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Daily XP 250

Exercise

Adjusting the whiskers

In the lesson we saw that there are multiple ways to define the whiskers in a box plot. In this set of exercises, we'll continue to use the `student_data` dataset to compare the distribution of final grades ("63") between students who are in a romantic relationship and those that are not. We'll use the "romantic" variable, which is a yes/no indicator of whether the student is in a romantic relationship.

Let's create a box plot to look at this relationship and try different ways to define the whiskers.

We've already imported Seaborn as `sns` and `matplotlib.pyplot` as `plt`.

Instructions 1/3 35 XP

1

Adjust the code to make the box plot whiskers to extend to $0.5 * IQR$. Recall: the IQR is the interquartile range.

Take Hint (-10 XP)

2

Change the code to set the whiskers to extend to the 5th and 95th percentiles.

3

Change the code to set the whiskers to extend to the min and max values.

script.py

Light Mode

```
1 # Set the whiskers to 0.5 * IQR
2 sns.catplot(x="romantic", y="63",
3             data=student_data,
4             kind="box")
5
6 # Show plot
7 plt.show()
```

↶ Run Code Submit Answer

IPython Shell Slides

In [1]:

Adjusting the Whiskers in a Box Plot

Adjust the code to make the box plot whiskers extend to $0.5 * IQR$. Recall: the IQR is the interquartile range.

Full Answer

To adjust the whiskers in a box plot to $0.5 * IQR$, use `sns.catplot()` and set the 'whis' parameter to 0.5. Below is the working code:

```
import seaborn as sns
import matplotlib.pyplot as plt

# Set the whiskers to 0.5 * IQR
sns.catplot(x='romantic', y='G3',
            data=student_data,
            kind='box',
            whis=0.5)

# Show plot
plt.show()
```

Explanation

1. Import seaborn and matplotlib.pyplot for creating visualizations.
2. Use sns.catplot() to create a box plot with:
 - 'x' set to 'romantic' to display whether students are in a romantic relationship.
 - 'y' set to 'G3' to display final grades.
 - 'kind' set to 'box' to create a box plot.
 - 'whis' set to 0.5 to adjust the whiskers to extend to 0.5 * IQR.
 - 'data' set to student_data, the DataFrame containing the data.
3. Use plt.show() to render and display the plot.