KEY_Practice25_LineGraphs

December 10, 2019

1 Line Graphs

Let's start out by loading the seaborn package

[1]:
```
# load seaborn pakcage
import seaborn as sns
# set up for inline plotting
%matplotlib inline
```

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

[2]:
```
# load data
dots = sns.load_dataset("dots")
# preview data
dots.head()
```

[2]:

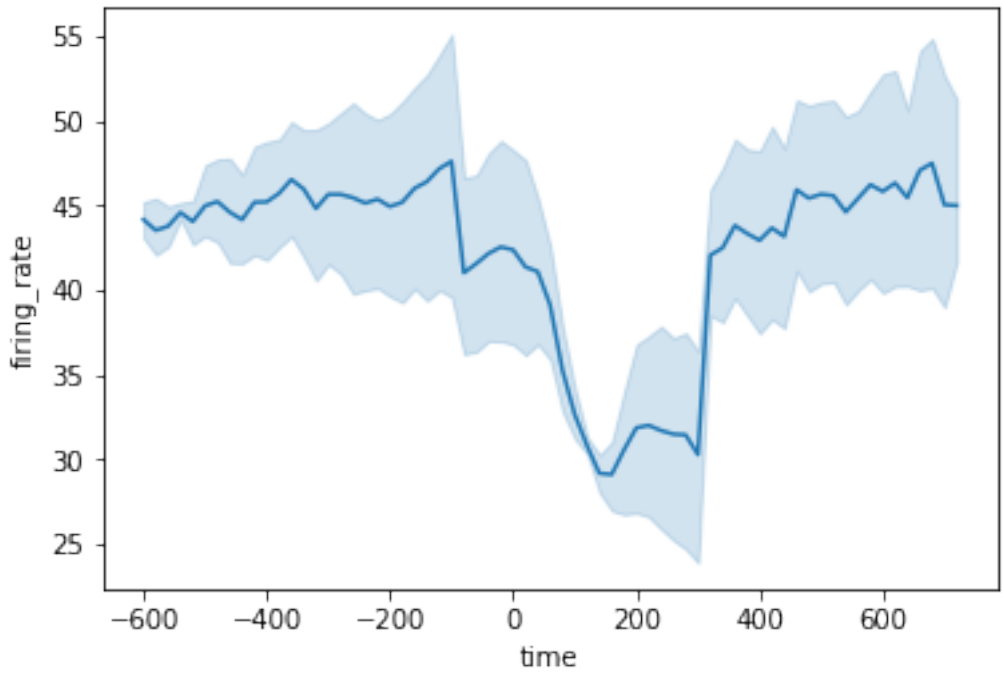
	align	choice	time	coherence	firing_rate
0	dots	T1	-80	0.0	33.189967
1	dots	T1	-80	3.2	31.691726
2	dots	T1	-80	6.4	34.279840
3	dots	T1	-80	12.8	32.631874
4	dots	T1	-80	25.6	35.060487

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!

[3]:
```
# plot time vs firing_rate
sns.lineplot(x='time', y='firing_rate', data=dots)
```

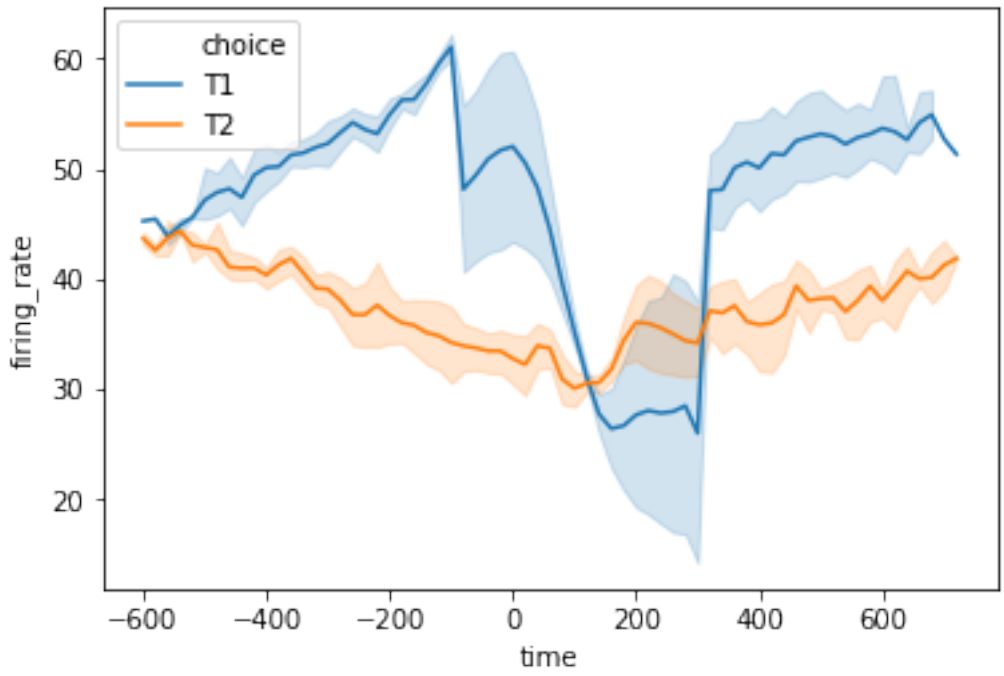
[3]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x110baa2b0>
```



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

[4]:
```
# plot time vs firing_rate separated by choice
sns.lineplot(x='time', y='firing_rate', hue = "choice", data=dots)
```

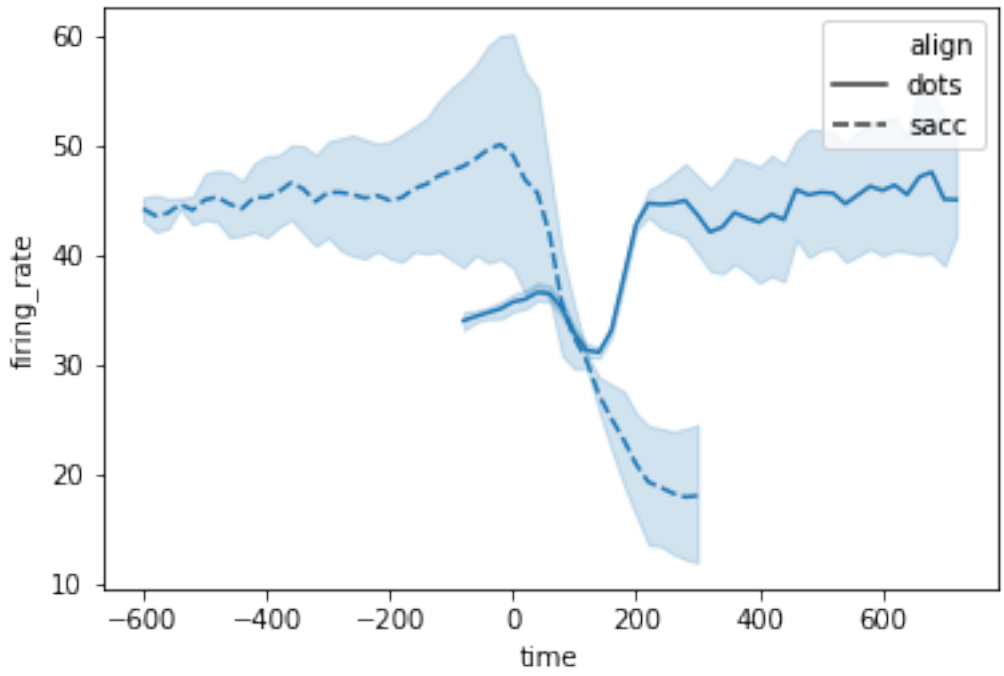
[4]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x105af7e10>
```



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

[5]:
```
# plot time vs firing_rate separated by align
sns.lineplot(x='time', y='firing_rate', style = "align" ,data=dots)
```

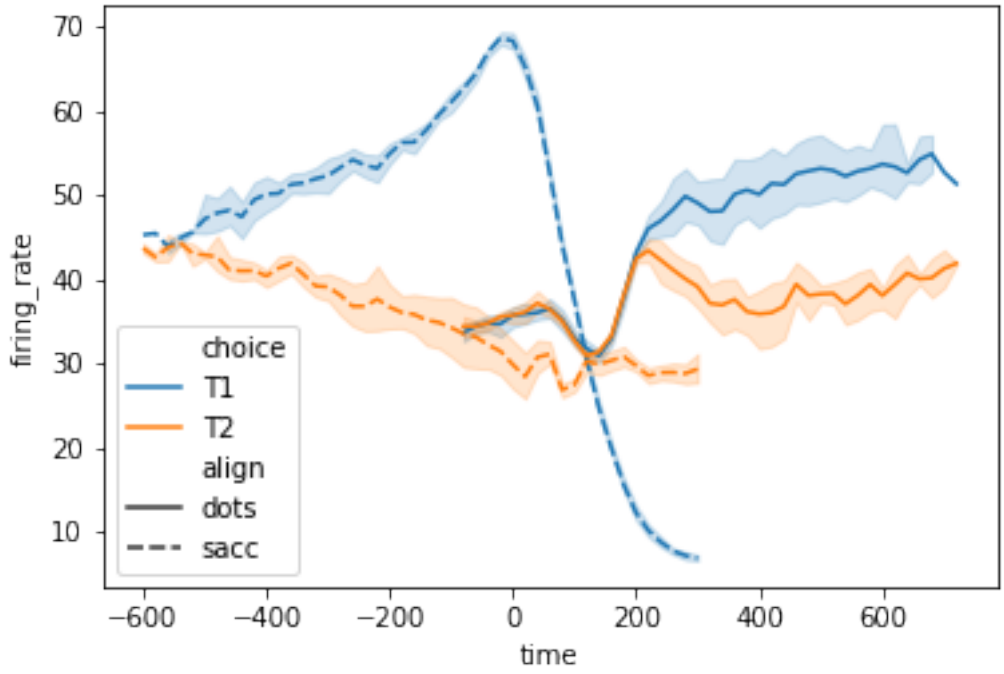
[5]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x110f54f28>
```



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?

[6]:
```
# plot time vs firing_rate separated by choice and align
sns.lineplot(x='time', y='firing_rate', hue = "choice", style = "align"␣
↪,data=dots)
```

[6]:
```
<matplotlib.axes._subplots.AxesSubplot at 0x110f60fd0>
```


70
60
50
40
30
20
10
firing_rate
choice
T1
T2
align
dots
sacc
−600
−400
−200
0
200
400
600
time