

# Comparing Frequency Distributions: Takeaways



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## Syntax

- Generating a grouped bar plot:

```
import seaborn as sns
sns.countplot(x='column_name_1', hue='column_name_2',
              data=some_dataframe)
```

- Generating only the shape of the histogram for two series objects:

```
Series_1.plot.hist(histtype='step')
Series_2.plot.hist(histtype='step')
```

- Generating kernel density plots for two series objects:

```
Series_1.plot.kde()
Series_2.plot.kde()
```

- Generating strip plots:

```
import seaborn as sns
sns.stripplot(x='column_name_1', y='column_name_2',
              data=some_dataframe)
```

- Generating multiple box plots:

```
import seaborn as sns
sns.boxplot(x='column_name_1', y='column_name_2',
            data=some_dataframe)
```

## Concepts

- To compare visually frequency distributions for nominal and ordinal variables we can use **grouped bar plots**.
- To compare visually frequency distributions for variables measured on an interval or ratio scale, we can use:
  - **Step-type histograms.**
  - **Kernel density plots.**
  - **Strip plots.**
  - **Box plots.**
- A value that is much lower or much larger than the rest of the values in a distribution is called an **outlier**. A value is an outlier if:
  - It's larger than the upper quartile by 1.5 times the interquartile range.
  - It's lower than the lower quartile by 1.5 times the interquartile range.

## Resources

- [A seaborn tutorial](#) on grouped bar plots, strip plots, box plots, and more.
- [A seaborn tutorial](#) on kernel density plots, histograms, and more.

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