# Seaborn scatterplot

SHARP SIGHT

# What you'll learn

- How to create scatterplots with Seaborn

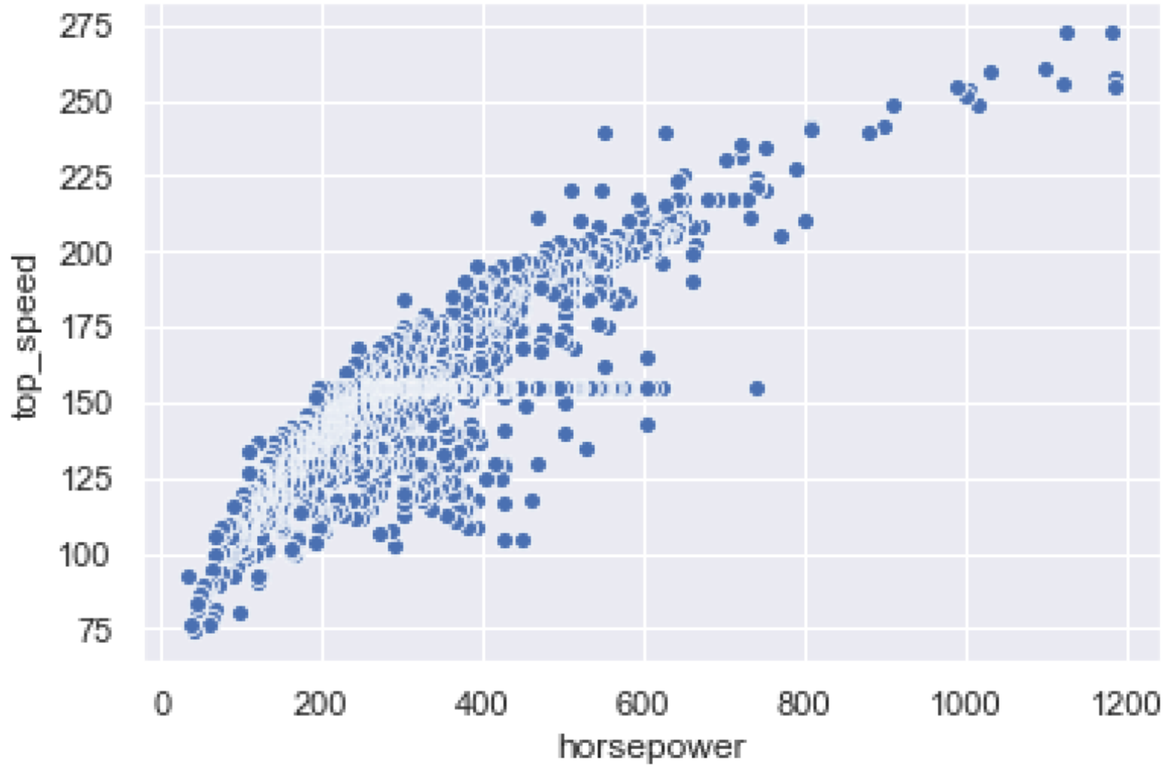
- How to use the `sns.scatterplot()` function

- How to modify your scatterplots
  - remove the "edge" around the points
  - change color
  - change opacity
  - etc ...

# Seaborn scatterplot overview

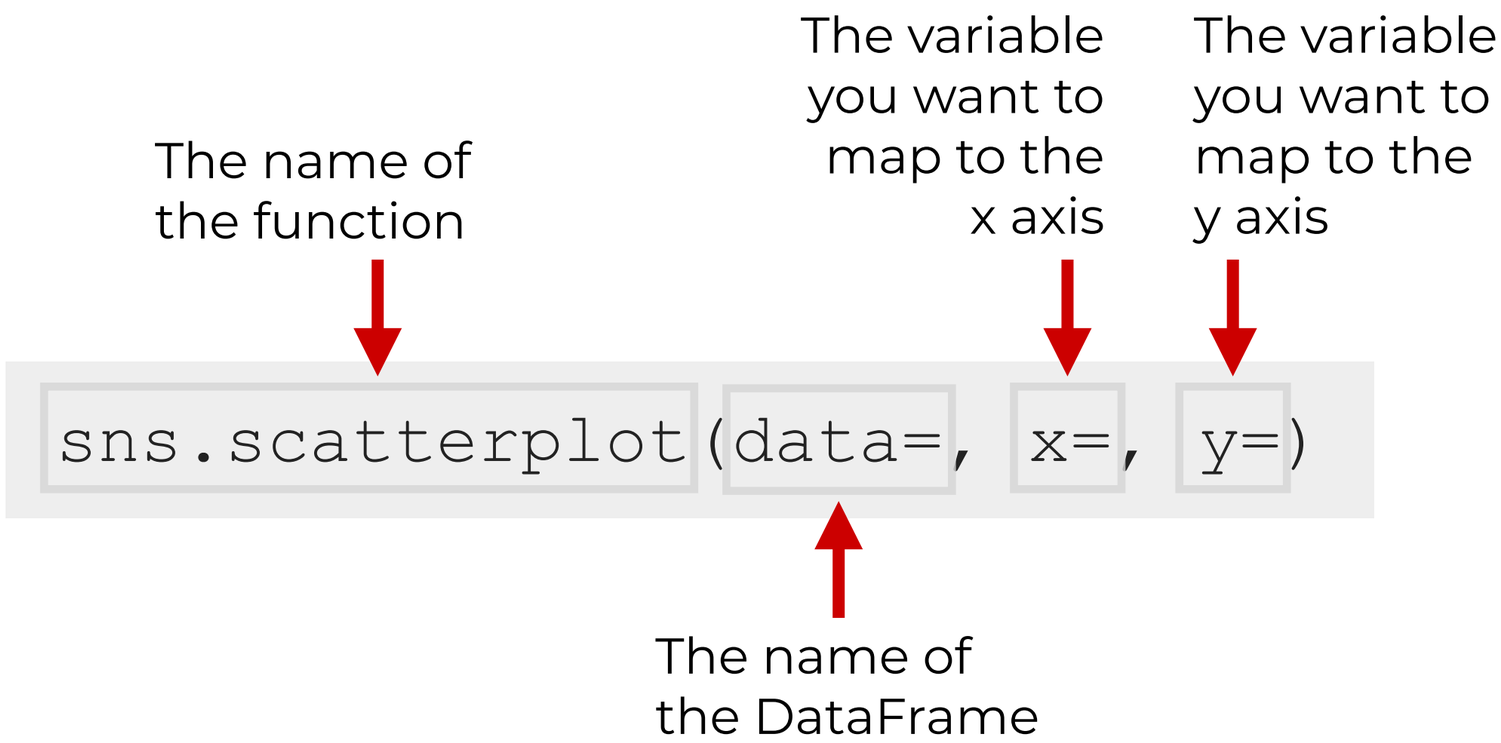
# We can use Seaborn to create a scatterplot of points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                )
```



# Seaborn scatterplot syntax

# Syntax of sns.scatterplot



# Parameters of sns.scatterplot

# The parameters of sns.scatterplot

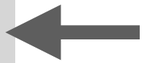
| Parameter | What it does | Format | Required? | Default |
|---|---|---|---|---|
| `data` | Specify dataframe | DataFrame | Y | |
| `x` | Specify variable to map to the x-axis | Numeric variable | Y | |
| `y` | Specify variable to map to the y-axis | Numeric variable | Y | |
| `edgecolor` | Set color of the edge of the points | Color name | N | Typically white, but depends on settings |
| `color` | Set color of the interior of the points | Color name | N | Typically blue, but depends on settings |
| `alpha` | Set the opacity of the points | Value between 0 and 1 | N | 1 |
| `hue` | Change color of points according to the values of some variable | Numeric or categorical var | N | |

**Note**: `sns.scatterplot()` has many more parameters, but these are the most commonly used

# Examples of sns.scatterplot

# Example 1: a simple seaborn scatterplot

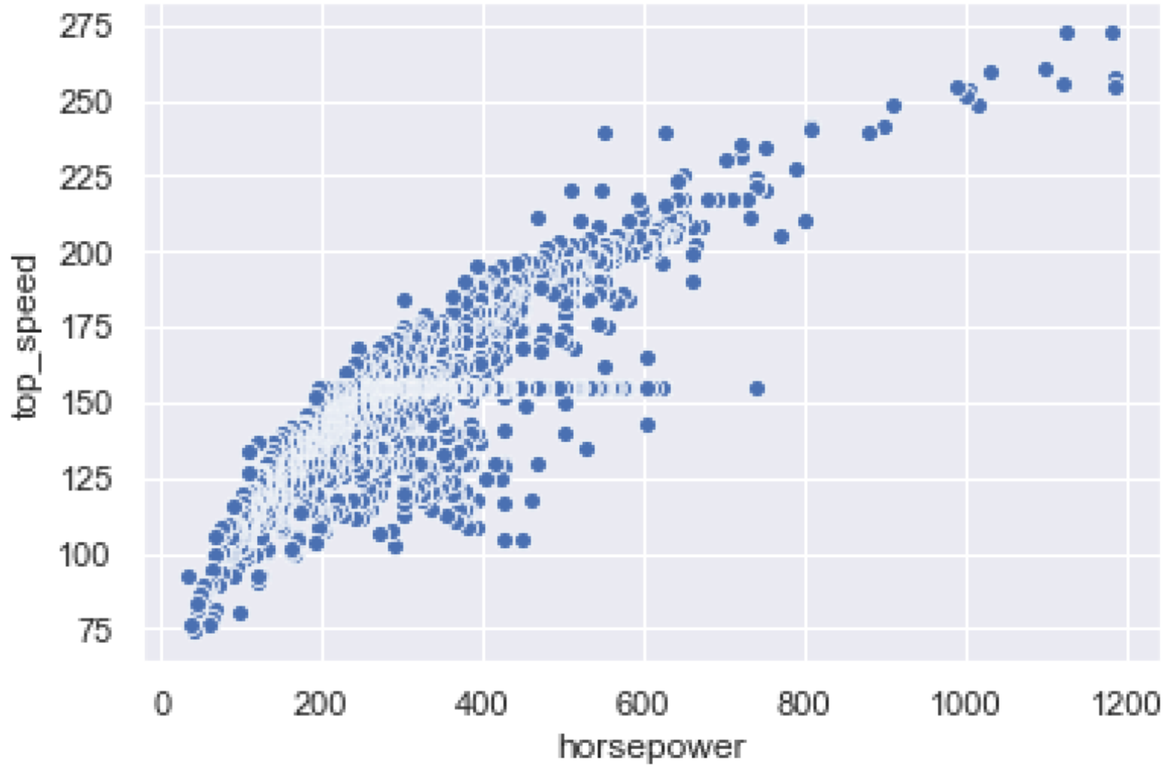
```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                )
```



Specify the DataFrame and map variables to the x and y axes

# Example 1: a simple seaborn scatterplot

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                )
```



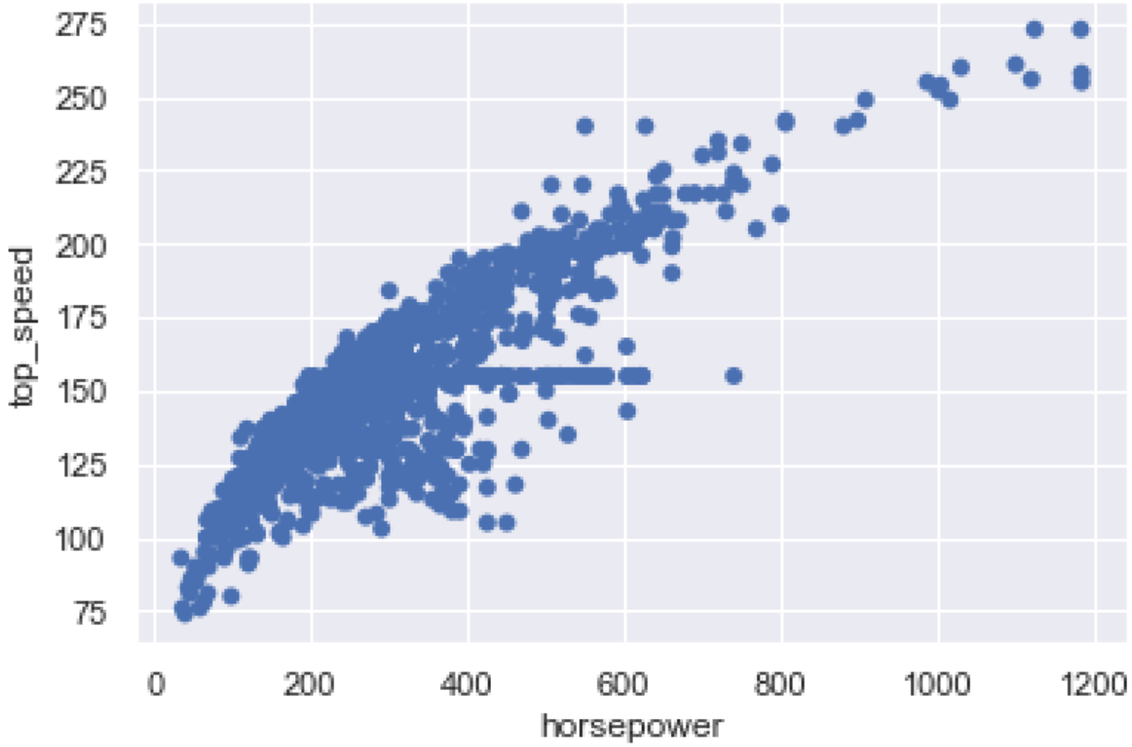
# Example 2: remove point edges

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                )
```

Here, we're removing the edge color with `edgecolor = none`

# EXAMPLE 2: REMOVE POINT EDGES

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                )
```



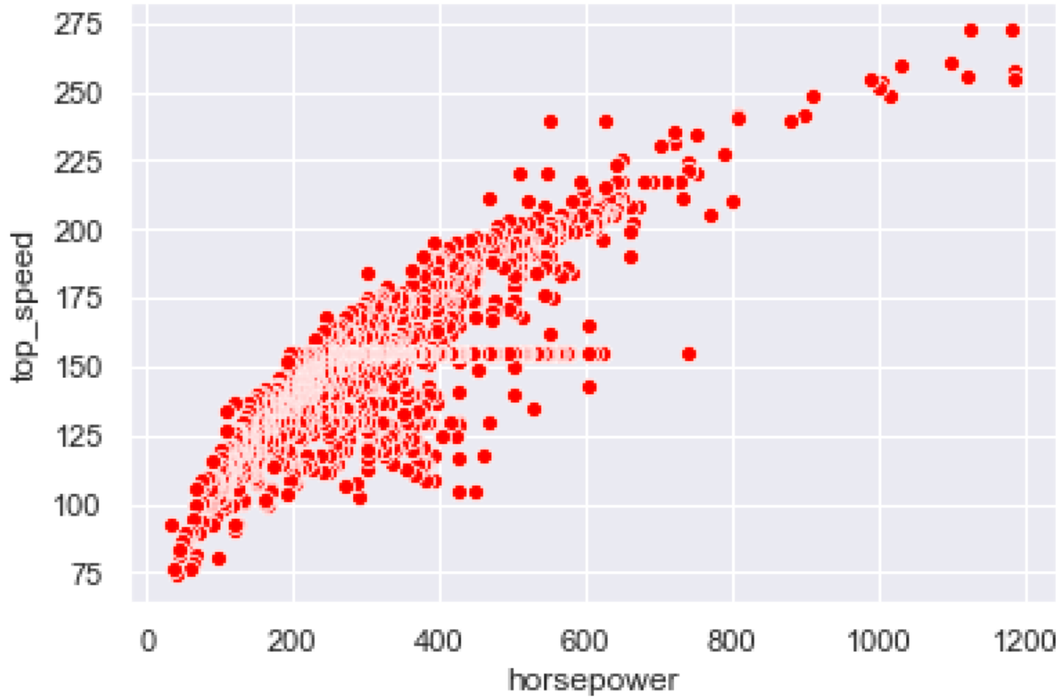
# Example 3: Change the color of the points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,color = 'red'
                )
```

Here, we're changing the color of the points with  the edge color with `color = 'red'`

# Example 3: Change the color of the points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,color = 'red'
                )
```



# Example 4: reduce the opacity of the points

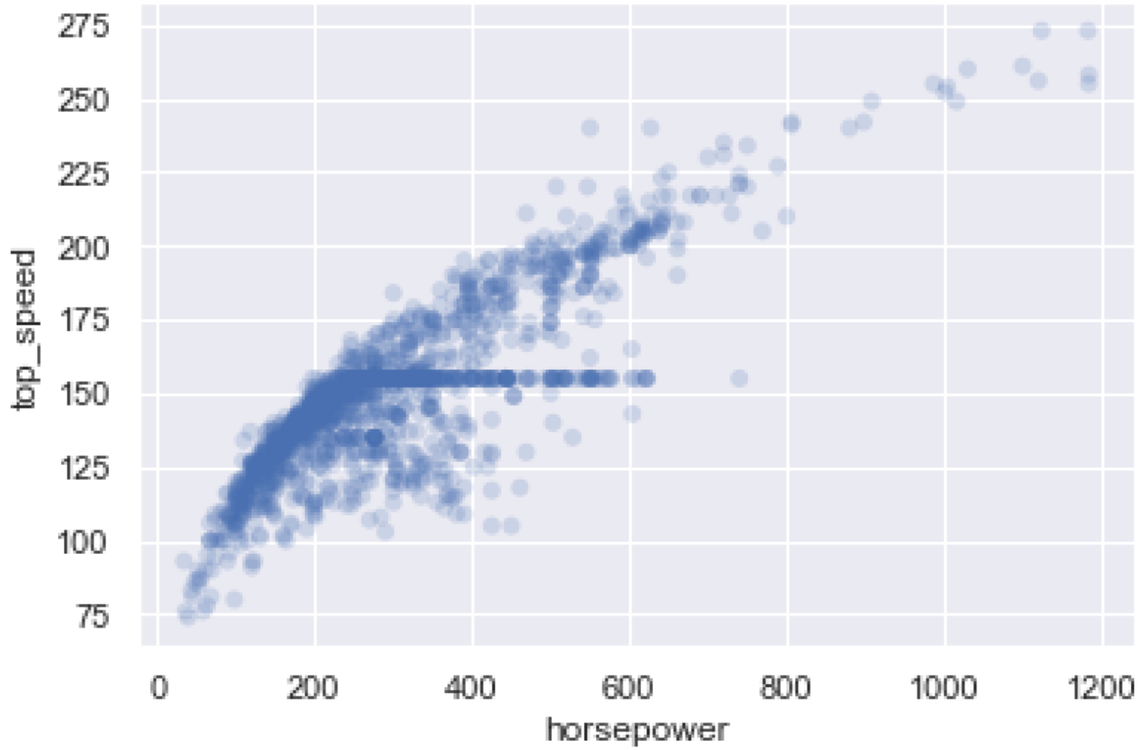
```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,alpha = .2
                )
```

Here, we're changing the opacity of the points with `alpha = .2`

i.e., 20% of full opacity

# Example 4: reduce the opacity of the points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,alpha = .2
                )
```



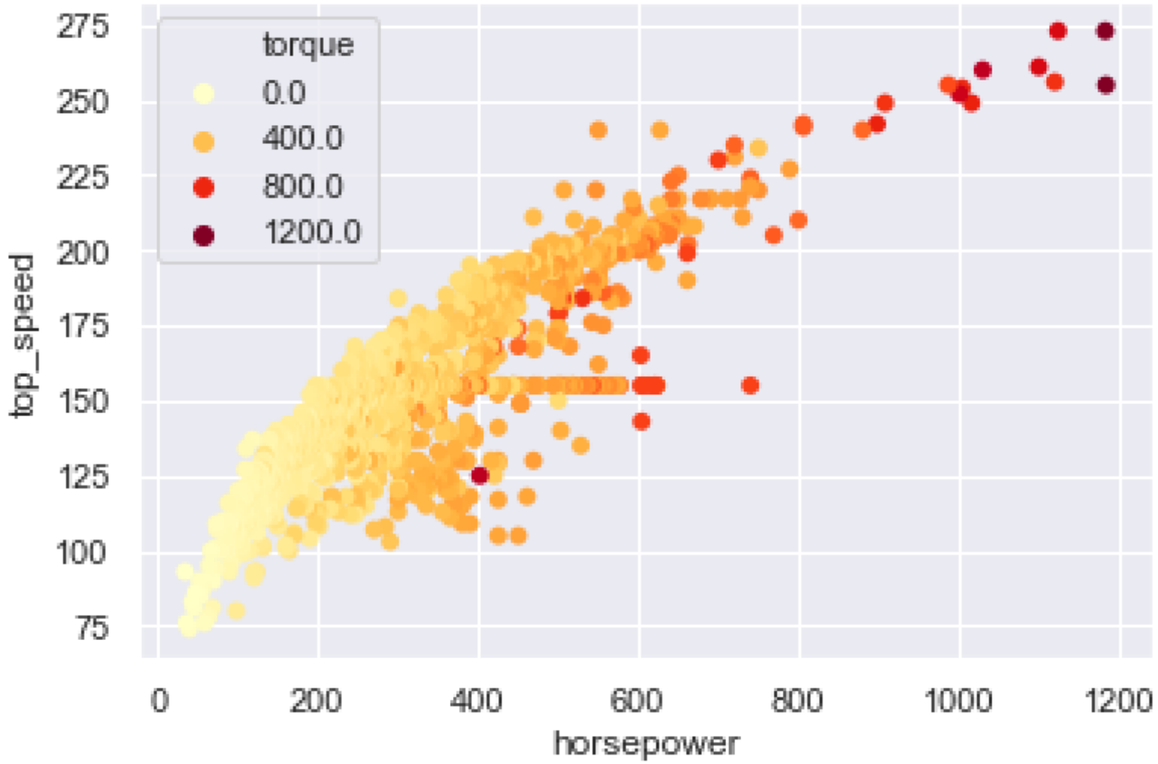
# Example 5: change the color palette

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,hue = 'torque'
                ,palette = "YlOrRd"
                )
```

Here, we're mapping `torque` to the `hue` parameter, but we're also changing the `palette` to `'YlOrRd'`

# EXAMPLE 5: CHANGE THE COLOR PALETTE

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,hue = 'torque'
                ,palette = "YlOrRd"
                )
```



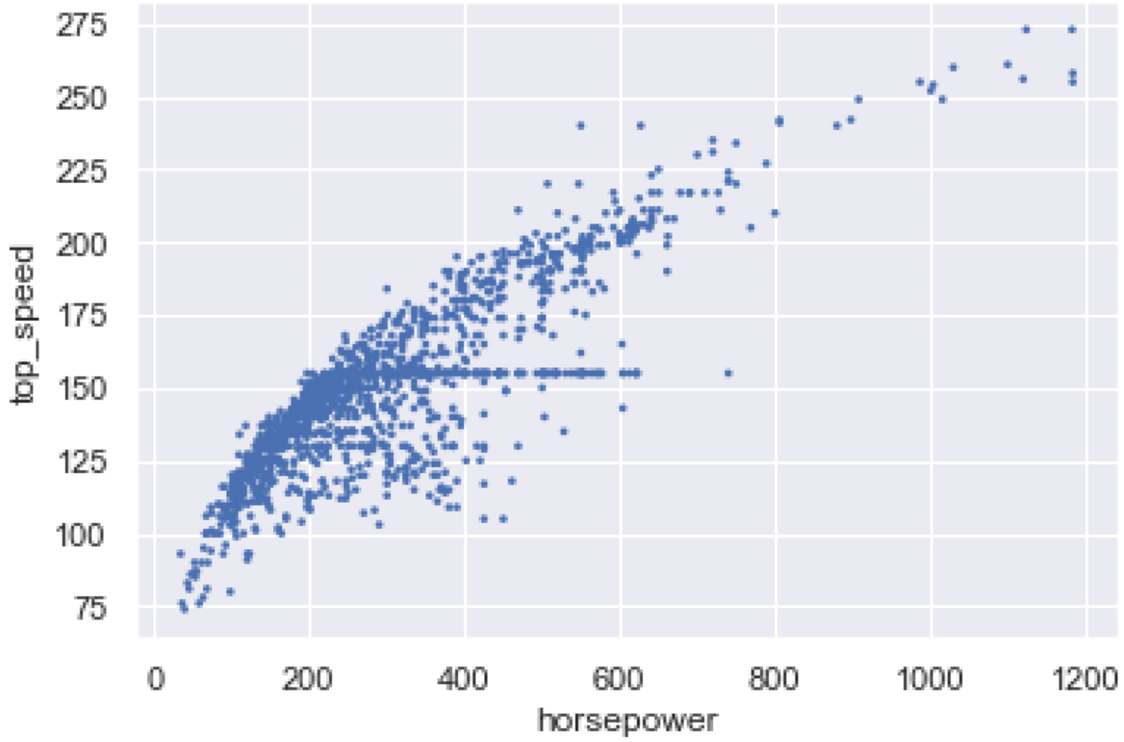
# Example 6: change the size of the points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,s = 7
                )
```

Here, we're setting the `s` parameter to 7 to reduce the size of the points

# Example 6: change the size of the points

```
sns.scatterplot( data = supercars
                ,x = 'horsepower'
                ,y = 'top_speed'
                ,edgecolor = 'none'
                ,s = 7
                )
```



# Recap

# Recap of what we learned

- How to create scatterplots with Seaborn

- How to use the `sns.scatterplot()` function

- How to modify your scatterplots
  - remove the "edge" around the points
  - change color
  - change opacity
  - etc ...

- **Next Steps**: Watch the code walkthrough video for step-by-step examples of `sns.scatterplot()`