Data Visualisation

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Contents

Using `ggplot2` with `org-mode`

In order to use `ggplot2` with `org-mode` the header of the source-code blocks need to be very carefully set up:

- you need to specify = :dir ../ =
    - I don't know why, but if another directory is used or this isn't specified it simply does not work
- you need to specify = graphics :file org/PlotName.png = In order to save the plot.

Try setting the following in the header:

```
# Babel settings
#+PROPERTY: session *R*
#+PROPERTY: cache yes
#+PROPERTY: exports both
#+PROPERTY: tangle yes
```

When using ggplot2 with `org-babel`, you need to use the following header:

```
_SRC R :exports both :results output graphics :file test.png
```

Data Visualisation with `ggplot2`

This is a course from the Data Visualisation Stream.

First investigate the structure of the data set and load the necessary packages:

```r
library(tidyverse)
mtcars %>% str()
```

```
'data.frame': 32 obs. of  11 variables:
 $ mpg : num  21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...
 $ cyl : num  6 6 4 6 8 6 8 4 4 6 ...
 $ disp: num  160 160 108 258 360 ...
 $ hp  : num  110 110 93 110 175 105 245 62 95 123 ...
 $ drat: num  3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...
 $ wt  : num  2.62 2.88 2.32 3.21 3.44 ...
 $ qsec: num  16.5 17 18.6 19.4 17 ...
 $ vs  : num  0 0 1 1 0 1 0 1 1 1 ...
 $ am  : num  1 1 1 0 0 0 0 0 0 0 ...
 $ gear: num  4 4 4 3 3 3 3 4 4 4 ...
 $ carb: num  4 4 1 1 2 1 4 2 2 4 ...
```

using RColorBrewer

Create a directory for the plots:

```
mkdir img/DataVizPlots
```

So the following will produce plot

```r
# Plot 1: change the LOESS span
ggplot(mtcars, aes(x = wt, y = mpg)) +
  geom_point() +
  # Add span below
  geom_smooth(se = FALSE, span = 0.7)
```