

Learn / Courses / Introduction to Data Visualization with Seaborn

← Course Outline →

Daily XP 900

Exercise

### Changing the size of scatter plot points

In this exercise, we'll explore Seaborn's `mpg` dataset, which contains one row per car model and includes information such as the year the car was made, the number of miles per gallon ("MPG") it achieves, the power of its engine (measured in "horsepower"), and its country of origin.

What is the relationship between the power of a car's engine ("horsepower") and its fuel efficiency ("mpg")? And how does this relationship vary by the number of cylinders ("cylinders") the car has? Let's find out.

Let's continue to use `relplot()` instead of `scatterplot()` since it offers more flexibility.

Instructions 1/2

90 XP

1 2

- Use `relplot()` and the `mpg` DataFrame to create a scatter plot with "horsepower" on the x-axis and "mpg" on the y-axis. Vary the size of the points by the number of cylinders in the car ("cylinders").

Take Hint (-15 XP)

script.py

Light Mode

```
1 # Import Matplotlib and Seaborn
2 import matplotlib.pyplot as plt
3 import seaborn as sns
4
5 # Create scatter plot of horsepower vs. mpg
6
7
8
9
10 # Show plot
11 plt.show()
```

Run Code Submit Answer

IPython Shell

Slides

In [1]:

## Changing the Size of Scatter Plot Points

Use `relplot()` and the `mpg` DataFrame to create a scatter plot with 'horsepower' on the x-axis and 'mpg' on the y-axis. Vary the size of the points by the number of cylinders in the car ('cylinders').

### Full Answer ###

The following code creates a scatter plot using `relplot()` and varies the size of the points based on the number of cylinders in the car ('cylinders'). Below is the working code:

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

# Create scatter plot of horsepower vs. mpg with point size based on
cylinders
sns.relplot(x='horsepower', y='mpg',
            size='cylinders',
            data=mpg,
            kind='scatter',
            sizes=(10, 200))

# Show plot
plt.show()
```

### ### Code Explanation ###

1. Import seaborn and matplotlib.pyplot for data visualization.
2. Use `sns.relplot()` to create a scatter plot with:
  - 'x' set to 'horsepower' to represent the engine power on the x-axis.
  - 'y' set to 'mpg' to represent the fuel efficiency on the y-axis.
  - 'size' set to 'cylinders' to vary the size of the scatter plot points.
  - 'data' set to `mpg`, the DataFrame containing the data.
  - 'kind' set to 'scatter' to generate scatter plots.
  - 'sizes' set to (10, 200) to control the range of point sizes.
3. Use `plt.show()` to render and display the plot.