

Ggplot_Themes

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An introduction to Themes

- The appearance of non-data elements is controlled by themes.
- Themes give you control over
- Fonts in all parts of the plot.
- Title
- Axis tick labels
- Axis labels
- Strip labels
- Legend key labels
- Background

Ggplot takes a different approach to building graphs compared to base and lattice graphics. - When creating the plot, one can determine how to display the data - After creating the plot one can edit every detail of rendering it using the **theming** system.

Built in Themes

ggplot2 has 2 built-in themes. The default *theme_grey()* uses a light grey background with white gridlines. The second theme *theme_bw()* has a traditional white background and dark grey gridlines. Themes can be applied in two ways. - Using the **theme_set()** function globally - Or using the above function inside an individual plot function.

Theme elements and element functions

There are four types of built in element functions

- Text:

element_text() draws labels and headings. Some examples are shown below

```
library(ggplot2)
library(grid)
library(gridExtra)
# get the mpg variable from the mtcars dataset
mpg <- mtcars$mpg
m <- length(mpg)
```

```

# draw histogram of mpg variable from mtcars data
splot <- qplot(x = 1:m, y = mpg,
              geom = "point", colour = I("red"),
              xlab = "Obs number", ylab = "Mpg")

splot2 <- splot + ggtitle("Title") +
  theme(plot.title = element_text(size = 15))

splot3 <- splot + ggtitle("New Title") +
  theme(plot.title = element_text(size = 15,
    colour = "red"))

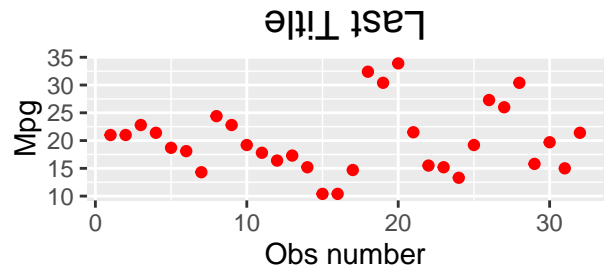
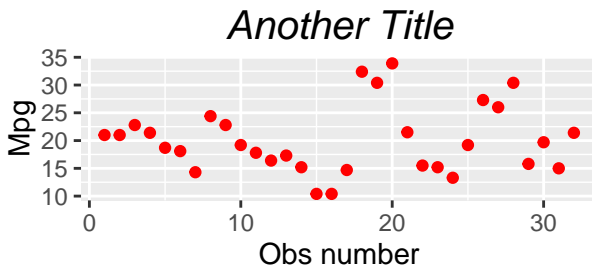
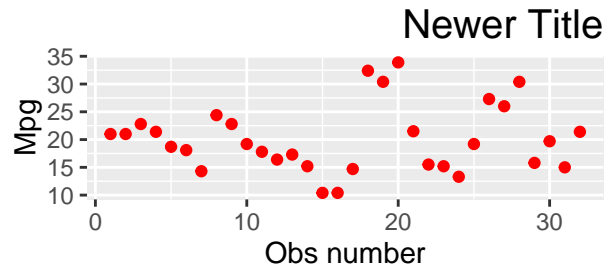
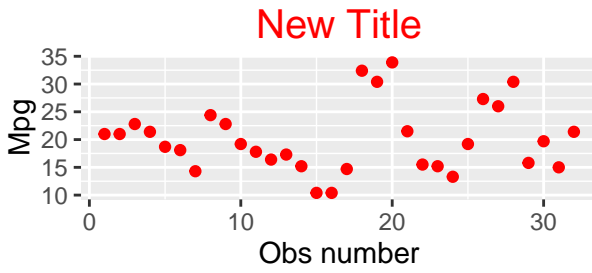
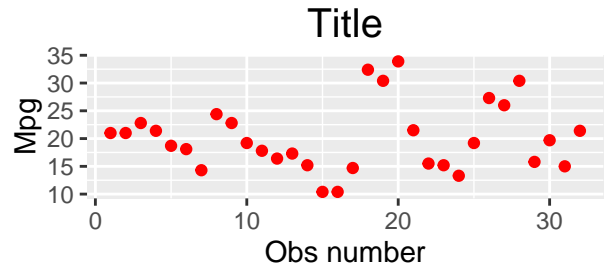
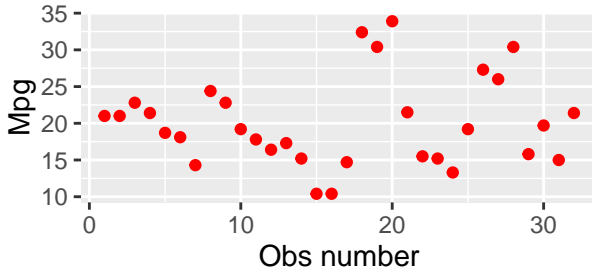
splot4 <- splot + ggtitle("Newer Title") +
  theme(plot.title = element_text(size = 15,
    hjust = 1))

splot5 <- splot + ggtitle("Another Title") +
  theme(plot.title = element_text(size = 15,
    face = "italic"))

splot6 <- splot + ggtitle("Last Title") +
  theme(plot.title = element_text(size = 15,
    angle = 180))

grid.arrange(splot, splot2, splot3,
             splot4, splot5, splot6, nrow = 3,
             ncol = 2)

```



- Lines and Segments
- Rectangles
- Blanks

Code snippets will soon be uploaded.