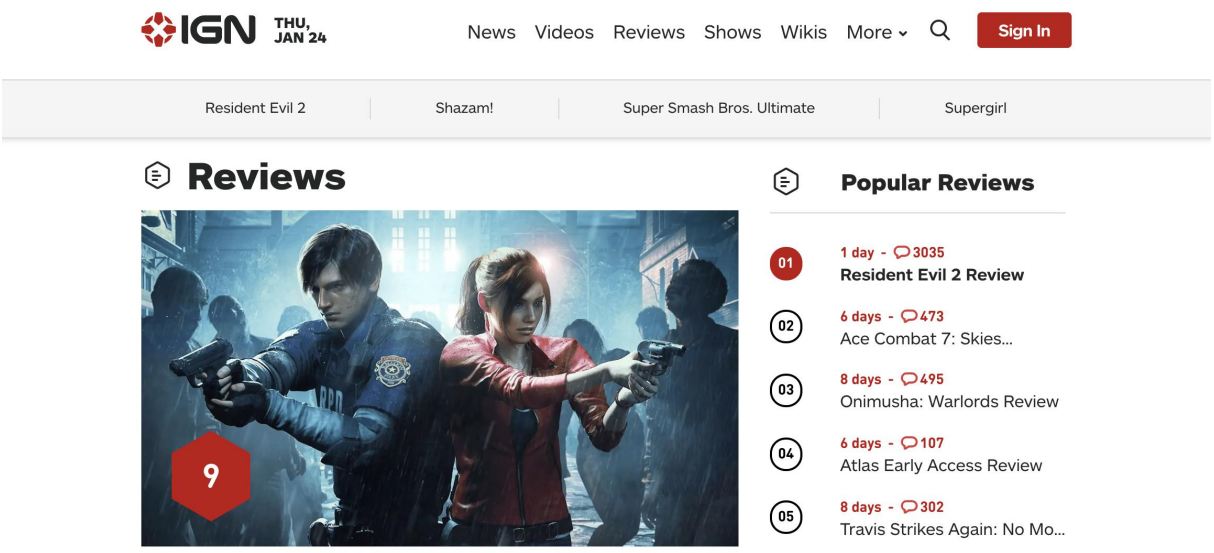
This notebook is an exercise in the Data Visualization course. You can reference the tutorial at this link.

In this exercise, you will use your new knowledge to propose a solution to a real-world scenario. To succeed, you will need to import data into Python, answer questions using the data, and generate **bar charts** and **heatmaps** to understand patterns in the data.

Scenario

You've recently decided to create your very own video game! As an avid reader of IGN Game Reviews, you hear about all of the most recent game releases, along with the ranking they've received from experts, ranging from 0 (*Disaster*) to 10 (*Masterpiece*).



You're interested in using IGN reviews to guide the design of your upcoming game. Thankfully, someone has summarized the rankings in a really useful CSV file that you can use to guide your analysis.

Setup

Run the next cell to import and configure the Python libraries that you need to complete the exercise.

In [ ]:
```
import pandas as pd
pd.plotting.register_matplotlib_converters()
import matplotlib.pyplot as plt
%matplotlib inline
import seaborn as sns
print("Setup Complete")
```

The questions below will give you feedback on your work. Run the following cell to set up our feedback system.

In [ ]:
```
# Set up code checking
import os
if not os.path.exists("../input/ign_scores.csv"):
    os.symlink("../input/data-for-datavis/ign_scores.csv", "../input/ign_scores.csv")
from learntools.core import binder
binder.bind(globals())
from learntools.data_viz_to_coder.ex3 import *
print("Setup Complete")
```

Step 1: Load the data

Read the IGN data file into `ign_data`. Use the `"Platform"` column to label the rows.

In [ ]:
```
# Path of the file to read
```

```
ign_filepath = "../input/ign_scores.csv"

# Fill in the line below to read the file into a variable ign_data
ign_data = pd.read_csv(ign_filepath,index_col='Platform')

# Run the line below with no changes to check that you've loaded the da
ta correctly
step_1.check()
```

In [ ]:
```
# Lines below will give you a hint or solution code
#step_1.hint()
#step_1.solution()
```

Step 2: Review the data

Use a Python command to print the entire dataset.

In [ ]:
```
ign_data # Your code here
```

The dataset that you've just printed shows the average score, by platform and genre. Use the data to answer the questions below.

In [ ]:
```
# Fill in the line below: What is the highest average score received by
PC games,
# for any platform?
# for any platform?
high_score = 7.759930

# Fill in the line below: On the Playstation Vita platform, which genre
has the
# lowest average score? Please provide the name of the column, and put
 your answer
# in single quotes (e.g., 'Action', 'Adventure', 'Fighting', etc.)
worst_genre = 'Simulation'
```

```
# Check your answers
step_2.check()
```

In [ ]:
```
# Lines below will give you a hint or solution code
#step_2.hint()
#step_2.solution()
```

Step 3: Which platform is best?

Since you can remember, your favorite video game has been **Mario Kart Wii**, a racing game released for the Wii platform in 2008. And, IGN agrees with you that it is a great game -- their rating for this game is a whopping 8.9! Inspired by the success of this game, you're considering creating your very own racing game for the Wii platform.

Part A

Create a bar chart that shows the average score for **racing** games, for each platform. Your chart should have one bar for each platform.

In [ ]:
```
# Bar chart showing average score for racing games by platform
plt.figure(figsize=(8, 6))
sns.barplot(x=ign_data['Racing'], y=ign_data.index)
plt.xlabel("")
plt.title("Average Score for Racing Games, by Platform")
step_3.a.check()
```

In [ ]:
```
# Lines below will give you a hint or solution code
#step_3.a.hint()
#step_3.a.solution_plot()
```

Part B

Based on the bar chart, do you expect a racing game for the **Wii** platform to receive a high rating? If not, what gaming platform seems to be the best alternative?

In [ ]:
```
#step_3.b.hint()
```

In [ ]:
```
# Check your answer (Run this code cell to receive credit!)
step_3.b.solution()
```

Step 4: All possible combinations!

Eventually, you decide against creating a racing game for Wii, but you're still committed to creating your own video game! Since your gaming interests are pretty broad (*... you generally love most video games*), you decide to use the IGN data to inform your new choice of genre and platform.

Part A

Use the data to create a heatmap of average score by genre and platform.

In [ ]:
```
# Heatmap showing average game score by platform and genre
____ # Your code here
plt.figure(figsize=(10, 10))
sns.heatmap(ign_data,annot = True)
plt.xlabel("")
plt.title("Average Score for Racing Games, by Platform")
# Check your answer
step_4.a.check()
```

In [ ]:
```
# Lines below will give you a hint or solution code
#step_4.a.hint()
#step_4.a.solution_plot()
```

Part B

Which combination of genre and platform receives the highest average ratings? Which combination receives the lowest average rankings?

In [ ]:
```
#step_4.b.hint()
```

In [ ]:
```
# Check your answer (Run this code cell to receive credit!)
step_4.b.solution()
```

Keep going

Move on to learn all about **scatter plots**!

Have questions or comments? Visit the Learn Discussion forum to chat with other Learners.