Tips

Introduction:

This exercise was created based on the tutorial and documentation from Seaborn
The dataset being used is tips from Seaborn.

Step 1. Import the necessary libraries:

In [1]:
```
import pandas as pd

# visualization libraries
import matplotlib.pyplot as plt
import seaborn as sns


# print the graphs in the notebook
%matplotlib inline

# set seaborn style to white
sns.set_style("white")
```

Step 2. Import the dataset from this address.

Step 3. Assign it to a variable called tips

In [2]:
```
url = 'https://raw.githubusercontent.com/guipsamora/pandas_exercises/master/07_Visualization/Tips/tips.csv'
tips = pd.read_csv(url)

tips.head()
```

Out[2]:

	Unnamed: 0	total_bill	tip	sex	smoker	day	time	size
0	0	16.99	1.01	Female	No	Sun	Dinner	2
1	1	10.34	1.66	Male	No	Sun	Dinner	3
2	2	21.01	3.50	Male	No	Sun	Dinner	3
3	3	23.68	3.31	Male	No	Sun	Dinner	2
4	4	24.59	3.61	Female	No	Sun	Dinner	4

Step 4. Delete the Unnamed 0 column

In [3]:
```
del tips['Unnamed: 0']

tips.head()
```

Out[3]:

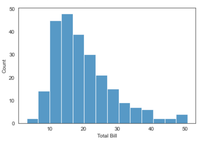
	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

Step 5. Plot the total_bill column histogram

In [4]:
```
sns.histplot(data=tips, x="total_bill")

plt.xlabel("Total Bill")
plt.ylabel("Count")
```

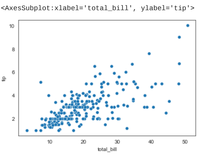
Out[4]:
```
Text(0, 0.5, 'Count')
```



Step 6. Create a scatter plot presenting the relationship between total_bill and tip

In [5]:
```
sns.scatterplot(data=tips,x='total_bill',y='tip')
```

Out[5]:
```
<AxesSubplot:xlabel='total_bill', ylabel='tip'>
```

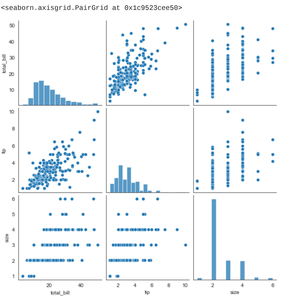


Step 7. Create one image with the relationship of total_bill, tip and size.

Hint: It is just one function.

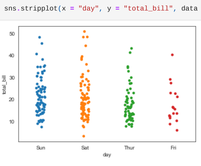
In [6]:
```
sns.pairplot(tips)
```

Out[6]:
```
<seaborn.axisgrid.PairGrid at 0x1c9523cee50>
```



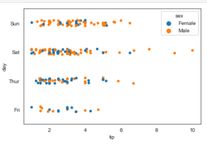
Step 8. Present the relationship between days and total_bill value

In [7]:
```
sns.stripplot(x = "day", y = "total_bill", data = tips, jitter = True);
```



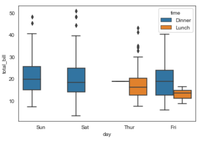
Step 9. Create a scatter plot with the day as the y-axis and tip as the x-axis, differ the dots by sex

In [8]:
```
sns.stripplot(x = "tip", y = "day", hue = "sex", data = tips, jitter = True);
```



Step 10. Create a box plot presenting the total_bill per day differetiation the time (Dinner or Lunch)

In [9]:
```
sns.boxplot(x = "day", y = "total_bill", hue = "time", data = tips);
```



Step 11. Create two histograms of the tip value based for Dinner and Lunch. They must be side by side.

In [10]:
```
# better seaborn style
sns.set(style = "ticks")

# creates FacetGrid
g = sns.FacetGrid(tips, col = "time")
g.map(plt.hist, "tip");
```

Step 12. Create two scatterplots graphs, one for Male and another for Female, presenting the total_bill value and tip relationship, differing by smoker or no smoker

They must be side by side.

In [11]:
```
g = sns.FacetGrid(tips, col = "sex", hue = "smoker")
g.map(plt.scatter, "total_bill", "tip", alpha =.7)

g.add_legend();
```