

# KEY\_Practice17B\_LineGraphs

July 18, 2019

## 1 Line Graphs

Let's start out by loading the seaborn package

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

In this practice we will be using the dots dataset. This is also a dataset that contains information about brain activations over time. Let's load and preview the data.

```
[19]: dots = sns.load_dataset("dots")  
dots.head()
```

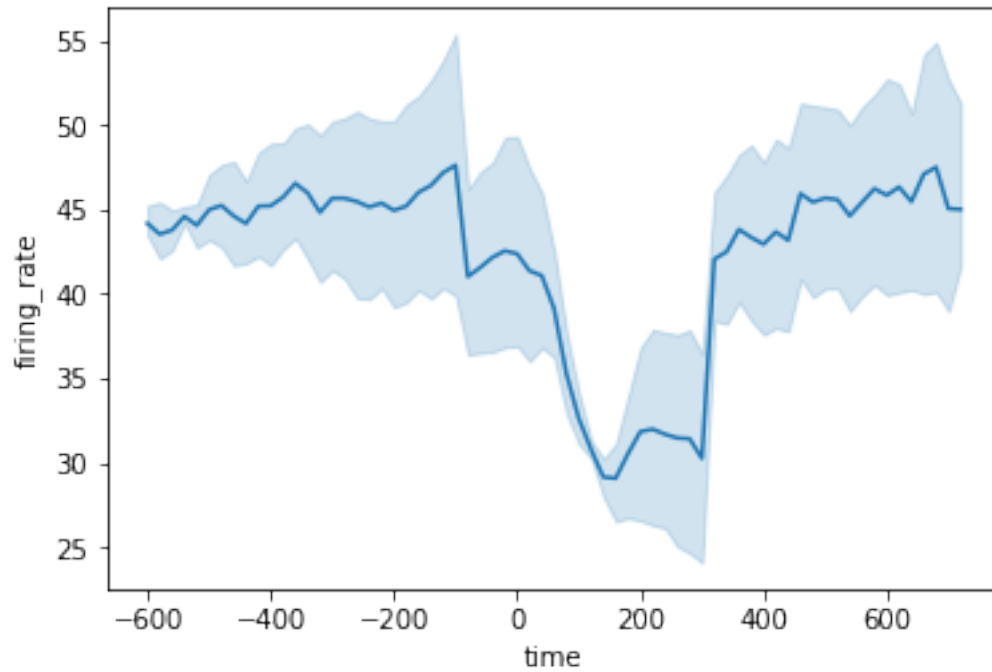
```
[19]: align choice  time  coherence  firing_rate  
0  dots      T1    -80         0.0    33.189967  
1  dots      T1    -80         3.2    31.691726  
2  dots      T1    -80         6.4    34.279840  
3  dots      T1    -80        12.8    32.631874  
4  dots      T1    -80        25.6    35.060487
```

This dataset is a little more complicated, and to be honest I am not even sure what each column means exactly. But, this is not important for using this data to practice plotting line graphs. All we need to know is that the align column contains two values: dots and sacc, and the choice column also contains two values: T1 and T2.

First, let's just get a sense of our base data using a line plot of firing\_rate vs. time. Think hard about which variable should go on which axis!

```
[20]: # plot time vs firing_rate  
sns.lineplot(x='time', y='firing_rate', data=dots)
```

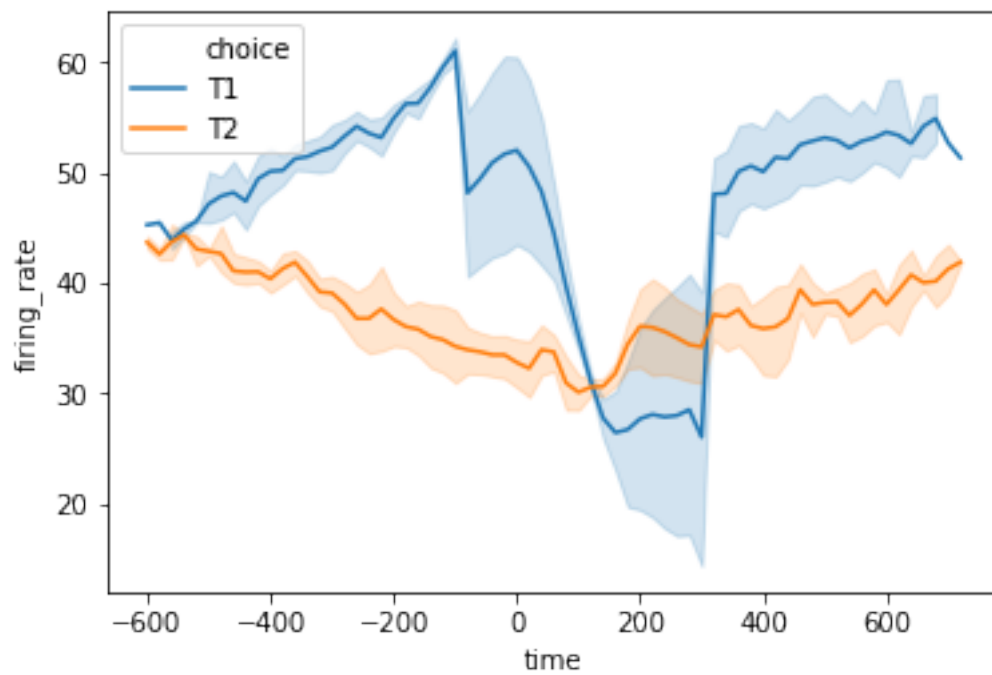
```
[20]: <matplotlib.axes._subplots.AxesSubplot at 0x1a1aba8198>
```



Now, separate your plot by the choice column using color.

```
[21]: # plot time vs firing_rate separated by choice
sns.lineplot(x='time', y='firing_rate', hue = "choice", data=dots)
```

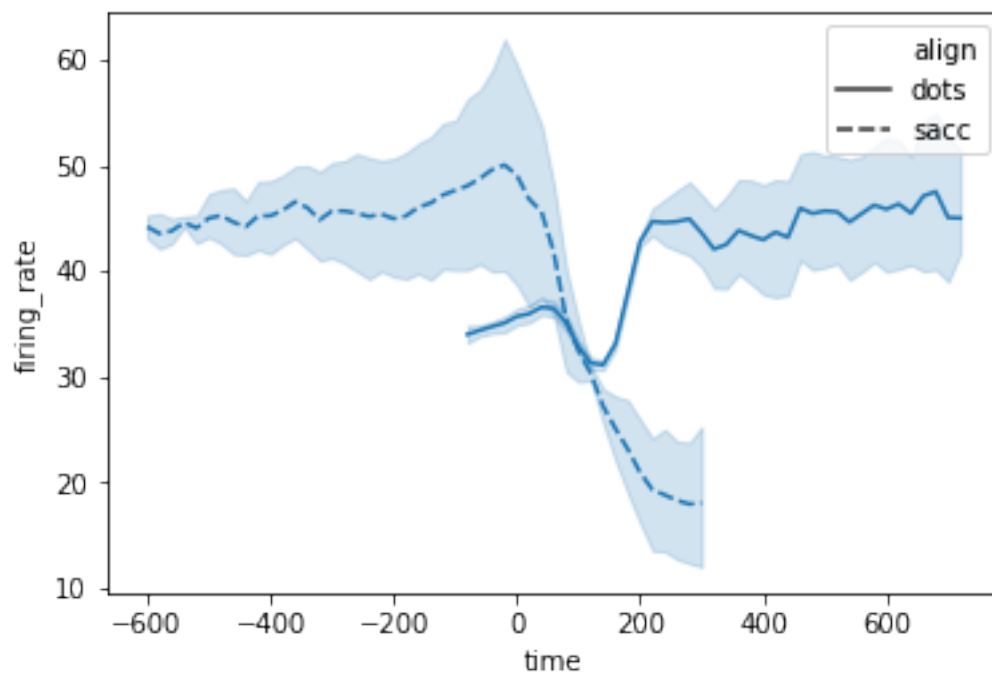
```
[21]: <matplotlib.axes._subplots.AxesSubplot at 0x1a1ad8c198>
```



Next, separate your plot by the align column using line style.

```
[24]: # plot time vs firing_rate separated by align
sns.lineplot(x='time', y='firing_rate', style = "align", data=dots)
```

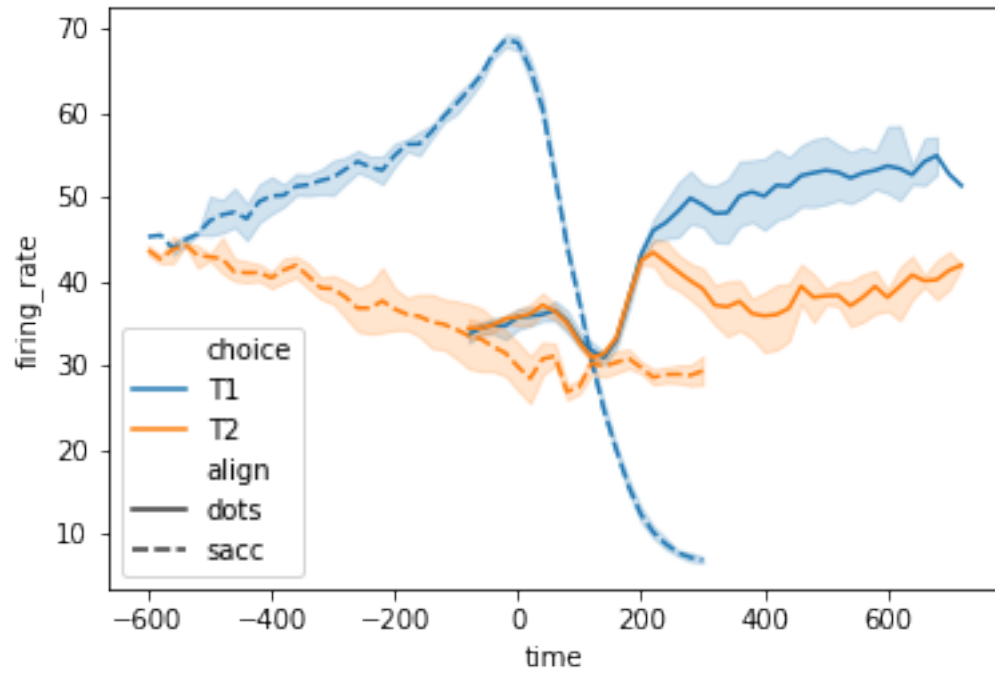
```
[24]: <matplotlib.axes._subplots.AxesSubplot at 0x1a1afe3390>
```



Lastly, combine these two factors to get a plot separated by both choice (color) and align (style). How many lines do you expect in the resulting graph?

```
[25]: # plot time vs firing_rate separated by choice and align
sns.lineplot(x='time', y='firing_rate', hue = "choice", style = "align",
             data=dots)
```

```
[25]: <matplotlib.axes._subplots.AxesSubplot at 0x1a1b1826d8>
```



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