How can I use facet_wrap in R to create multiple plots based on a categorical variable? Can you provide some examples?

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May 1, 2024

Facet_wrap is a function in the R programming language that allows users to create multiple plots based on a categorical variable. This function is useful for visualizing and comparing data across different categories. To use facet_wrap, the user must first specify the categorical variable they want to use for grouping the data. Then, the function will automatically generate individual plots for each category, arranged in a grid format. This allows for easy comparison and identification of patterns and trends within each category. For example, if we have a dataset with sales data for different products, we can use facet_wrap to create separate plots for each product, showing their sales over time. This would enable us to identify the top-performing products and their sales patterns. Overall, facet_wrap is a powerful tool for creating informative and visually appealing plots in R.

Use facet_wrap in R (With Examples)

The facet_wrap() function can be used to produce multi-panel plots in ggplot2.

This function uses the following basic syntax:

library(ggplot2)

ggplot(df, aes(x_var, y_var)) +
geom_point() +
facet_wrap(vars(category_var))

The following examples show how to use this function with the built-in mpg dataset in R:

#view first six rows of *mpg* dataset
head(mpg)manufacturer model displ year cyl trans drv

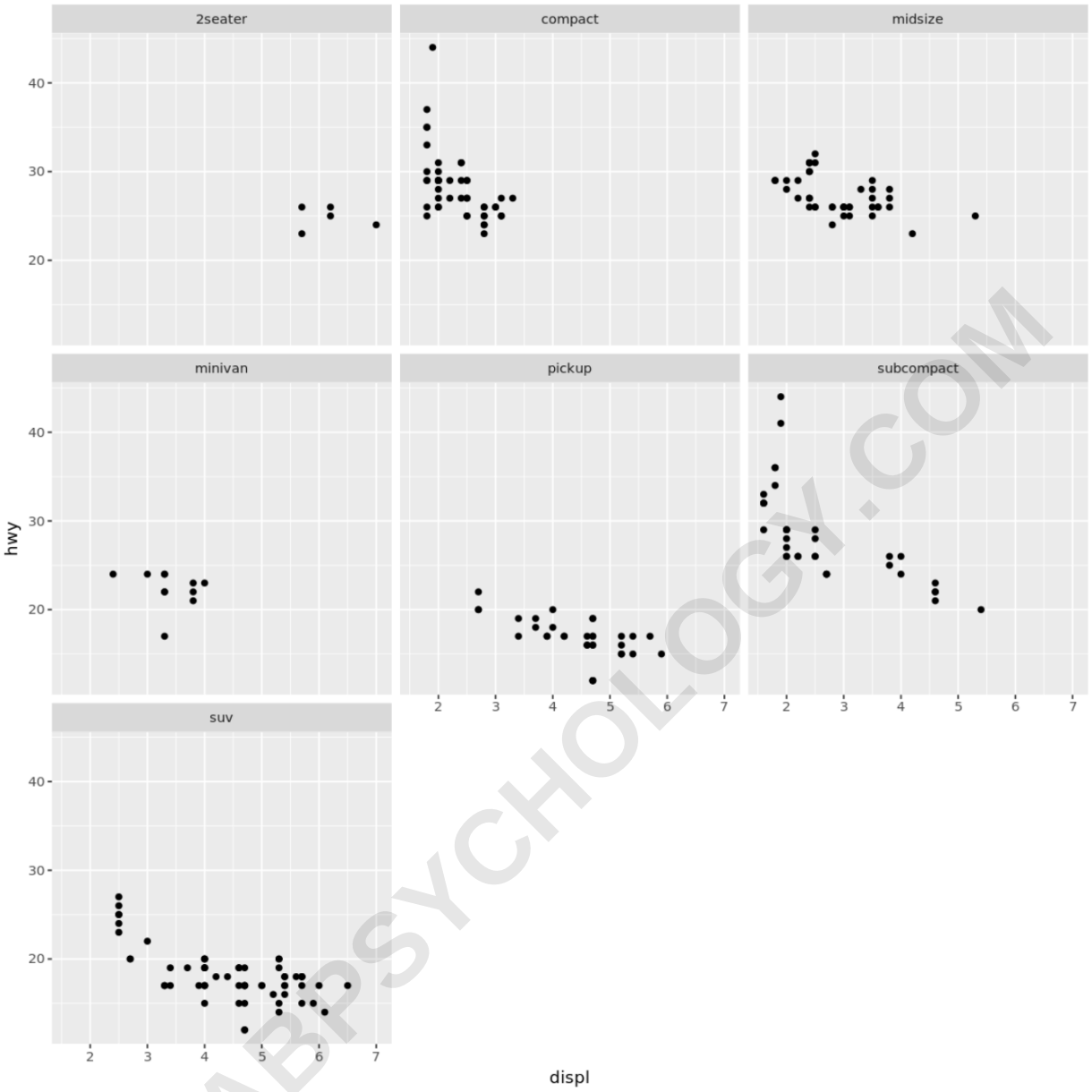
cty hwy fl class

audi a4 1.8 1999 4 auto(l5) f 18 29 p compact
audi a4 1.8 1999 4 manual(m5) f 21 29 p compact
audi a4 2.0 2008 4 manual(m6) f 20 31 p compact
audi a4 2.0 2008 4 auto(av) f 21 30 p compact
audi a4 2.8 1999 6 auto(l5) f 16 26 p compact
audi a4 2.8 1999 6 manual(m5) f 18 26 p compact

Example 1: Basic facet_wrap() Function

The following code shows how to create several scatterplots in ggplot2 using displ as the x-axis variable, hwy as the y-axis variable, and class as the grouping variable:

```
ggplot(mpg, aes(displ, hwy)) +
geom_point() +
facet_wrap(vars(class))
```



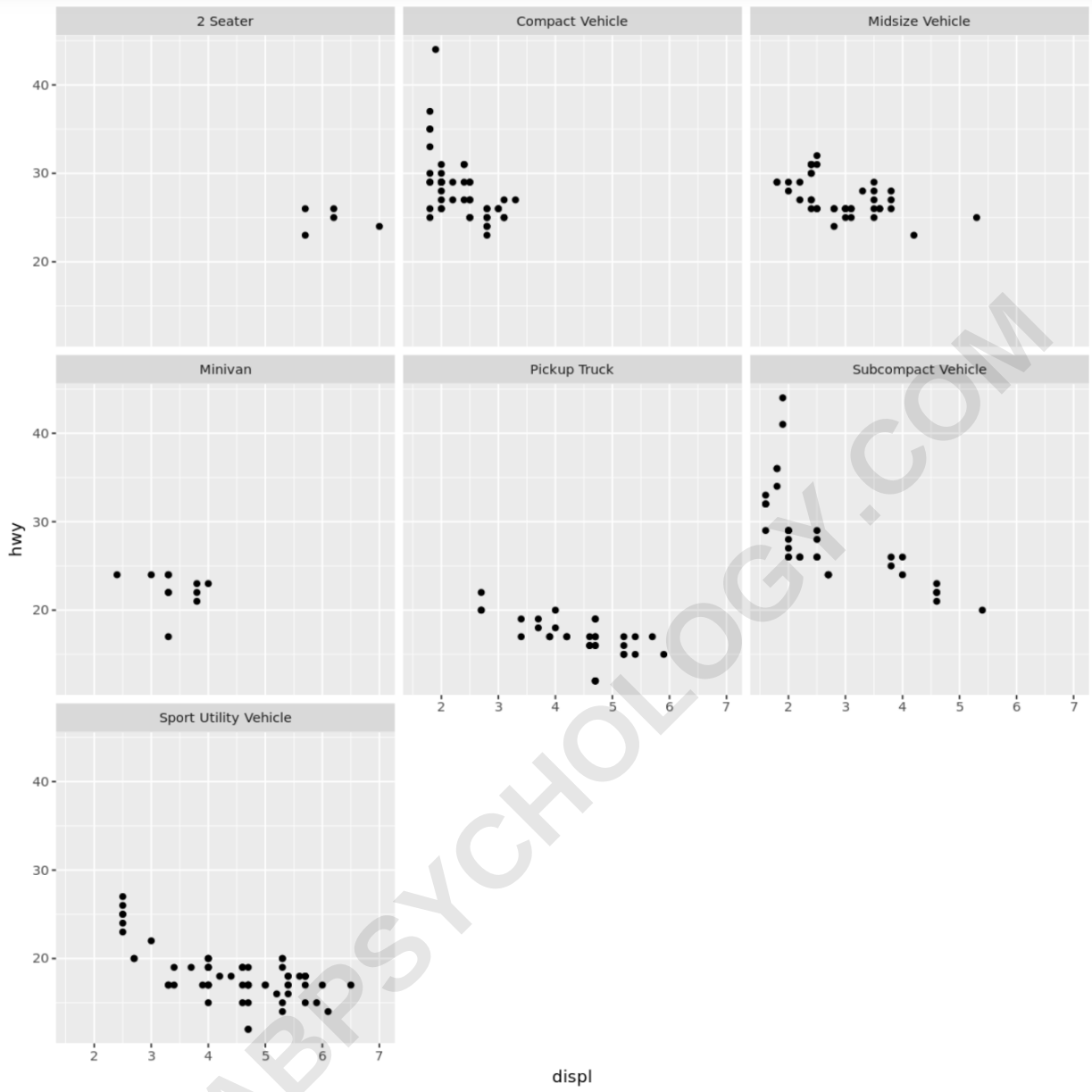
Example 2: Use Custom Labels

The following code shows how to use the facet_wrap() function with custom labels for the plot titles:

```
#define custom labels
plot_names <- c('2seater' = "2 Seater",
```

```
'compact' = "Compact Vehicle",
'midsize' = "Midsize Vehicle",
'minivan' = "Minivan",
'pickup' = "Pickup Truck",
'subcompact' = "Subcompact Vehicle",
'suv' = "Sport Utility Vehicle")

#use facet_wrap with custom plot labels
ggplot(mpg, aes(displ, hwy)) +
geom_point() +
facet_wrap(vars(class), labeller =
as_labeller(plot_names))
```

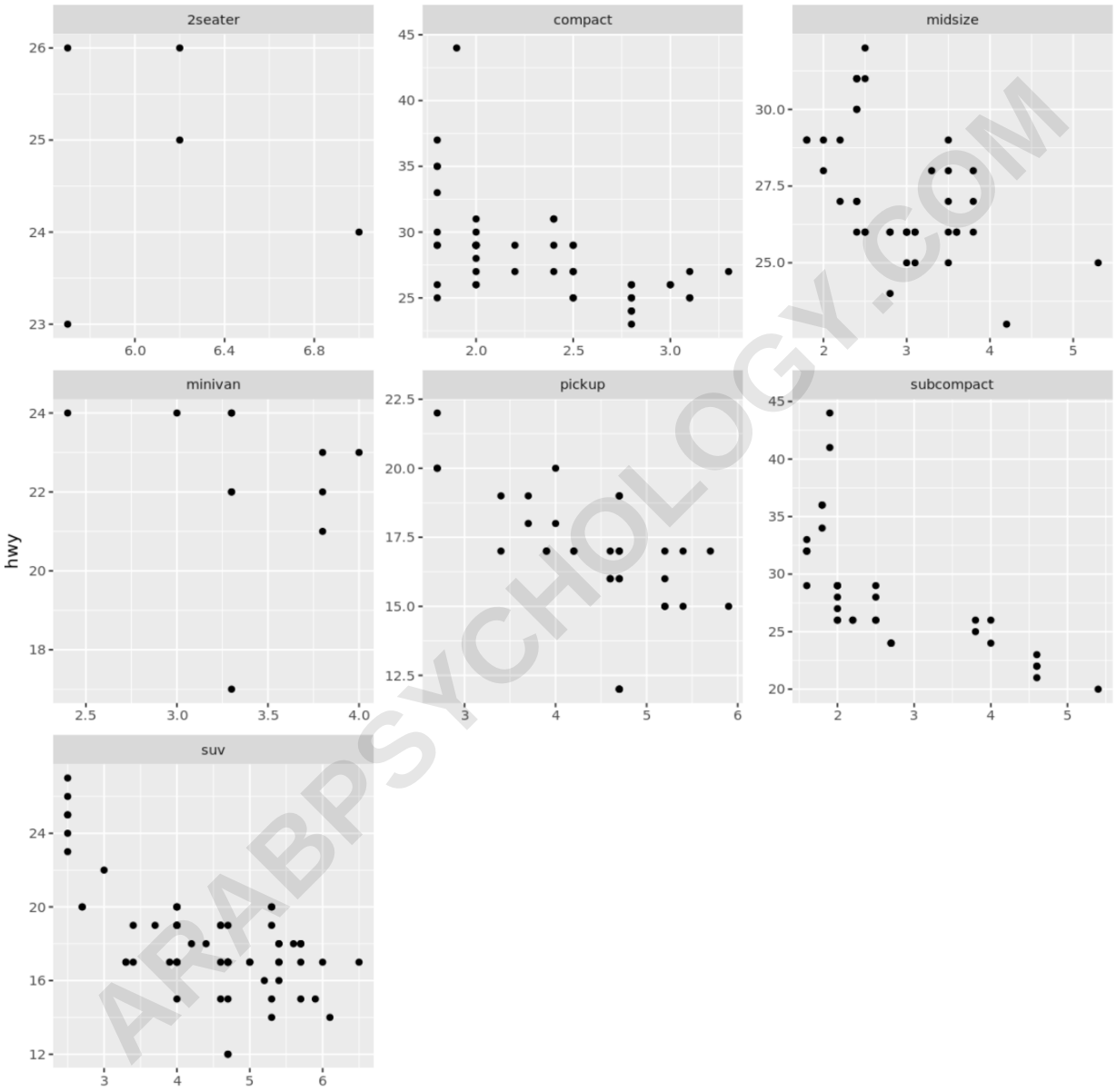


Example 3: Use Custom Scales

The following code shows how to use the facet_wrap() function with custom scales for each individual plot:

```
#use facet_wrap with custom scales
ggplot(mpg, aes(displ, hwy)) +
```

geom_point() + facet_wrap(vars(class), scales='free')

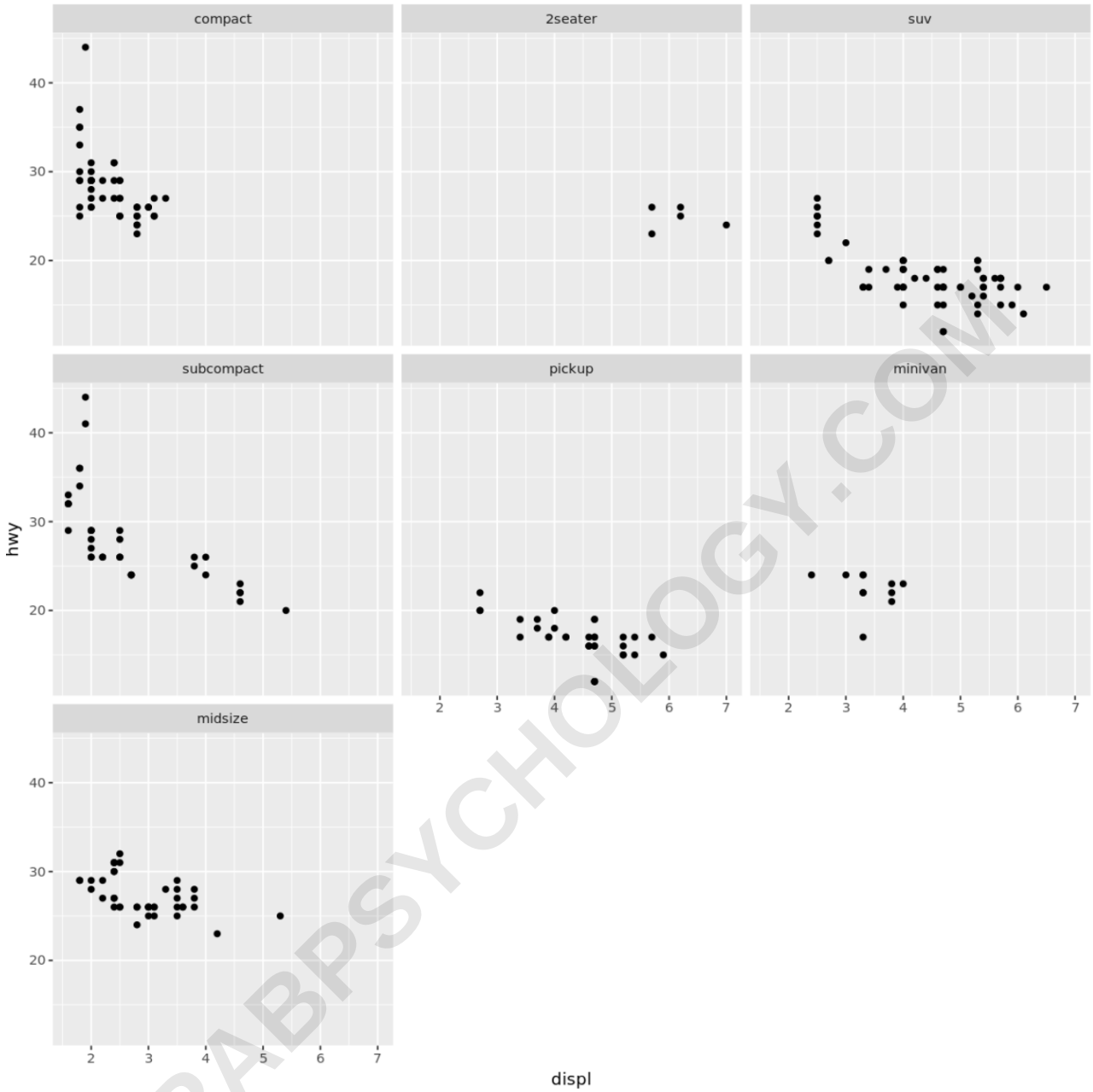


Example 4: Use Custom Order

The following code shows how to use the facet_wrap() function with a custom order for the individual plots:

```
#define order for plots
mpg <- within(mpg, class <- factor(class,
levels=c('compact', '2seater', 'suv',
'subcompact', 'pickup',
'minivan', 'midsize')))

#use facet_wrap with custom order
ggplot(mpg, aes(displ, hwy)) +
geom_point() +
facet_wrap(vars(class))
```



Notice that the plots appear in the exact order that we specified.