# Make correlation plots in 1 line of code

Productivity is essential in data science. Businesses need value quickly so they can make decisions. So, naturally I'm a big fan of the 1-line of code to do something great. Corrmorrant gets this.

Using the `corrmorrant::corrmorrant()` function, we generate a correlation plot in 1 line of code.

```
10  library(corrmorant)
11  library(tidyverse)
12
13 ▾ # QUICK CORRELATIONS ----
14  corrmorant(mpg)
```

The correlation plot includes:

- **Lower Triangle**: Scatter plot, `ggplot2::geom_scatter()`
- **Upper Triangle**: Correlation strength as text labels, `ggplot2::geom_text()`
- **Diagonal**: Density plot, `ggplot2::geom_density()`
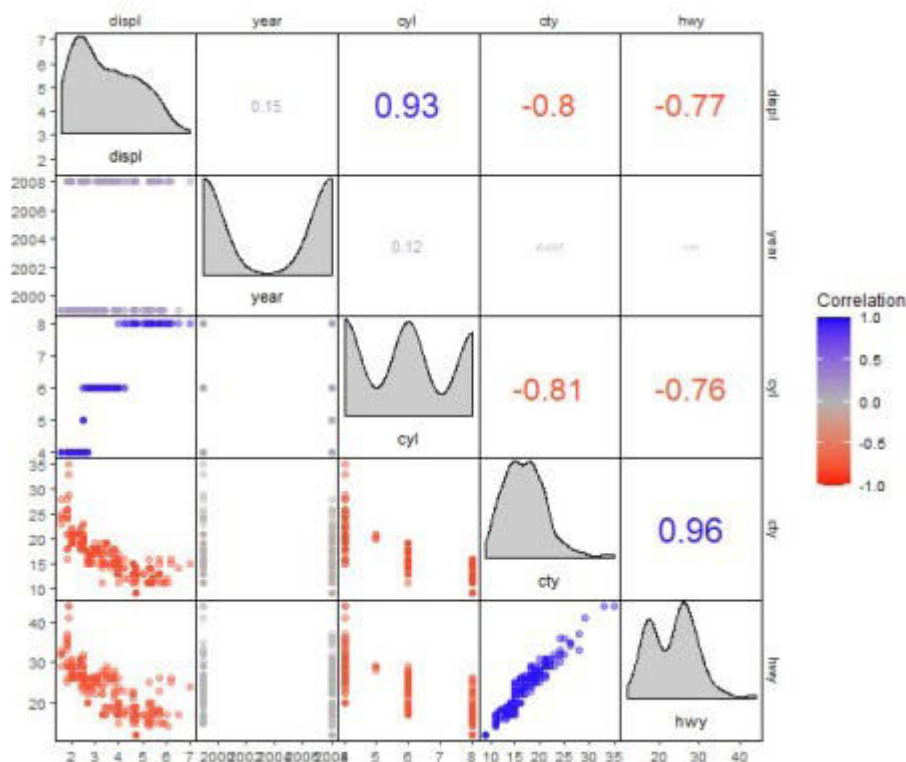
Correlation Plot Customization

It gets better – corrmorrant has a ggplot2 API that provides a grammar for correlation graphics.

- `ggcorrm()` – Creates a correlation ggplot.
- `lotri()` – Applies a ggplot2 geometry to the lower triangle.
- `utri()` – Applies a ggplot2 geometry to the lower triangle.
- And there are special **Ggplot Helpers** like `utri_heatmap()`, `dia_historgram()`,

and `scale_fill_corr()` that apply quick geoms to parts of the plot.

```
22 - # GGPLOT2 API ----
23
24   # Customize Diagonal, Upper Tri, Lower Tri
25   ggcorrm(data = mpg) +
26       lotri(geom_point(alpha = 0.5)) +
27       lotri(geom_smooth()) +
28       utri_heatmap() +
29       utri_corrtext() +
30       dia_names(y_pos = 0.15, size = 3) +
31       dia_histogram(lower = 0.3, fill = "grey80", color = 1) +
32       scale_fill_corr() +
33       labs(title = "Correlation Plot")
34
```

Get the Code

The correlation plot has now been customized with a smoother in the lower triangle, histogram on the diagonal, and heatmap on the upper triangle. This is why it pays dividends to **learn ggplot2**. Using the ultimate R cheat sheet for documentation on ggplot2 helps bigtime.
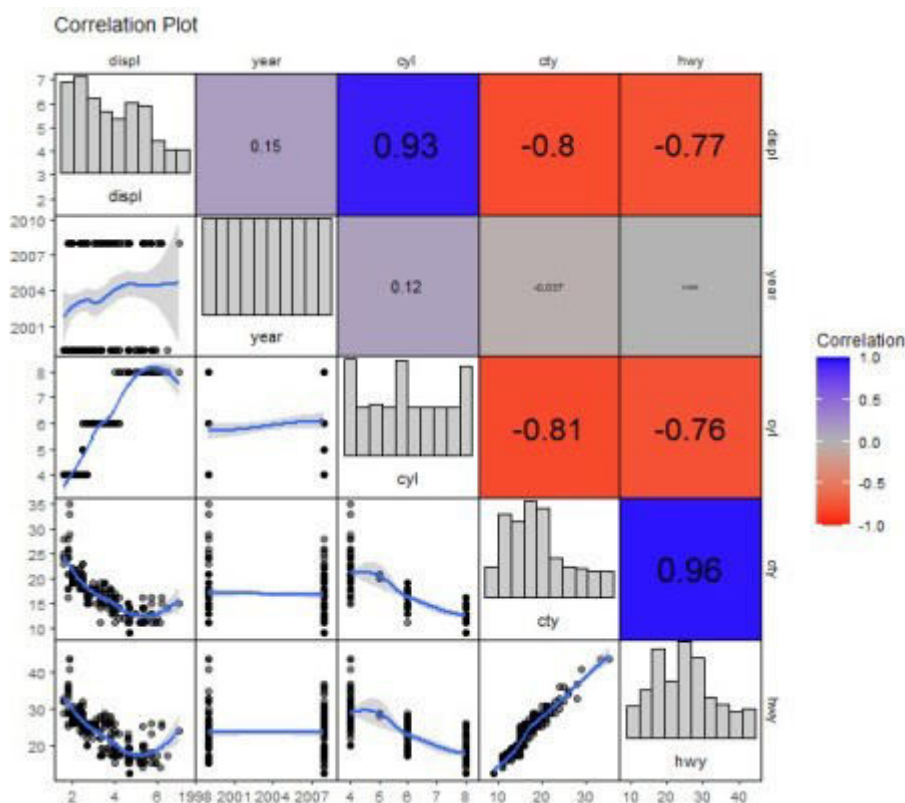
Code available in our Free R-Tips Github Repository

Challenge: Grouped Correlations and Dark Theme
This is really cool.

Here's a test if you've been following along and want to test your ggplot2 skills. Make this plot that applies "cyl" column as groups to the geoms. Note that you'll need to do a trick to get the grouped correlations in the upper triangle. Solution is available in our Free R-Tips Github Repository.

Correlation Plot