

Interim Project Report

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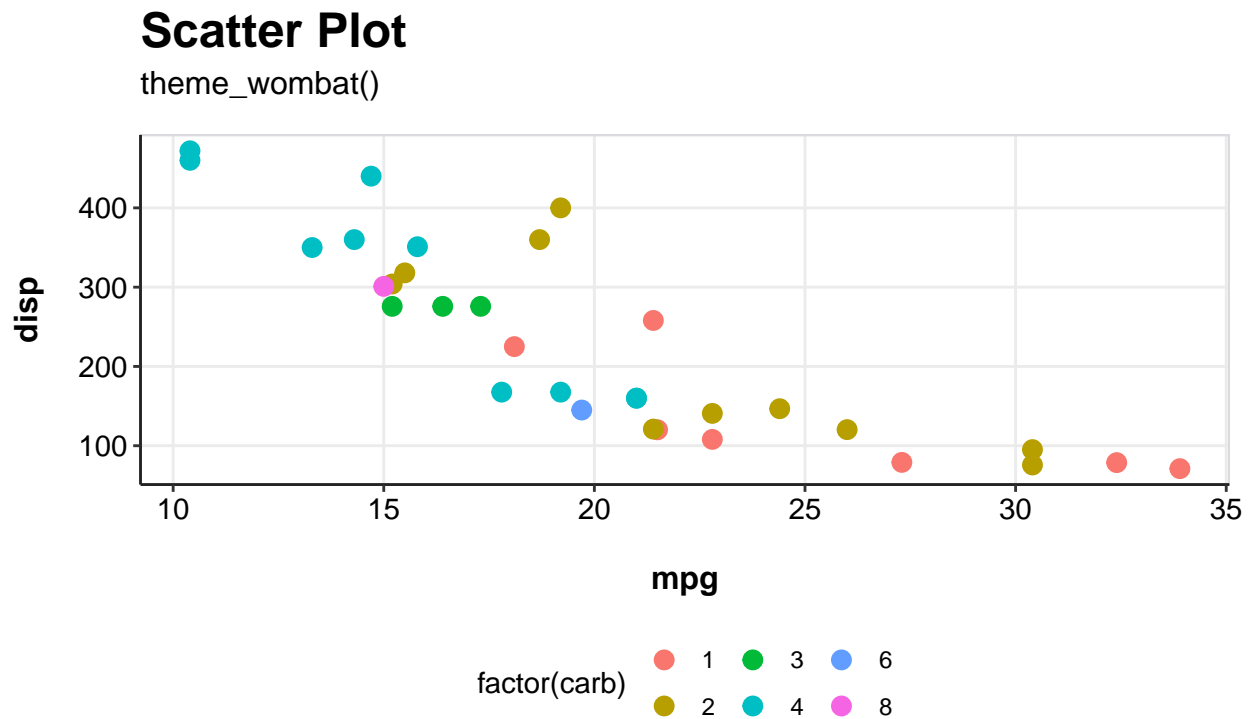
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1 Introduction

The aim of this project is to create a package that can produce figures that are aesthetically cohesive for a textbook in an automatic and reproducible manner. As these graphs are generally aimed to be consumed by other people, it is important for the aesthetics to be engaging. More importantly, the style of the graphs needs to make it easier for users to compare and explore data.

There are two styles that will be proposed for this project. These styles are built upon existing themes from `ggplot2`.

2 theme_wombat



Data: mtcars

Figure 1: A scatter plot example with 'theme_wombat()'

The first figure aesthetic variant is called `theme_wombat()`. Figure 1 shows a scatter plot that has been applied with `theme_wombat()`. This theme is built upon ggplot2 basic theme `theme_bw()`. One of the main goals of this style is to reduce clutter of plots. This is achieved by:

- Removing minor grid lines in the x and y axis
- Maximising white space to improve legibility
- Removing extra space around the plot
- Move legend position to the bottom of the plot
- Having a bigger plot title, subtitle, and axis title

Side by side comparison of scatter plots, bar charts, and line charts between `theme_wombat` and `theme_bw()` can be found in figure 2. Figure 3 shows the comparison of faceted plot between these two themes.

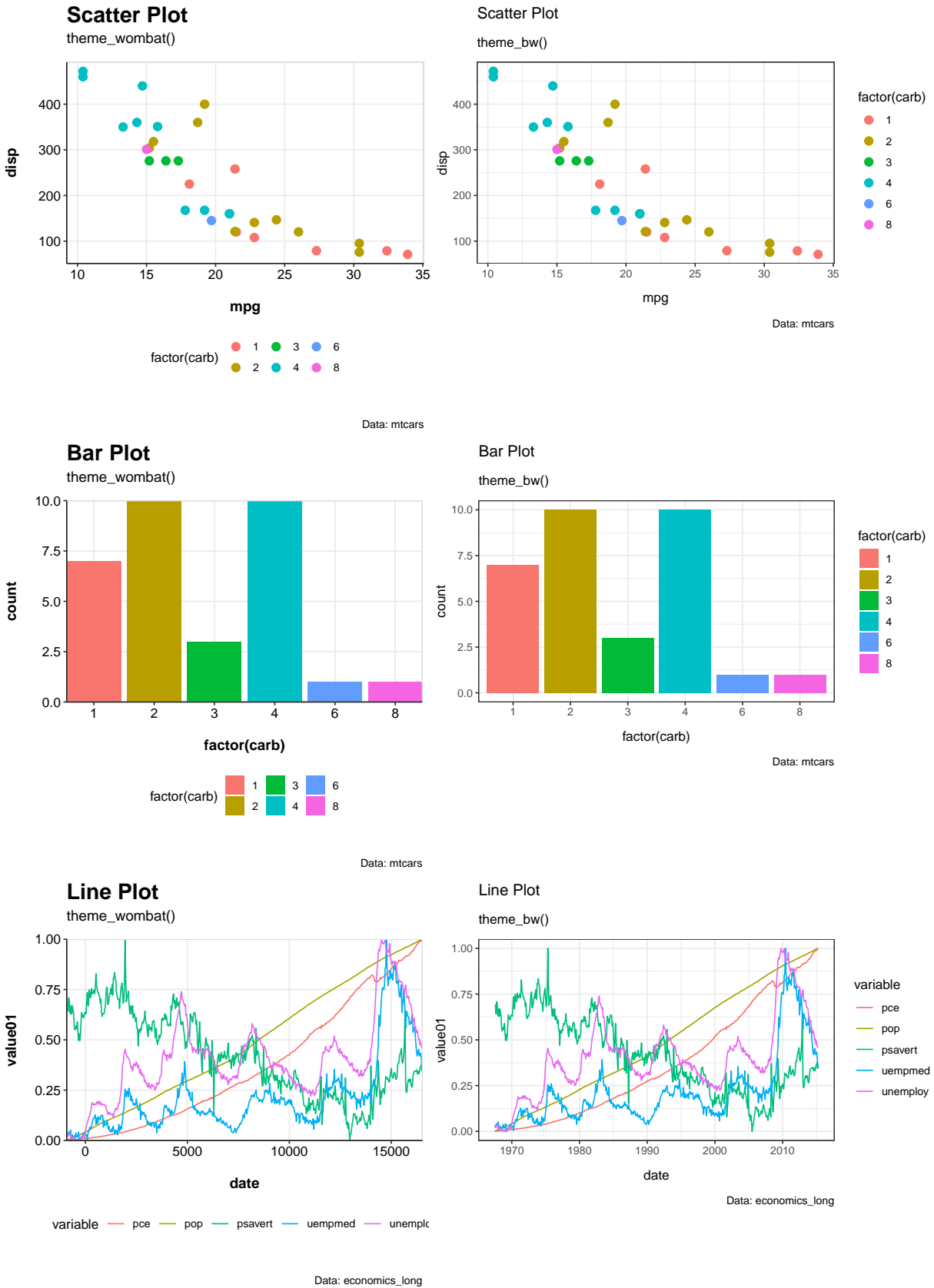
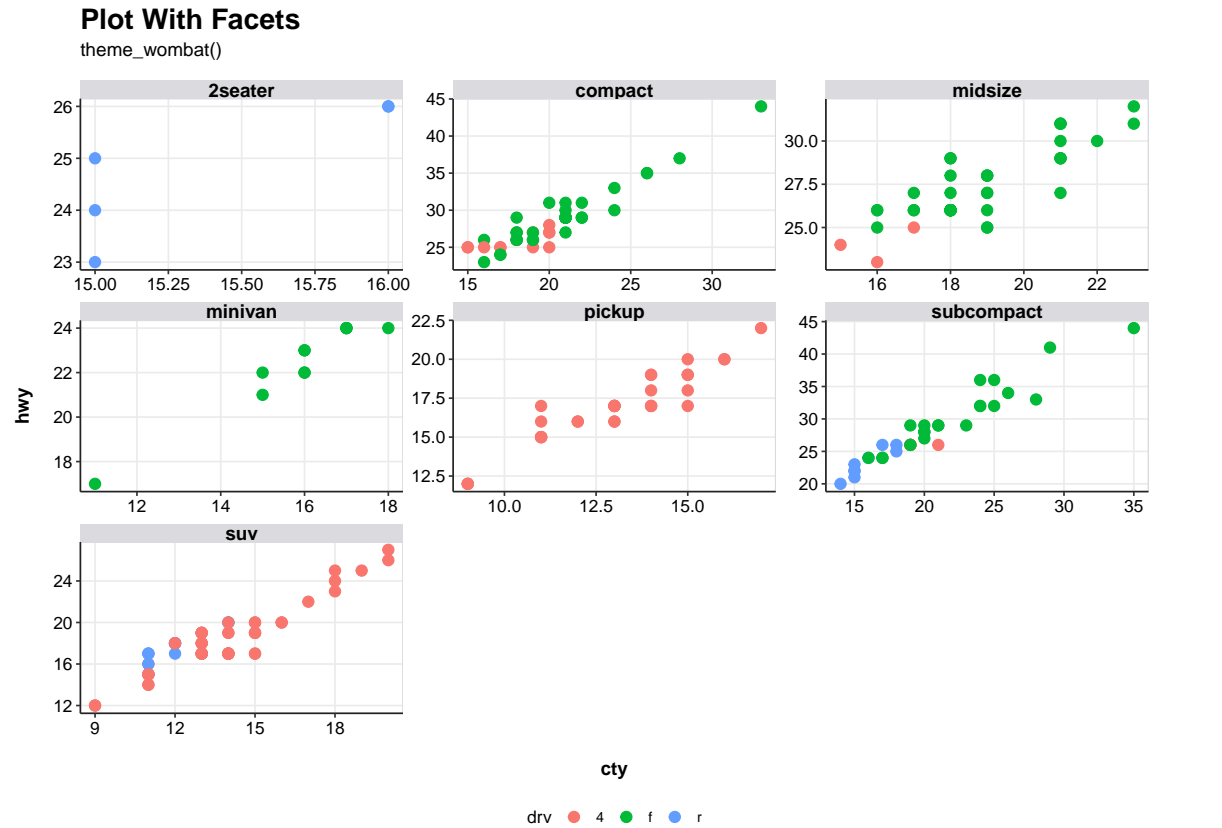
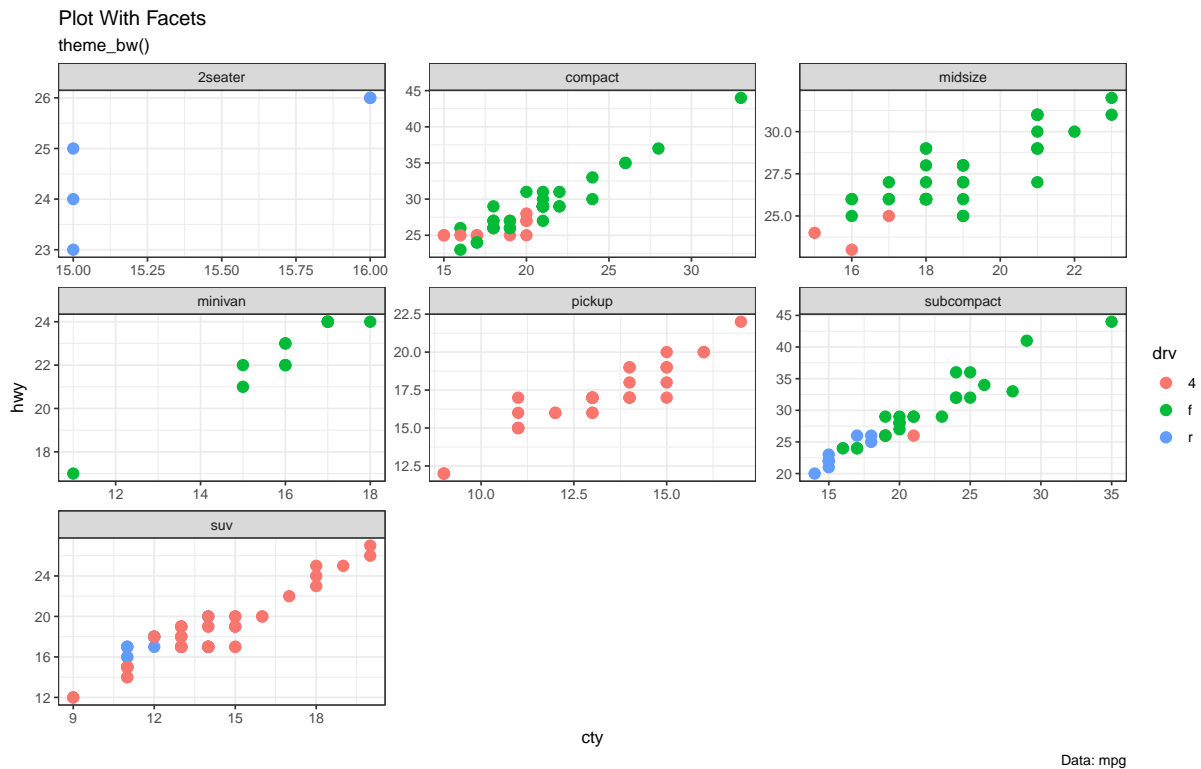


Figure 2: Comparison between 'theme_wombat()' and 'theme_bw()'



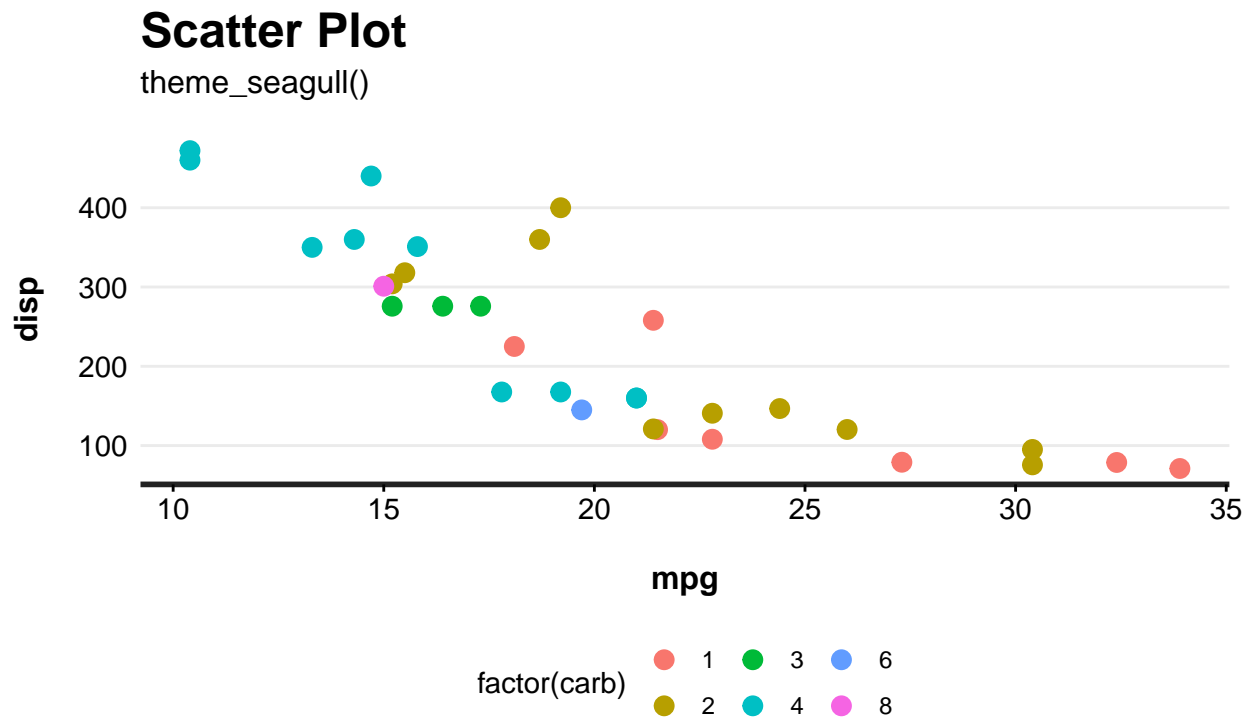
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Figure 3: Comparison between 'theme_wombat()' and 'theme_bw()' for faceted plot

3 theme_seagull



Data: mtcars

Figure 4: A scatter plot example with ‘theme_seagull()’

Another proposed figure style is `theme_seagull()`. An example of plot applied with this style is shown in figure 4. This theme is built based on ggplot2 `theme_minimal()`. In comparison to `theme_wombat()`, this style reduce clutter within a plot even further. The following adjustments are made to the original `theme_minimal()`:

- Adding a major grid line on the x axis
- Removing minor grid lines on the x and y axis
- Maximising white space to improve legibility
- Removing extra space around the plot
- Move legend position to the bottom of the plot
- Having a bigger plot title, subtitle, and axis title

Side by side comparison of scatter plots, bar charts, and line charts between `theme_seagull()` and `theme_minimal()` can be found in figure 5. Figure 3 shows the comparison of faceted plot between these two themes.

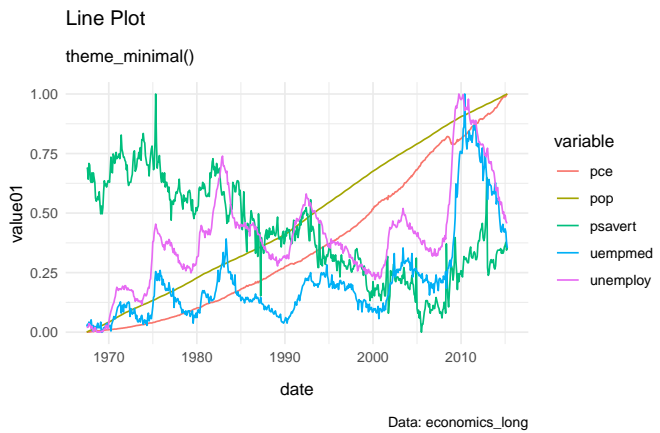
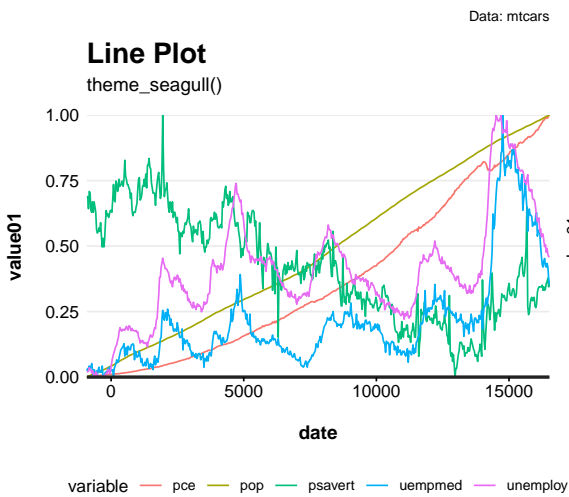
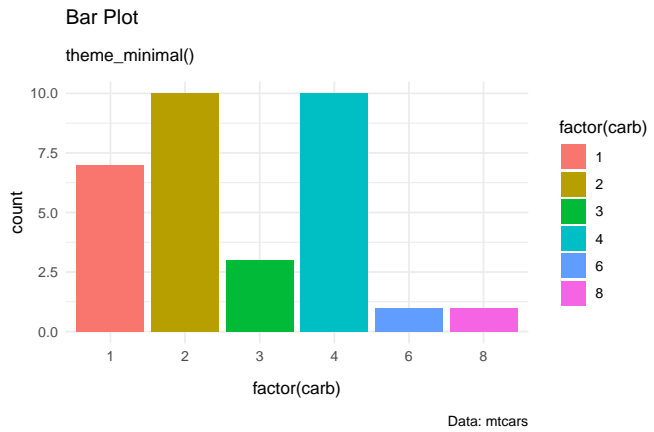
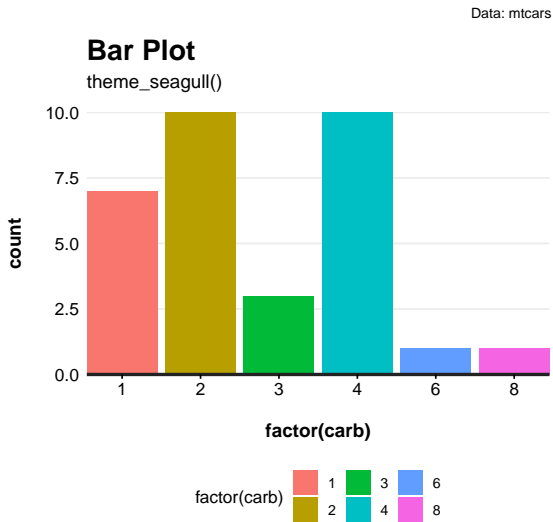
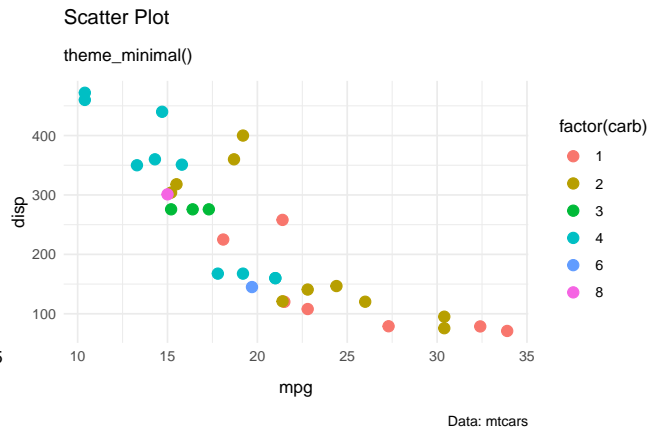
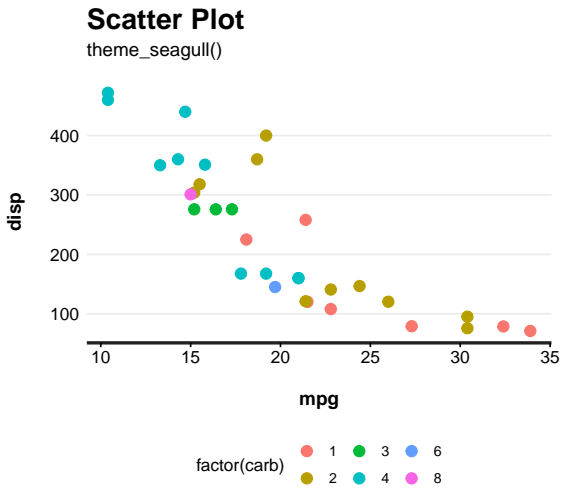


Figure 5: Comparison between ‘theme_seagull()’ and ‘theme_minimal()’

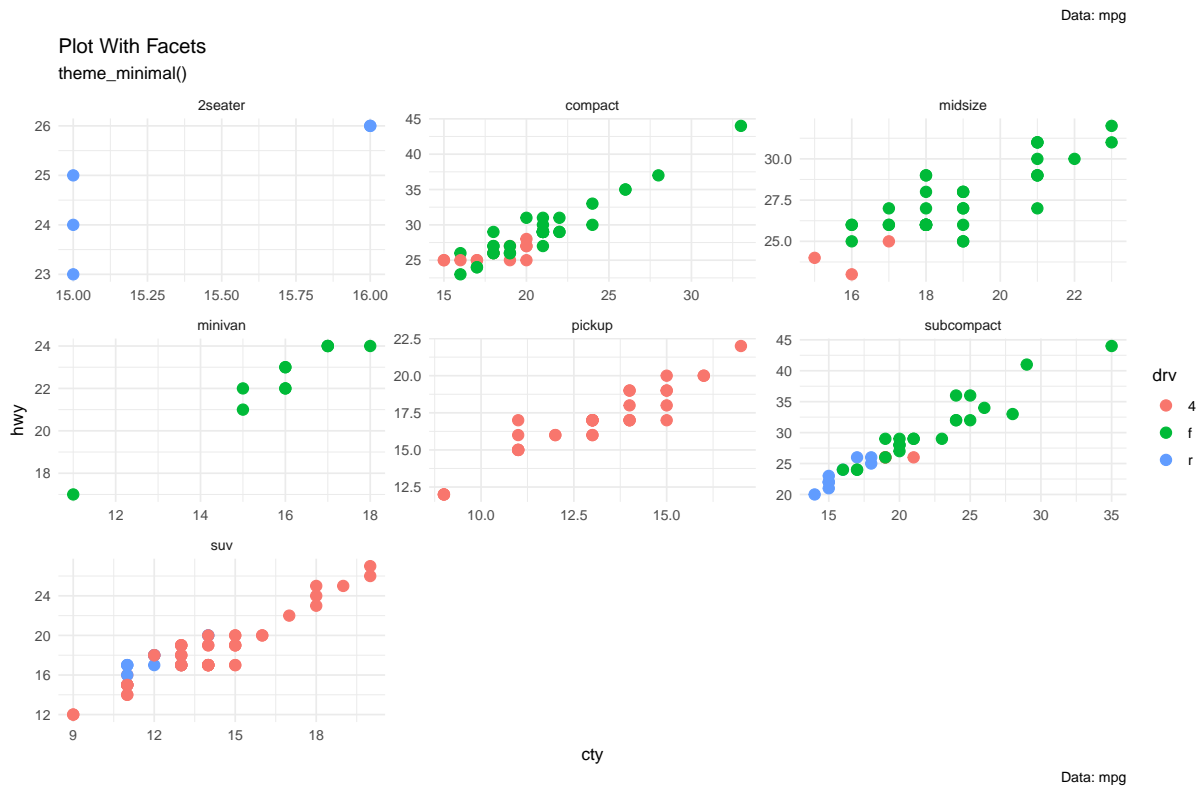
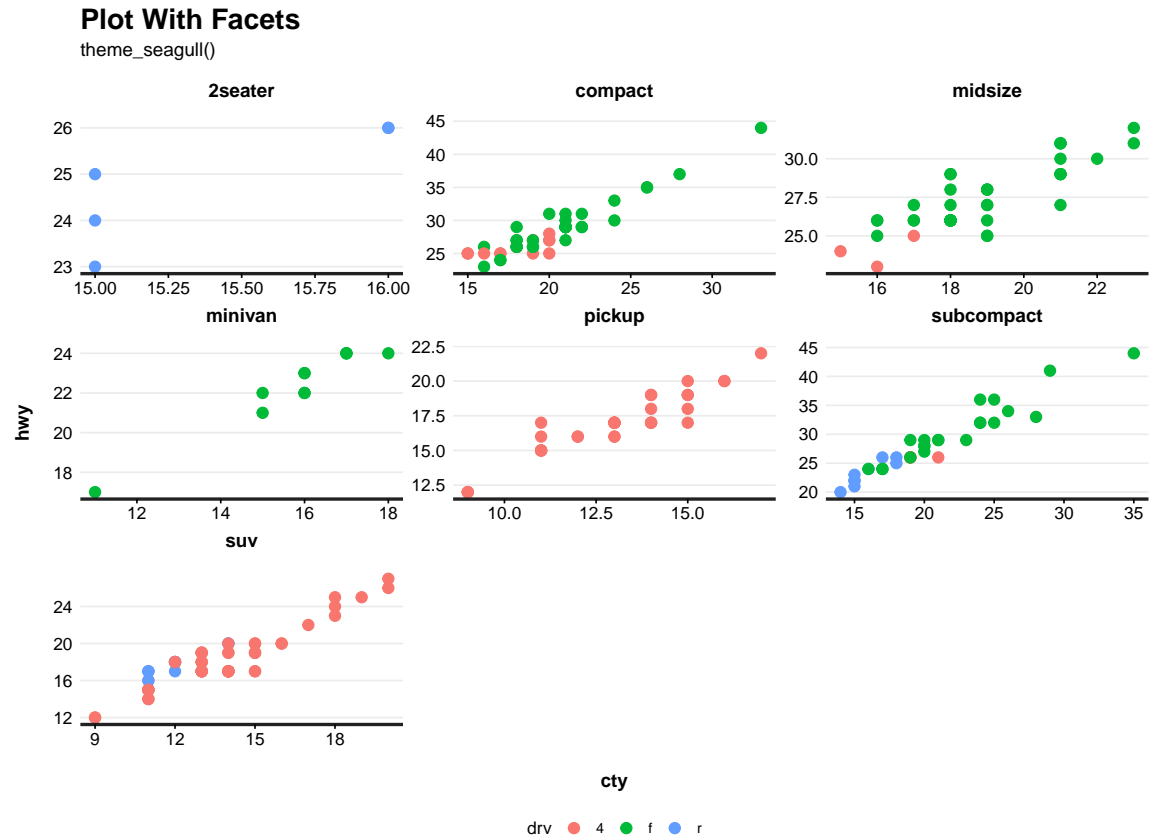


Figure 6: Comparison between ‘theme_seagull()’ and ‘theme_minimal()’ for faceted plot