

TikZ example using Quarto

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Imagine you have done some analysis using R (R Core Team 2024) and want to write a report of that using Quarto. As part of this report you might want to include a graphic like this:

```
library(ggplot2)

ggplot(mpg, aes(displ, hwy, colour = class)) +
  geom_point()
```

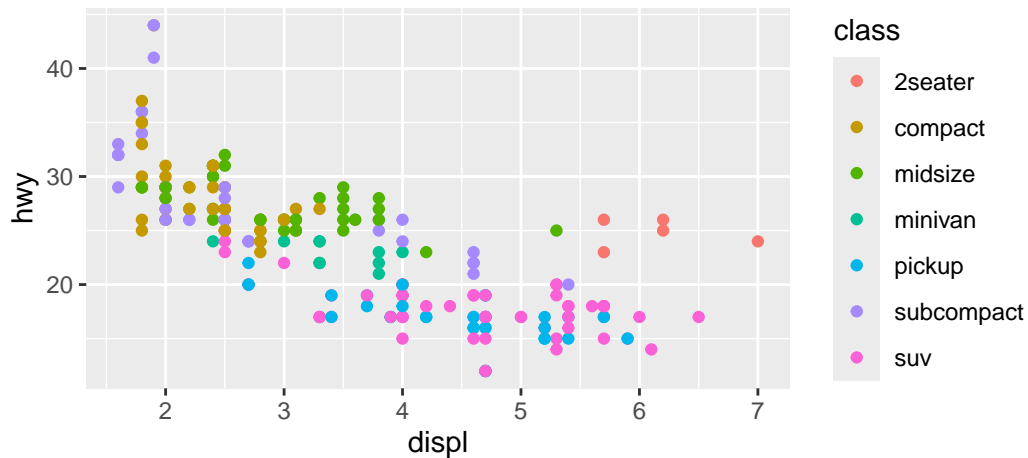


Figure 1: A plot showing highway miles per gallon as a function of engine displacement.

This is quite nice, since it is automatically included in the document and you can even add cross references to it without having to keep track of figure numbers, *i. e.* in this case `@fig-displ-hwy-default` produces Figure 1.

Using tikzDevice

However, a keen eye might notice that the font used in the graphic does not match the font of the document. Some sans-serif font is used. The `tikzDevice` package (Sharpsteen and Bracken 2023) can help with that. You can make it the default by adding

```
knitr:  
  opts_chunk:  
    dev: tikz
```

to the YAML header of the document. Alternatively, you could include

```
if (knitr::is_latex_output())  
  knitr::opts_chunk$set(dev = "tikz")
```

in a R code block. The result would look like this:

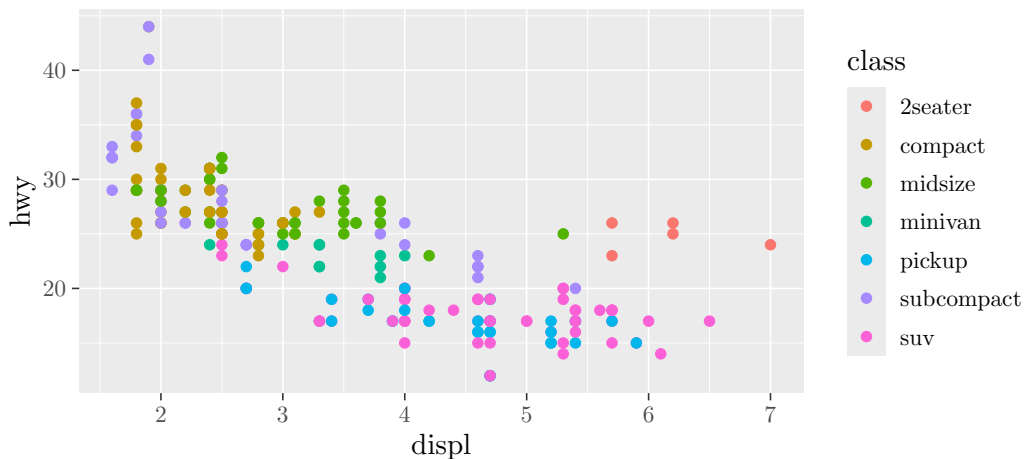


Figure 2: Same plot as before but using `tikzDevice`.

Adjusting fonts

At first sight this seems better, since the sans-serif font is gone. However, looking more closely one sees that the font used is the default \LaTeX font (Computer Modern), instead of

the one used in this document (Palatino with real SMALL CAPS and text figures 1234567890). You need to tell `tikzDevice` about the fonts you want to use, *e.g.*:

```
library(tikzDevice)
options(tikzLatexPackages = c(
 getOption("tikzLatexPackages"),
  "\\usepackage[osf]{mathpazo}",
  "\\usepackage[T1]{fontenc}",
  "\\usepackage{textcomp}"
))
```

With that you can embed plots using the same fonts as in the main body:

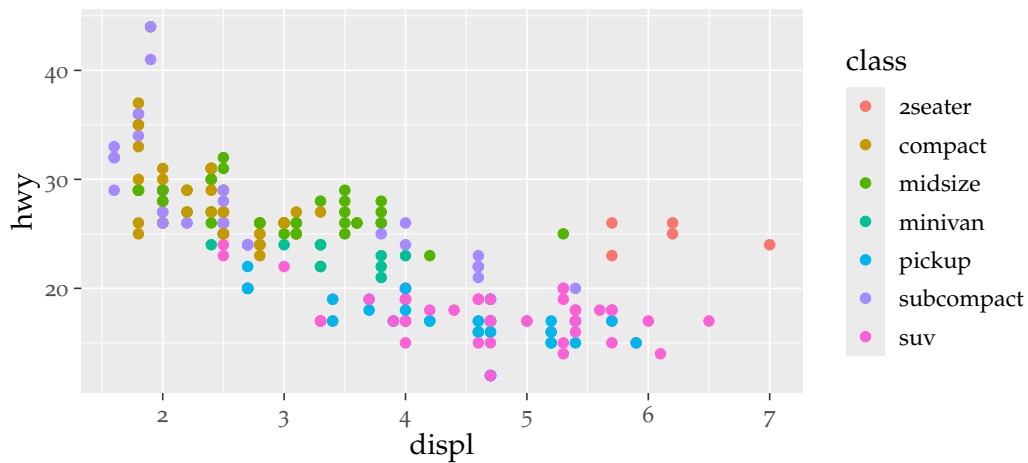


Figure 3: Same plot as before but using `tikzDevice` with adjusted fonts.

References

- R Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- Sharpsteen, Charlie, and Cameron Bracken. 2023. *tikzDevice: R Graphics Output in LaTeX Format*. <https://github.com/daqana/tikzDevice>.