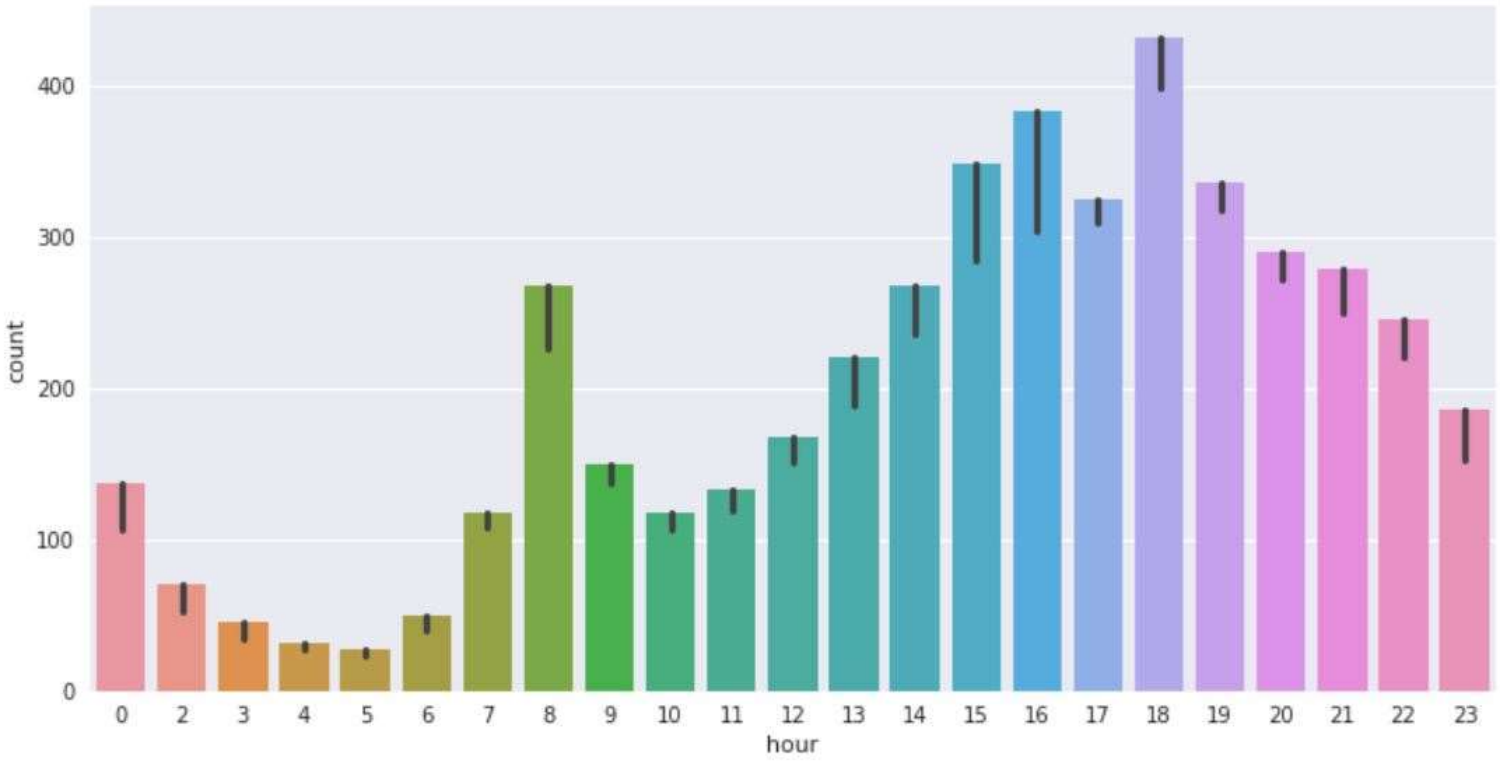
```python
import seaborn as sns

sns.barplot(data=df, x='hour', y='count',
            estimator=np.max)

plt.show()
```



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Barplot are not as detailed as boxplot however they are simpler to understand for the general public.

Boxplot display multiple metrics on the same graph (median, quartiles, interquartile range).
It is harder to understand than barplot but show more details about the data distribution

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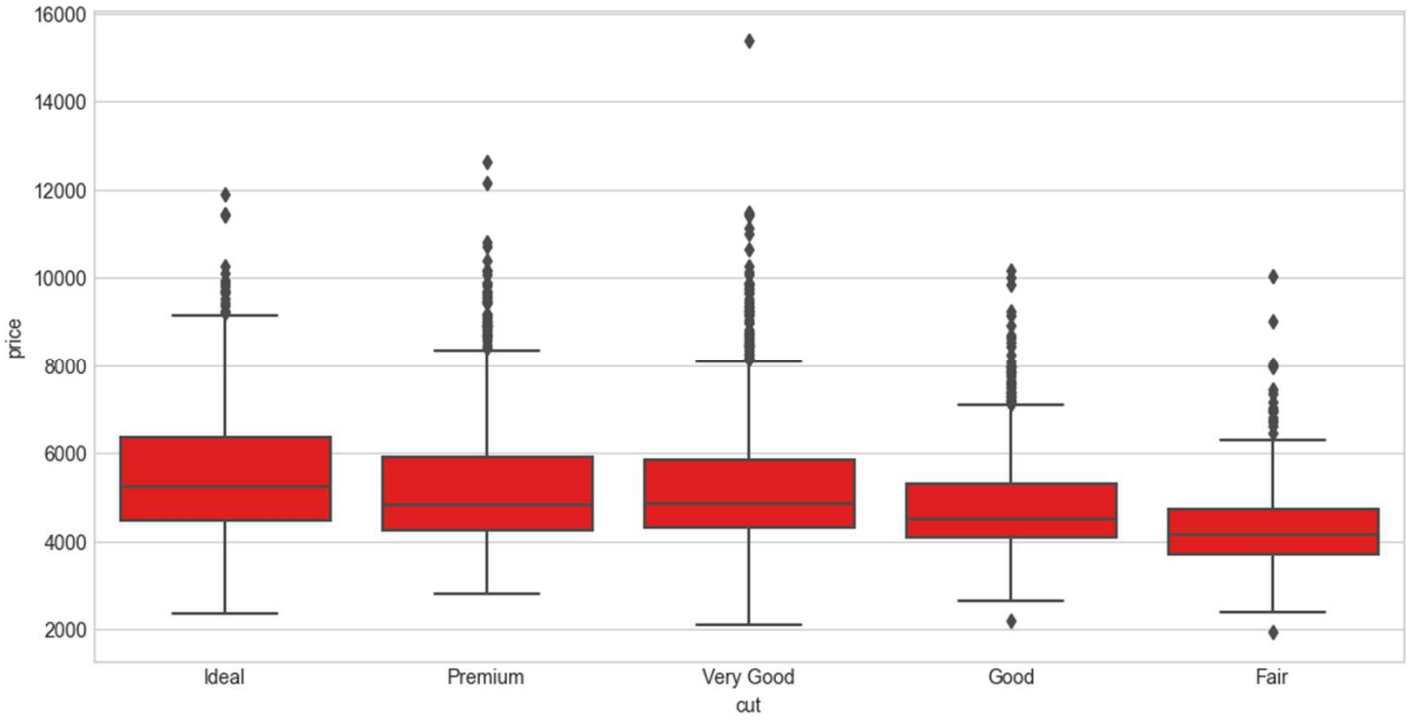
```
import seaborn as sns

sns.boxplot(data=df, x='cut', y='price')

plt.show()
```



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Two functions similar with boxplot are violinplot and boxenplot

Violinplot will display the distribution with a curve, similar with a kde plot

Boxenplot is a graph with more quantile displayed than the boxplot

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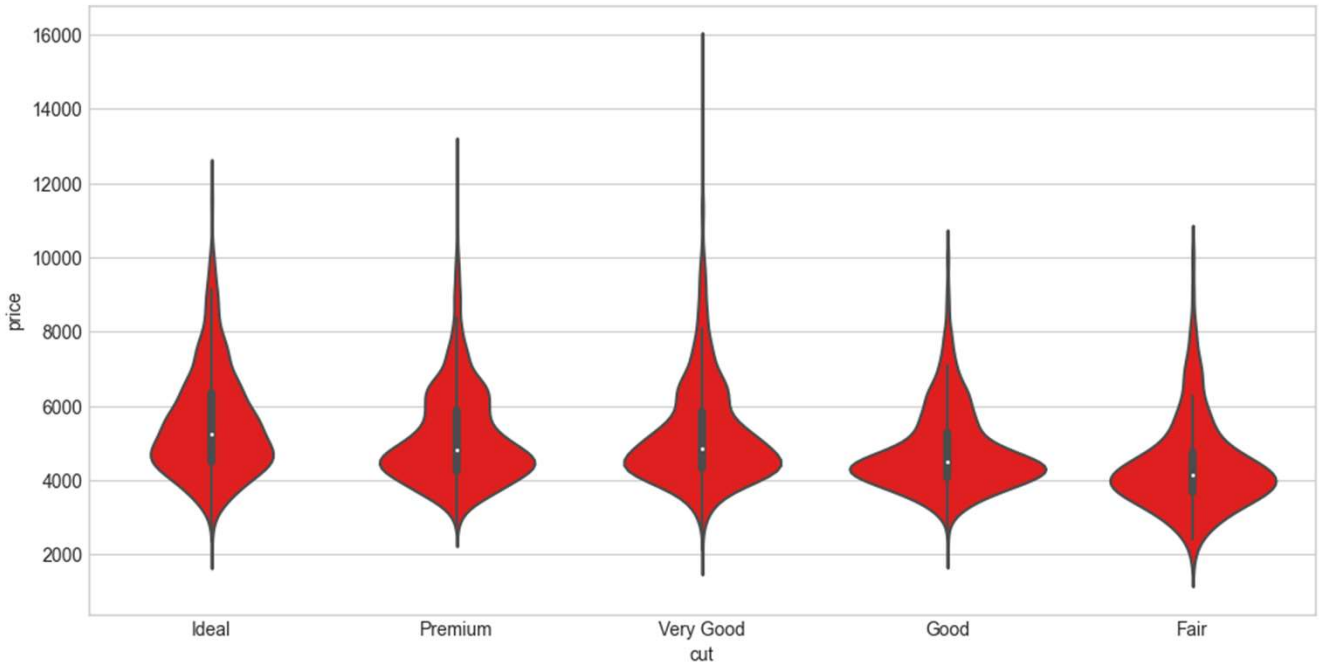
```
import seaborn as sns

sns.violinplot(data=df, x='cut', y='price')

plt.show()
```



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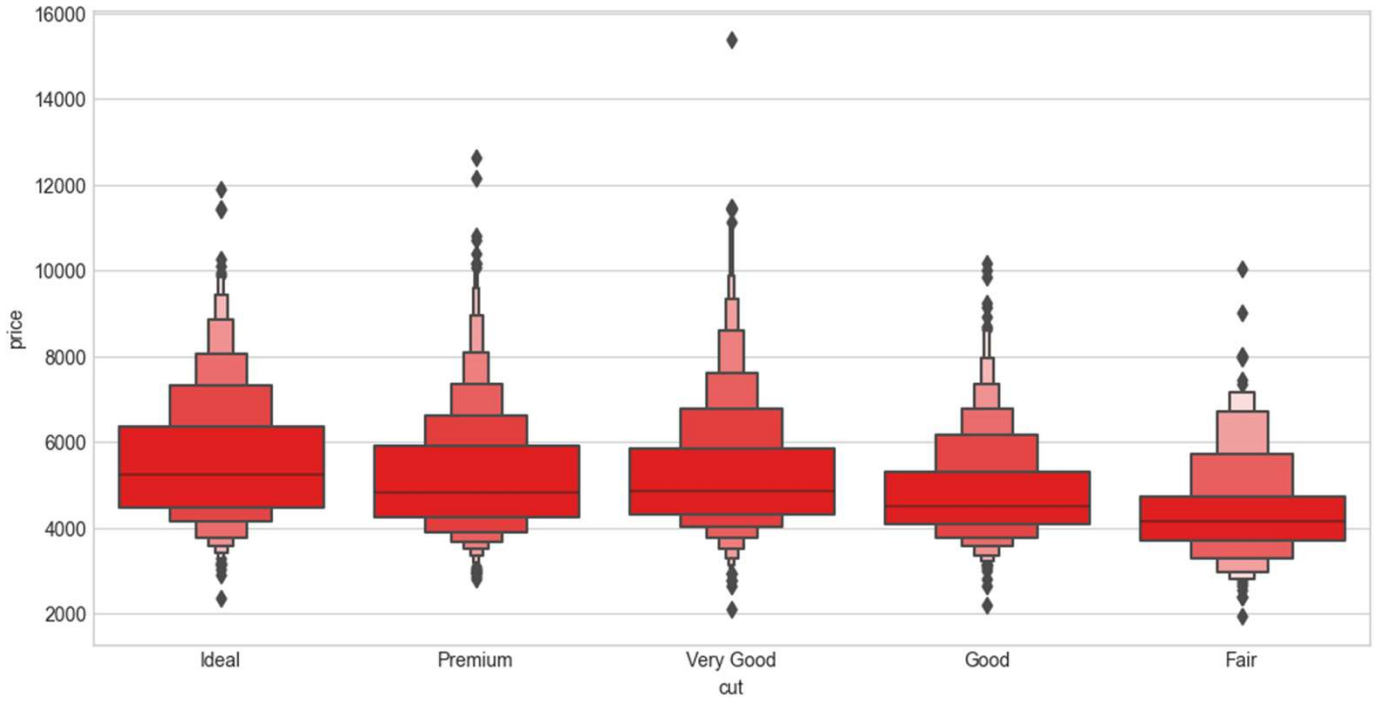
```python
import seaborn as sns

sns.boxenplot(data=df, x='cut', y='price')

plt.show()
```



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The last two functions we are going to see are variations of scatterplot.

The scatterplot function does not give a good result with categorical data and discrete numeric data because the points overlap too much.

To solve this problem, we can use swarmplot and stripplot.

Swarmplot is better with a small number of points and stripplot manage better large number of points. The latter has a parameter jitter to further spread the points

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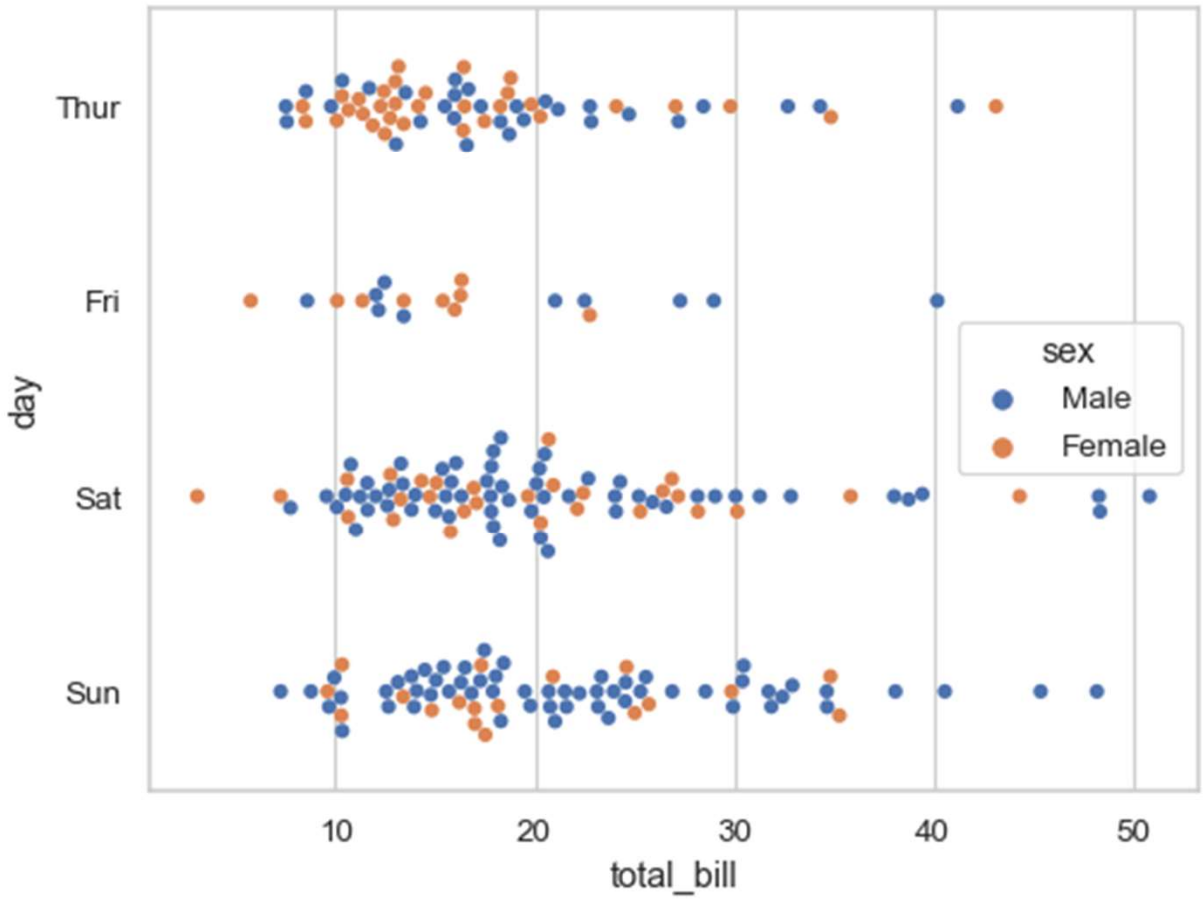
```python
import seaborn as sns

sns.swarmplot(data=df, x='total_bill', y='day',
              hue='sex')

plt.show()
```



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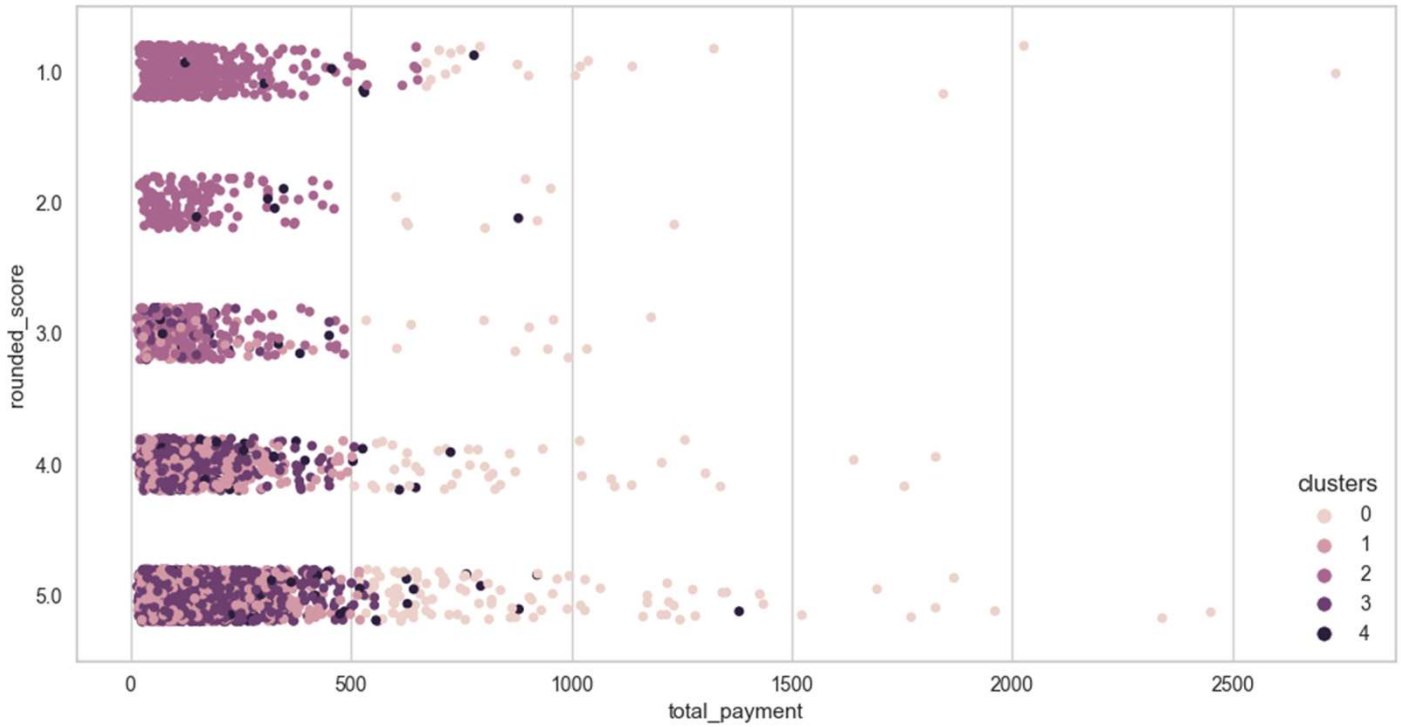
```python
import seaborn as sns

sns.stripplot(data=df, x='total', y='rounded_score',
              hue='cluster', jitter=0.2)

plt.show()
```



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Thank you for reading until the end ☺

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