

RSS

R

R(R Core Team 2021)
base R {ggplot2} (Wickham 2016)

R {RSSthemes}

GitHub

CRAN {RSSthemes} :

```
install.packages("RSSthemes")
```

GitHub (CRAN):

```
remotes::install_github("nrennie/RSSthemes")
```

:

```
library(RSSthemes)
```

Base R

R . Jumping Rivers (“Styling Base r Graphics”

2018) base R

: base R

```
, , col RSS signif_red, signif_blue, signif_green,  
signif_orange, signif_yellow .
```

```
barplot(table(mtcars$gear), col = signif_blue)
```

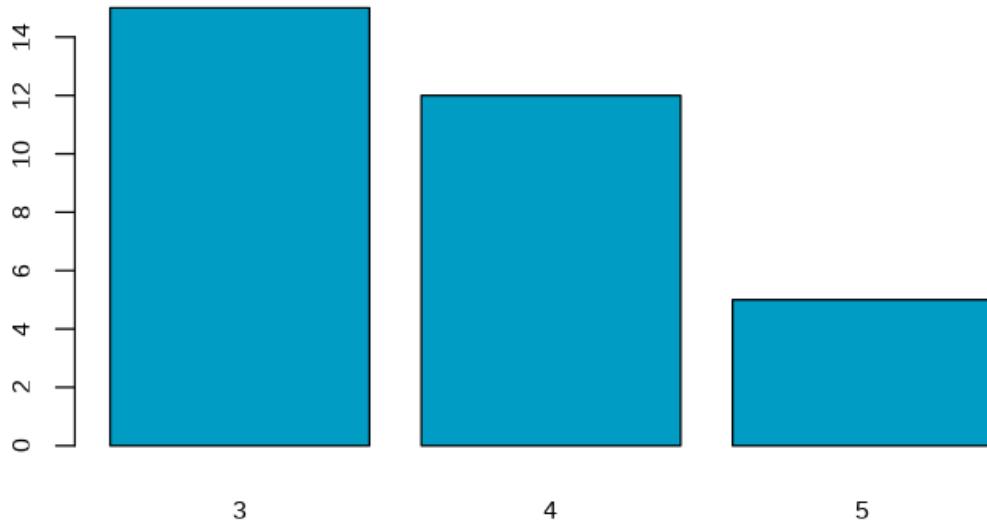


Figure 1: *Significance*

```
palette() {RSSthemes} set_rss_palette()  
. {RSSthemes} signif_qual, signif_div,  
signif_seq .
```

```
set_rss_palette("signif_qual")  
plot(1:4, 1:4, col=1:4, pch=19, cex=3, xlab="", ylab "")
```

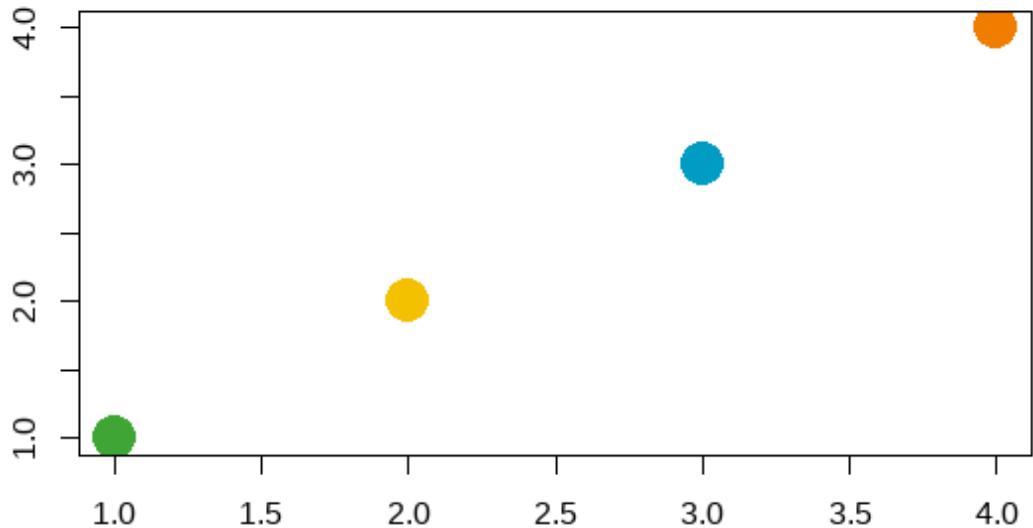


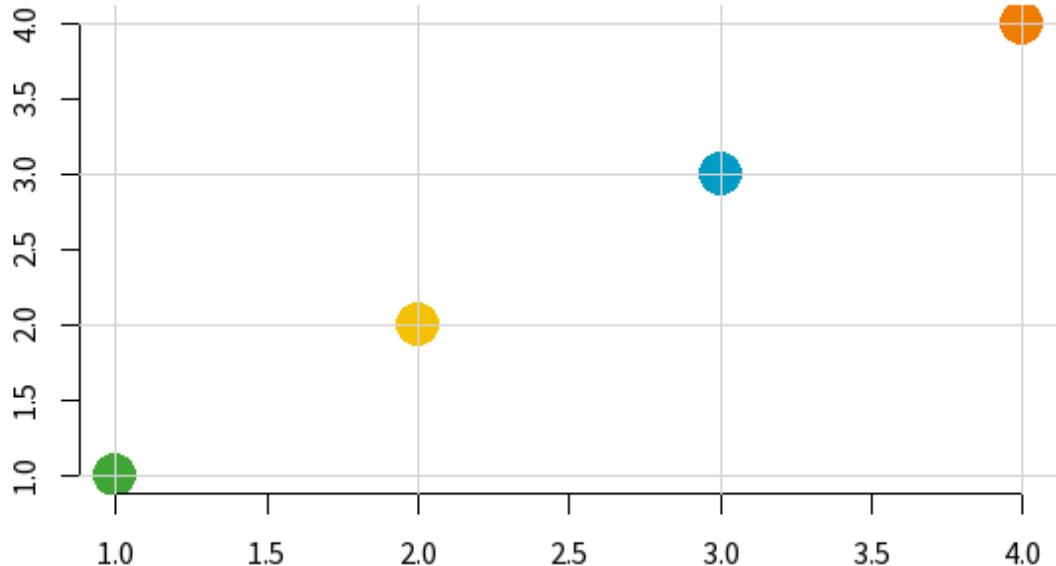
Figure 2: signif_qual

```

palette("default")      base R
: base R
plot() ( barplot(), hist()      base R      )      family
  . par()           . {RSSthemes}      base R
  set_signif_par()   . abline()      .
set_signif_par()
plot(1:4, 1:4, col=1:4, pch=19, cex=3, xlab="", ylab="",
  main = " Significance ",
  sub = " :      ")
abline(h=1:4, v=1:4, col = "lightgrey")

```

My Significance Plot



Source: data source

Figure 3: `set_signif_par()` base R

```
{ggplot2}
```

```
{ggplot2}           tidyverse}      R           . {ggplot2}
Hadley Wickham ggplot2: Elegant Graphics for Data Analysis (Wickham
2016)           .
```

```
{ggplot2}
```

```
library(ggplot2)
plot_df <- data.frame(x = LETTERS[1:4] ,
                      y = 1:4)
```

```
: {ggplot2}
```

```
{ggplot2} colour( color) , fill           . , fill
colour RSS           . signif_red, signif_blue, signif_green, signif_orange,
signif_yellow .
```

```
ggplot(data = plot_df,  
       mapping = aes(x = x, y = y)) +  
  geom_col(fill = signif_yellow)
```

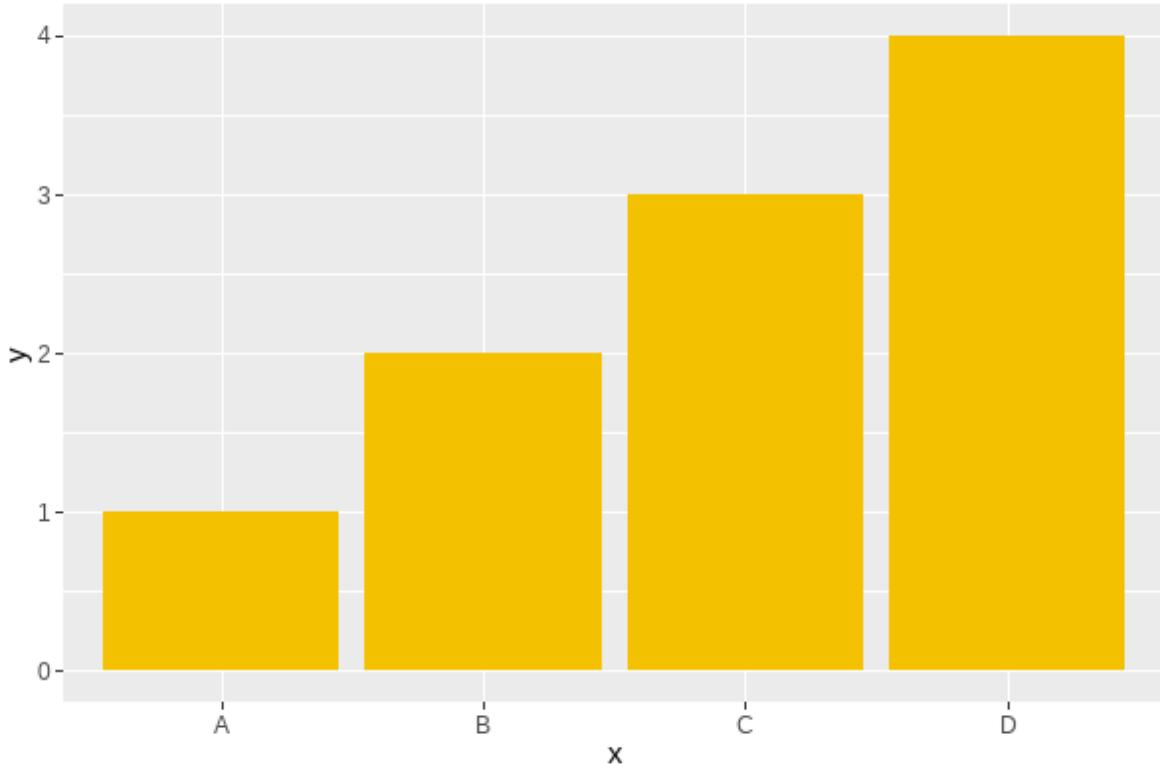


Figure 4:

```
: {ggplot2}  
  .  
  ( )           "signif_qual" .     4  
  •  ( )  : scale_fill_rss_d()
```

```
ggplot(data = plot_df,  
       mapping = aes(x = x, y = y, fill = x)) +  
  geom_col() +  
  scale_fill_rss_d(palette = "signif_qual")
```

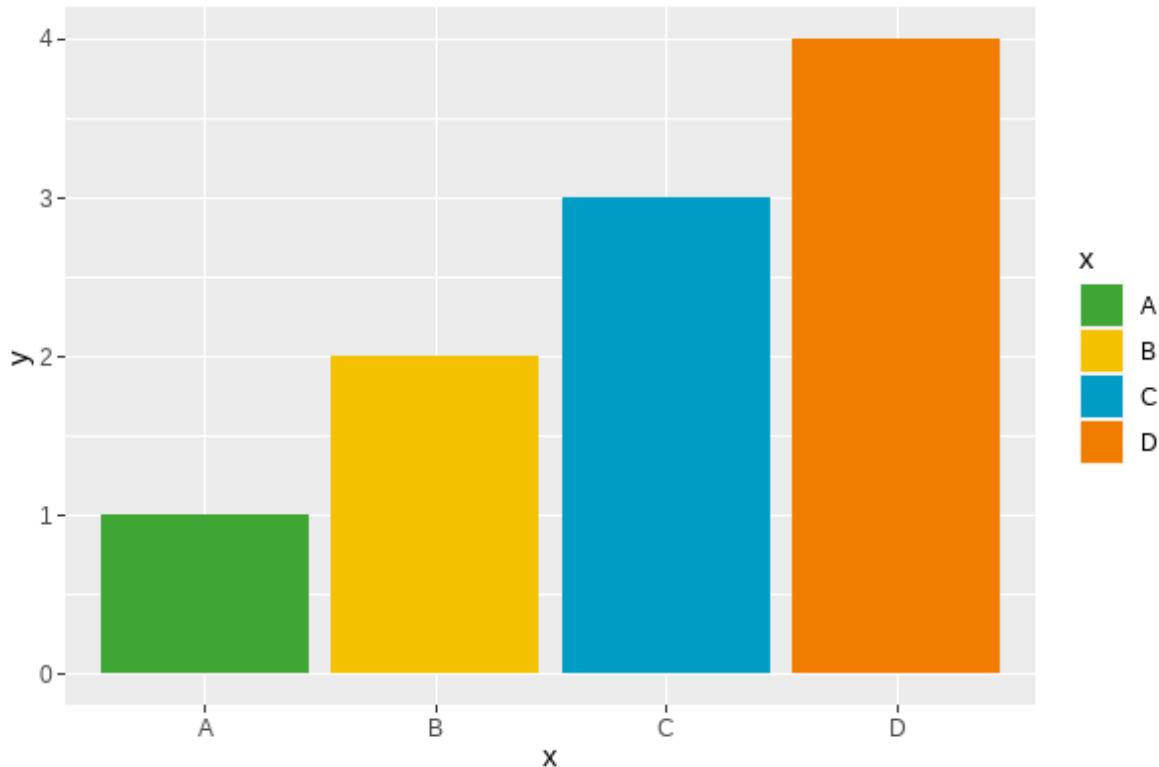


Figure 5: `signif_qual`.

- () : `scale_colour_rss_d()`

```
ggplot(data = plot_df,  
       mapping = aes(x = x, y = y, colour = x)) +  
  geom_point(size = 4) +  
  scale_colour_rss_d(palette = "signif_qual")
```

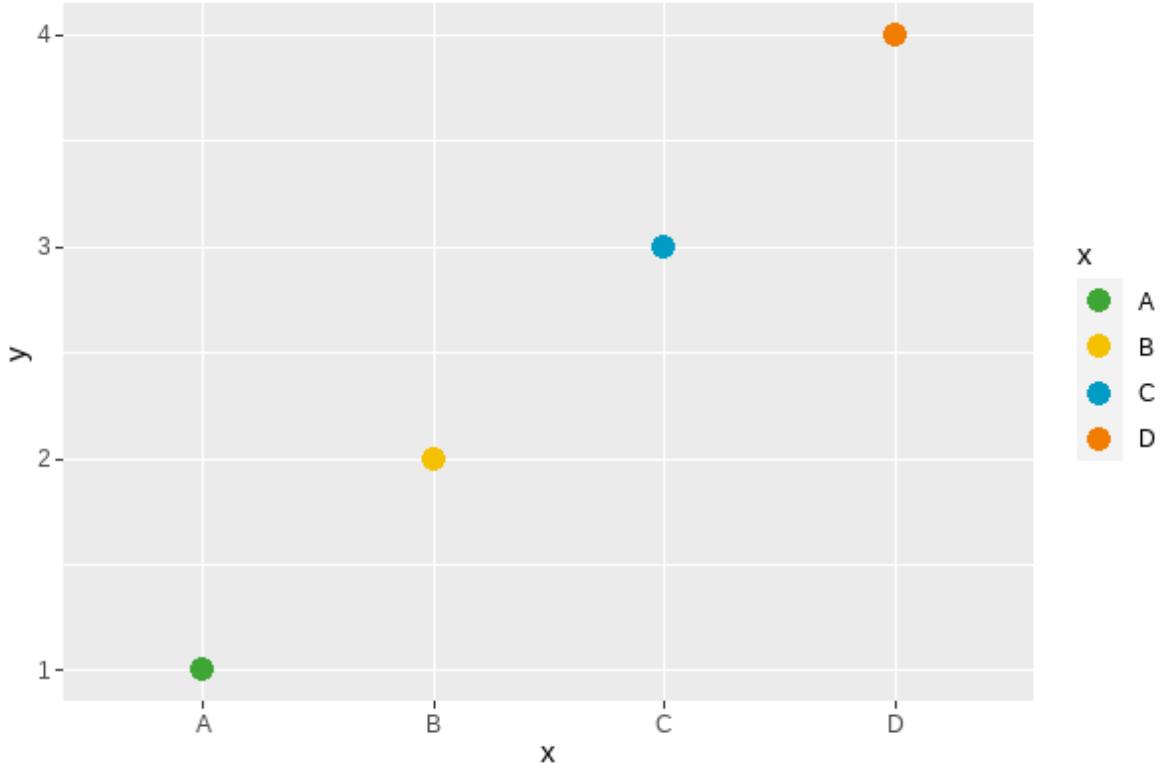


Figure 6: `signif_qual`.

```
: {ggplot2} . .
  . ( ) "signif_seq" .
• ( ) : scale_fill_rss_c()

ggplot(data = plot_df,
       mapping = aes(x = x, y = y, fill = y)) +
  geom_col() +
  scale_fill_rss_c(palette = "signif_seq")
```

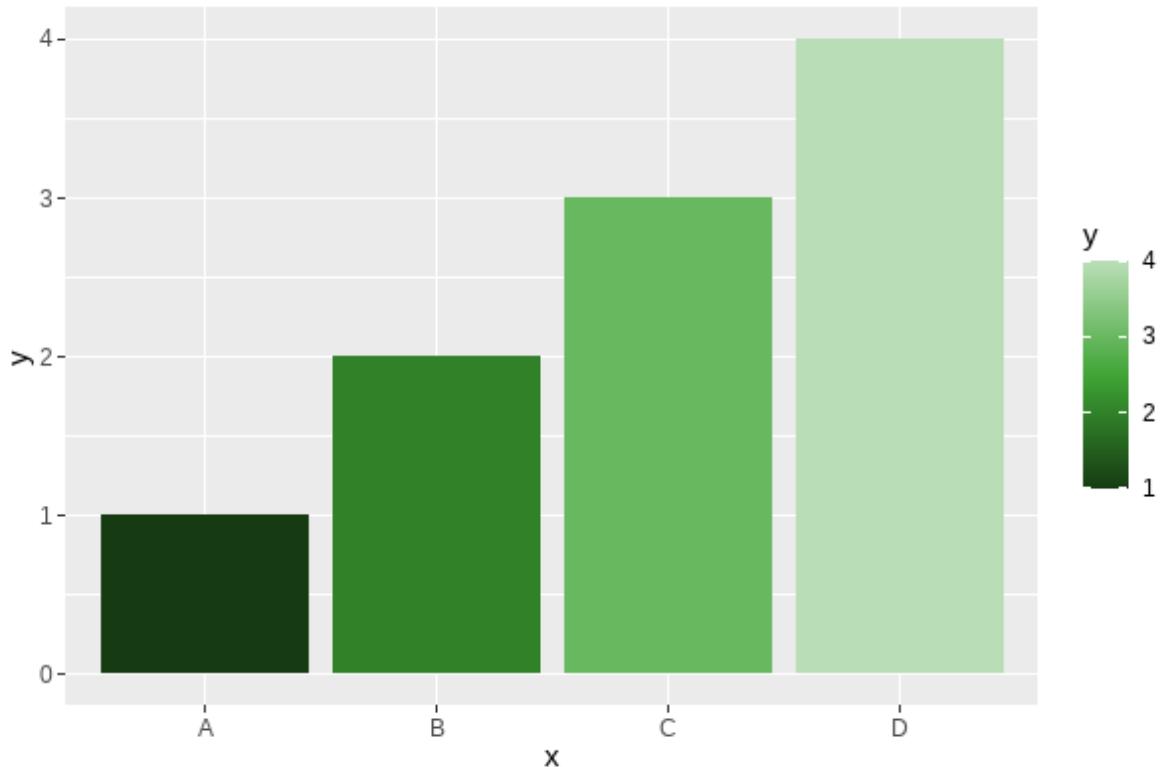


Figure 7:

• () : `scale_colour_rss_c()`

```
ggplot(data = plot_df,
        mapping = aes(x = x, y = y, colour = y)) +
  geom_point(size = 4) +
  scale_colour_rss_c(palette = "signif_seq")
```

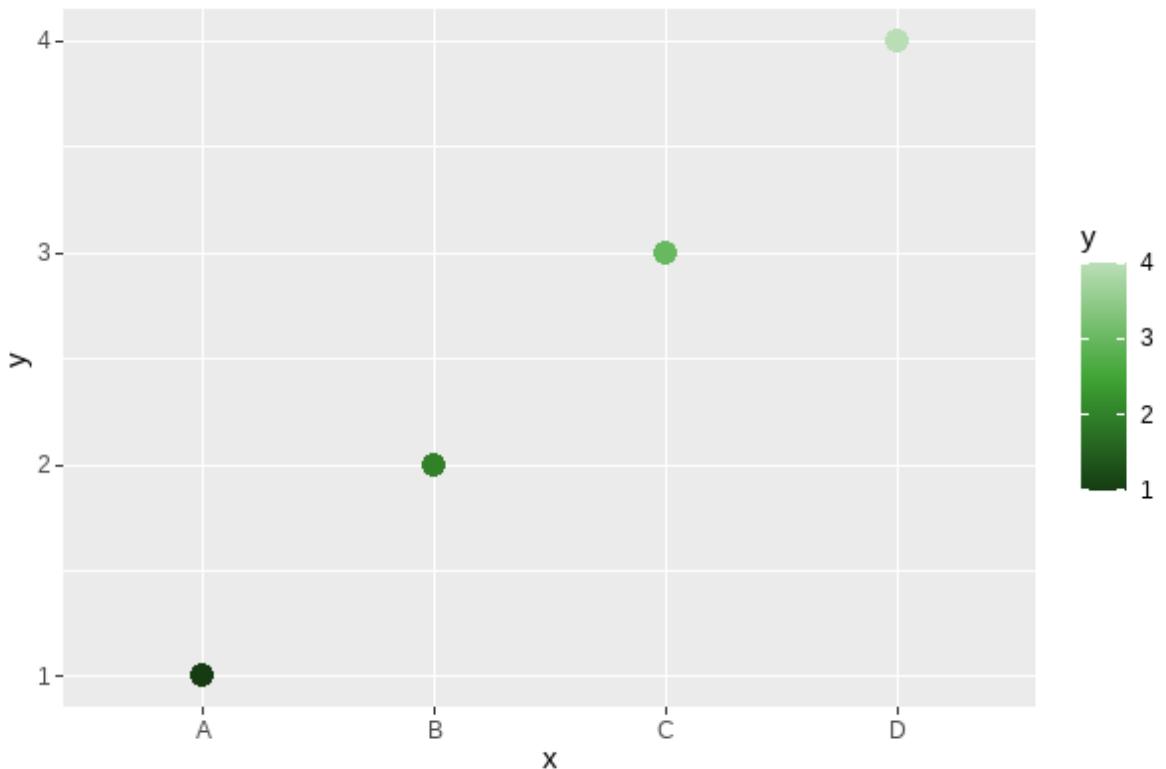


Figure 8:

```
( )           "signif_div" .
• ( ) : scale_fill_rss_c()

ggplot(data = plot_df,
       mapping = aes(x = x, y = y, fill = y)) +
  geom_col() +
  scale_fill_rss_c(palette = "signif_div")
```

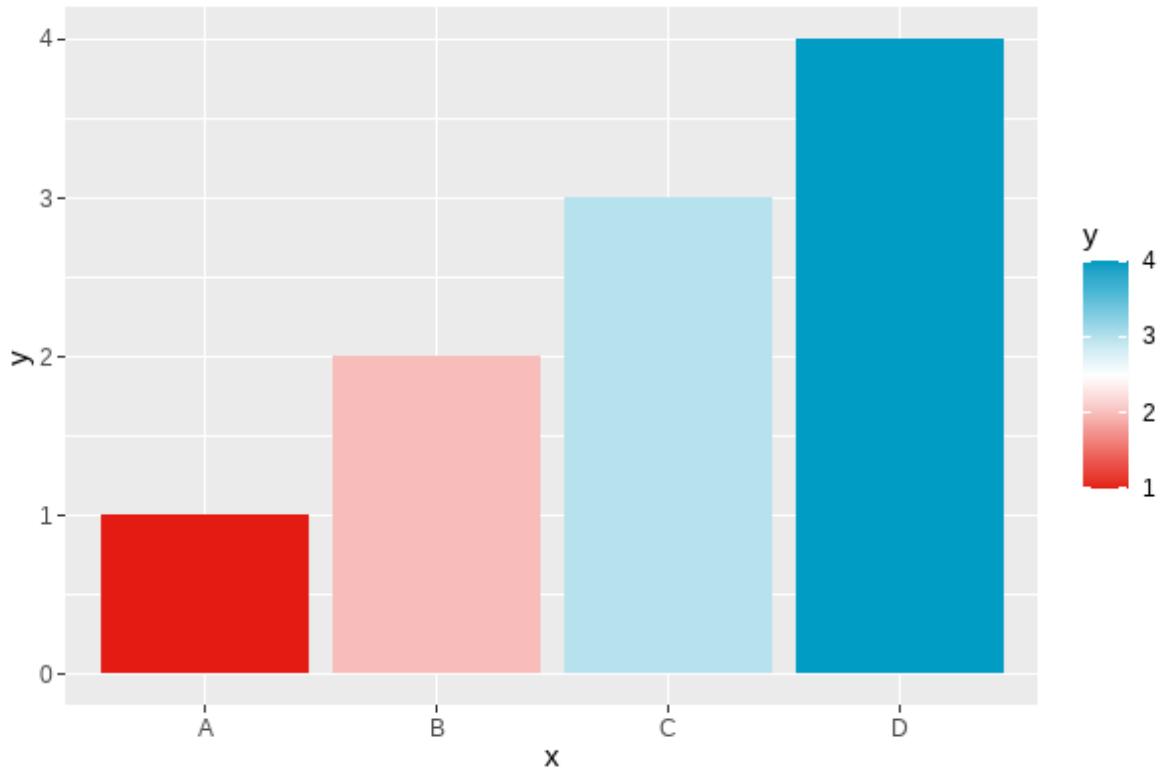


Figure 9:

```
{RSSthemes}           {ggplot2} scale_fill_gradient2()      :  
  
ggplot(data = plot_df,  
       mapping = aes(x = x, y = y, fill = y)) +  
  geom_col() +  
  scale_fill_gradient2(low = signif_red, high = signif_blue, midpoint = 2)
```

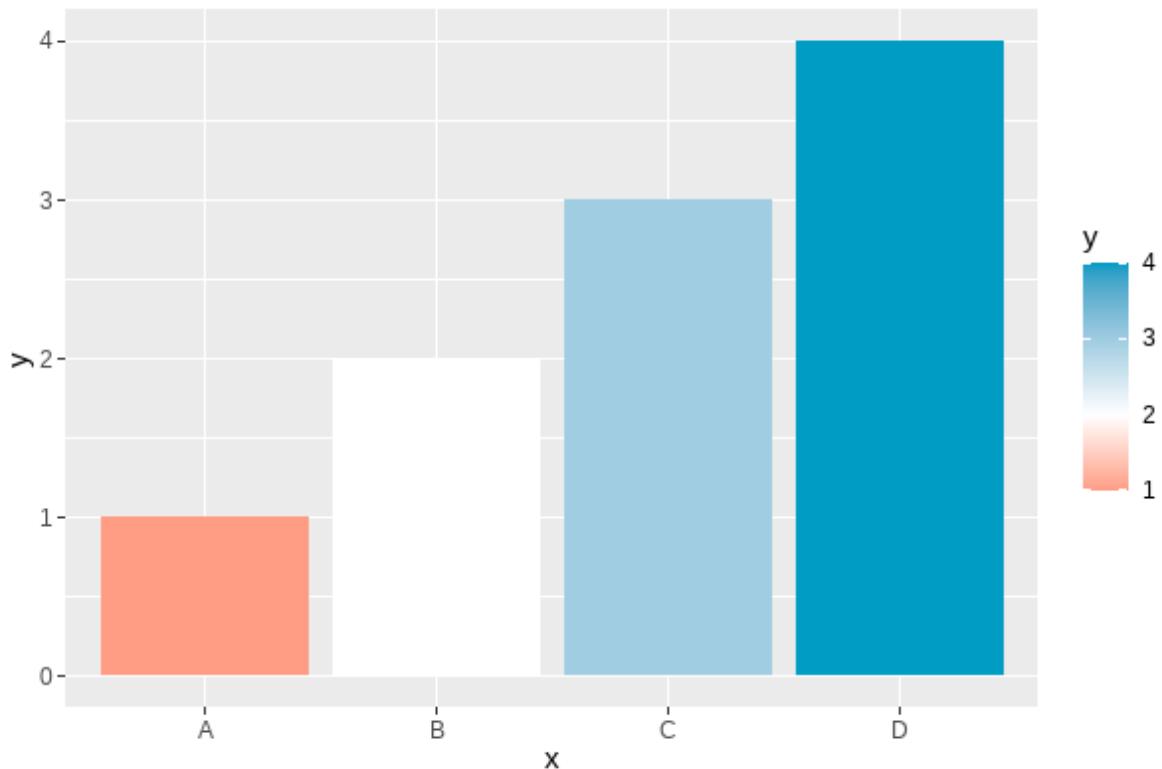


Figure 10: 2

```

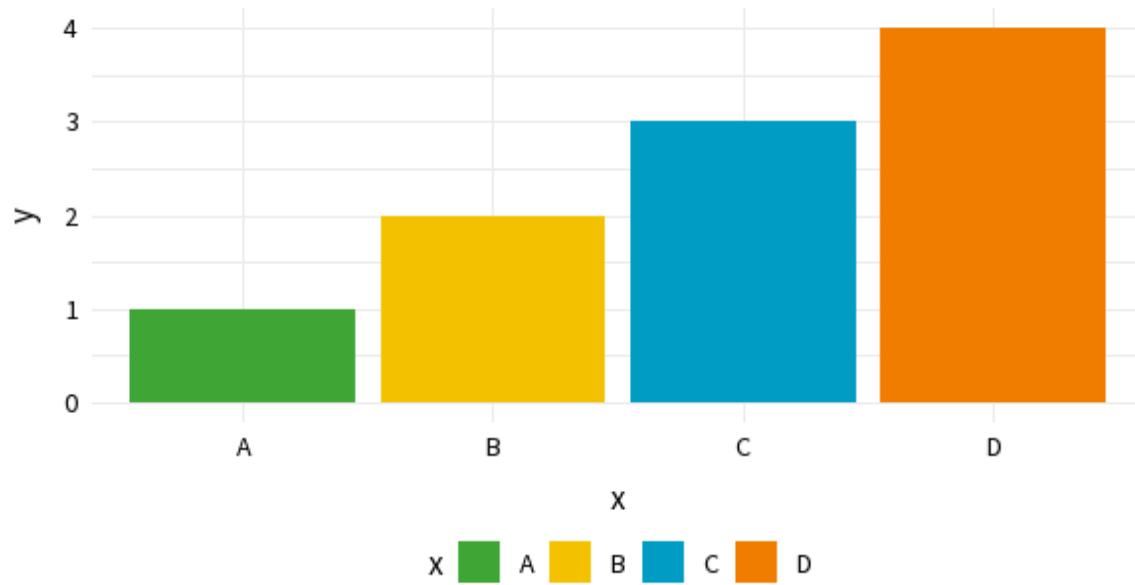
: {ggplot2}           .
{ggplot2}           .     theme_grey()     .     theme_minimal()
theme_bw()          .           .
{RSSthemes} theme_significance()   Significance
library(RSSthemes)  .           .

ggplot(data = plot_df,
       mapping = aes(x = x, y = y, fill = x)) +
  geom_col() +
  labs(title = " Significance ",
       subtitle = " .",
       caption = " :      ") +
  scale_fill_rss_d(palette = "signif_qual") +
  theme_significance()

```

My Significance Plot

Some longer sentence explaining what is happening in the chart.



Source: name of data source

Figure 11: `theme_significance()`

{RSSthemes}

[GitHub](#)

R

R . RStudio Plots Export
300 dpi . `{ggplot2} ggsave()` 300 dpi . PDF EPS

RSS

Significance Features 3 2 124mm
`pdf()` (124mm ~ 4.88). 2:1 :

```
pdf(file = "significance-feature-plot.pdf", #  
width = 4.88, #  
height = 4.88 / 2 #  
)
```

```
plot(1:4, 1:4)
dev.off()
```

Python

Python ,
RSS Python github.com/nrennie/RSSpythemes Python
GitHub .

Matplotlib

Matplotlib , Python .
: matplotlib .
color matplotlib : .

```
import matplotlib.pyplot as plt
# generate data
x_vals = ['A', 'B', 'C', 'D']
y_vals = [1, 2, 3, 4]
# create barchart
plt.bar(x_vals, y_vals, color = "#009cc4")
plt.show()
```

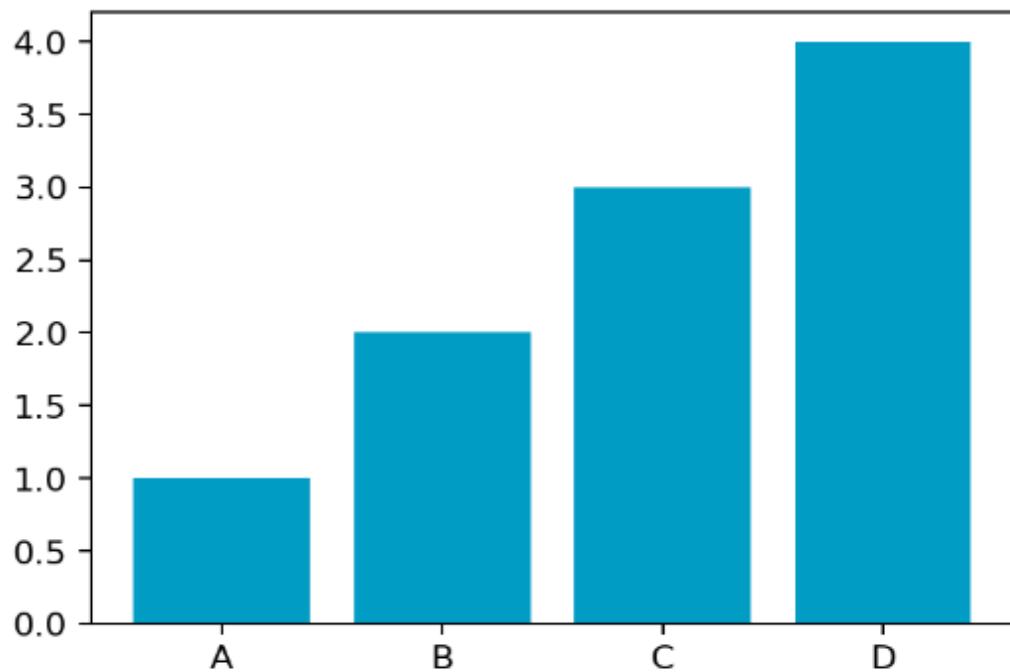


Figure 12: *Significance*

```
# define colour palette
signif_qual = ['#3fa535', '#f4c100', '#009cc4', '#f07d00']
# create barchart
plt.bar(x_vals, y_vals, label = x_vals, color = signif_qual)
plt.show()
```

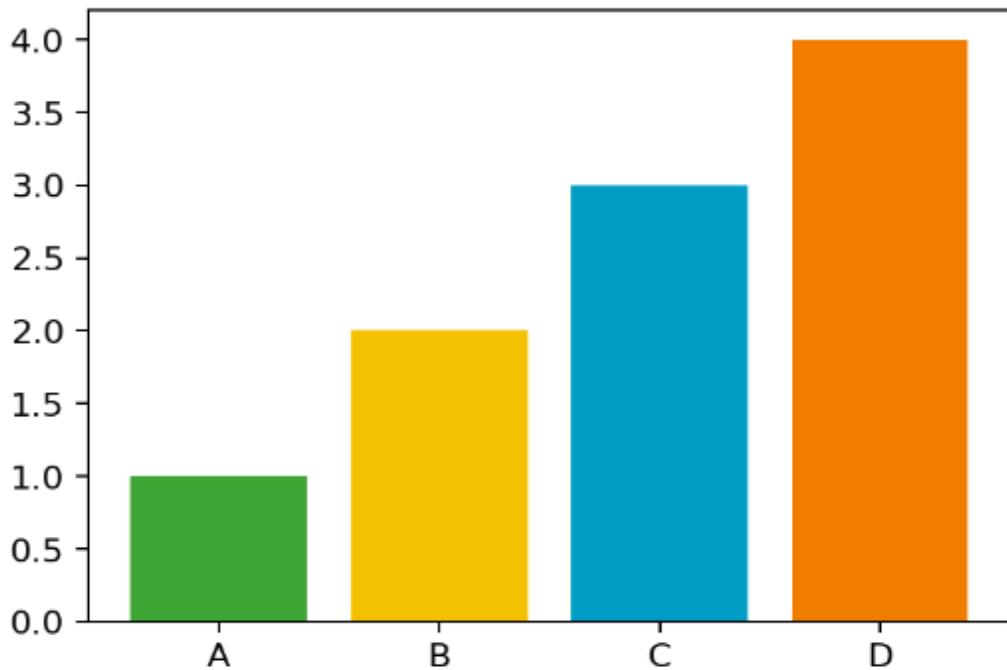


Figure 13: `signif_qual`

```
: matplotlib
rcParams
    font_manager : ( : sans serif)
        :
from matplotlib import font_manager
font_manager.fontManager.addfont("SourceSans3-Regular.ttf")

fontdic
    ,
# define fonts
from matplotlib import rcParams
rcParams['font.family'] = ['Source Sans 3', 'sans-serif']

# create barchart
fig, ax = plt.subplots(1, 1)
plt.bar(x_vals, y_vals, color = signif_qual, label = x_vals)
```

```

plt.title(' Significance ', fontdict = {'fontsize':14}, loc = 'left')
# add grid lines lines
ax.set_axisbelow(True)
ax.xaxis.grid(color = 'lightgrey')
ax.yaxis.grid(color = 'lightgrey')
# add legend below plot
ax.legend(ncol = 4, loc = 'lower center',
          bbox_to_anchor = (0.5, -0.15), frameon = False)
plt.show()

```

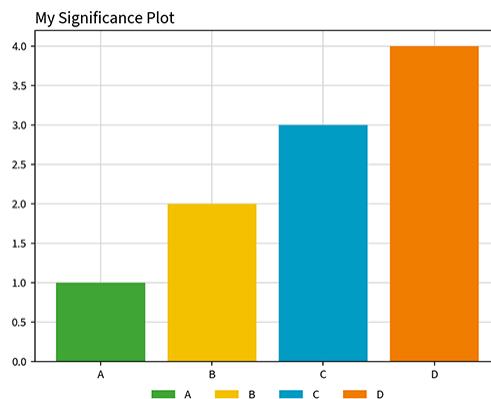


Figure 14: Source Sans

Julia

```
Julia
```

```
. Julia
```

Makie

```
Makie Julia
```

```
: Makie
```

```
Makie color           axis   xticks      :
```

```

using CairoMakie
# generate data
x_vals = [1, 2, 3, 4]
y_vals = [1, 2, 3, 4]

```

```
# create barchart
barplot(x_vals, y_vals, color="#009cc4", axis=(; xticks=(1:4, ["A", "B", "C", "D"])))
```

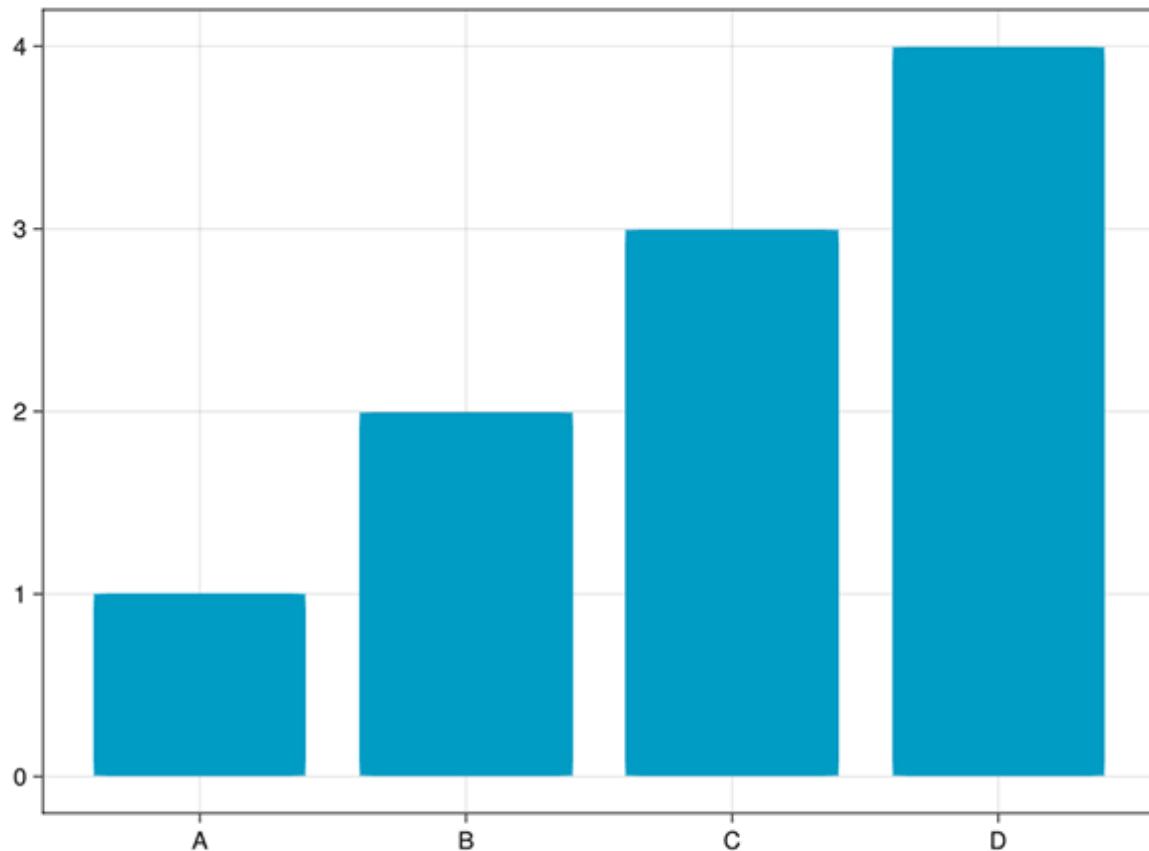


Figure 15: *Significance*

:

```
# define colour palette
signif_qual = ["#3fa535", "#f4c100", "#009cc4", "#f07d00"]
# create barchart
barplot(x_vals, y_vals, color=signif_qual, axis=(; xticks=(1:4, ["A", "B", "C", "D"])))
```

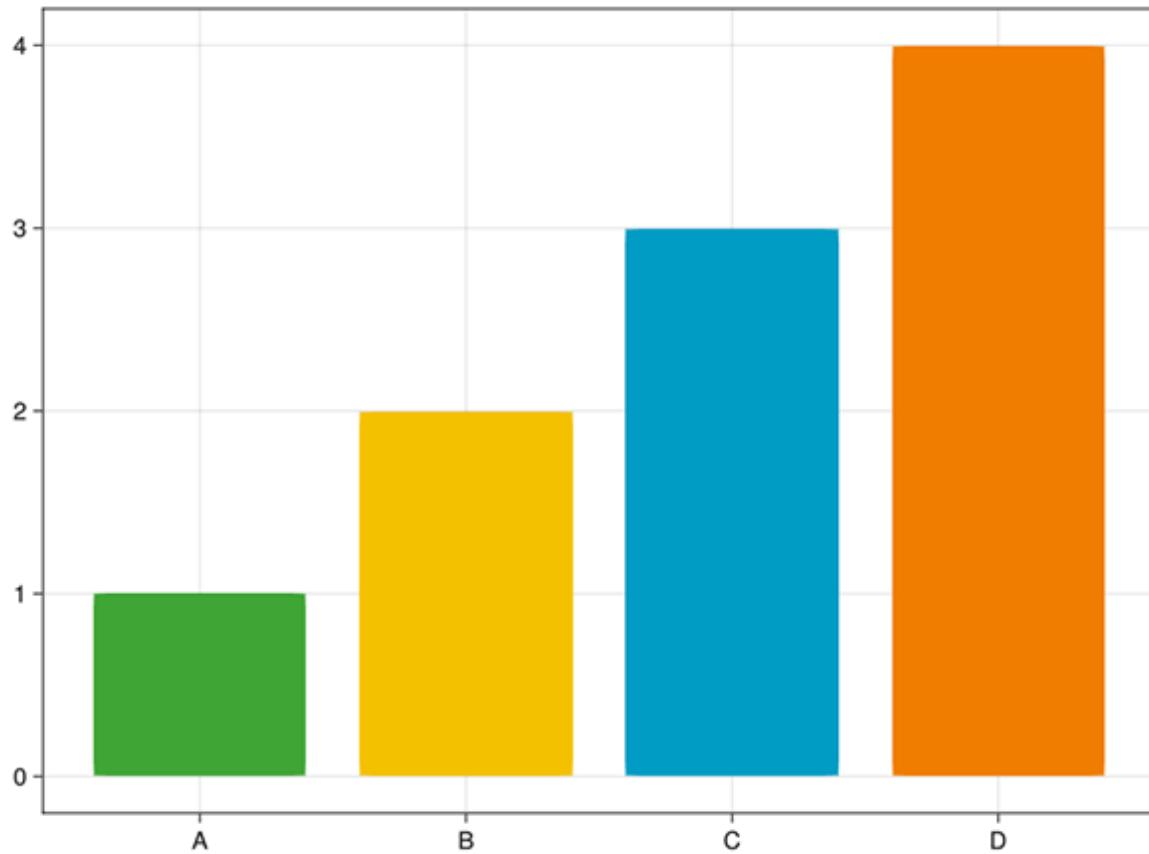


Figure 16: signif_qual

```
axis : 

# define labels and title
title = " Significance "
subtitle = " . "
xlabel = "X"
ylabel = "Y"

# create barchart
barplot(x_vals,
         y_vals;
         color=signif_qual,
         axis=();
         xticks=(1:4, ["A", "B", "C", "D"]),
         title=title,
```

```
        subtitle=subtitle,  
        titlealign=:left,  
        xlabel=xlabel,  
        ylabel=ylabel,  
    ),  
)
```

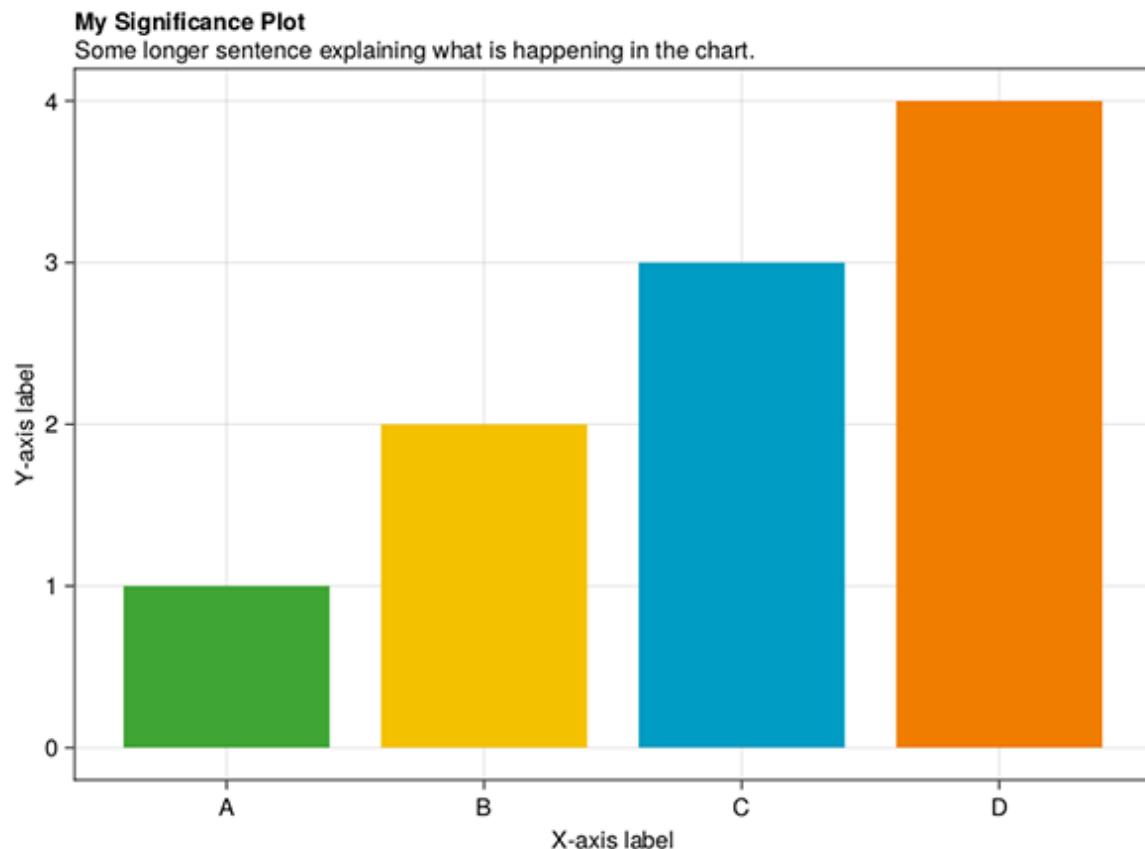


Figure 17:

AlgebraOfGraphics

```
AlgebraOfGraphics      Makie      Julia      .      R ggplot2      .  
: AlgebraOfGraphics      .  
Makie  color      axis  xticks      :  
          .  
          .  
          .
```

```

using AlgebraOfGraphics
using CairoMakie
# generate data
x_vals = [1, 2, 3, 4]
y_vals = [1, 2, 3, 4]
# create barchart
plt = data(; x_vals, y_vals) * mapping(:x_vals, :y_vals) * visual(BarPlot; color="#009cc4")
draw=plt; axis=(; xticks=(1:4, ["A", "B", "C", "D"]))

```

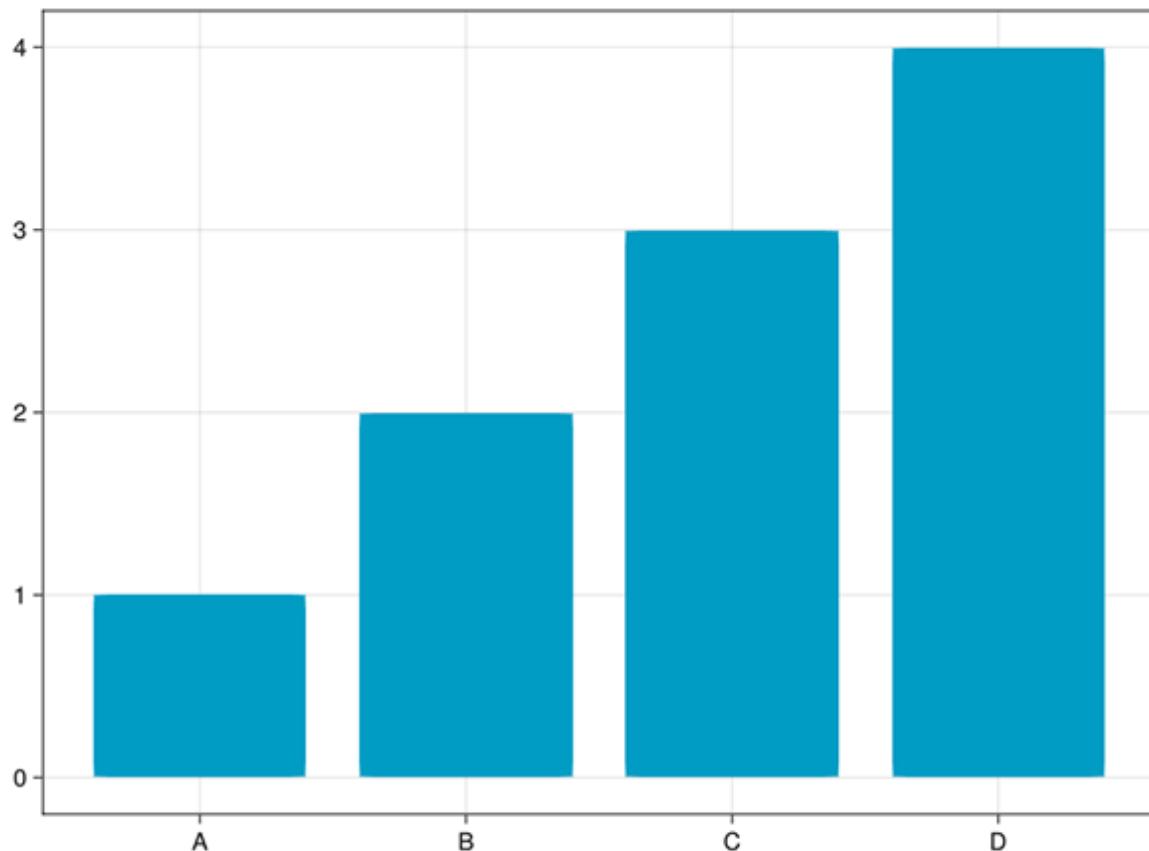


Figure 18: *Significance*

```

# define colour palette
signif_qual = ["#3fa535", "#f4c100", "#009cc4", "#f07d00"]
# create barchart

```

```
plt = data(; x_vals, y_vals) * mapping(:x_vals, :y_vals) * visual(BarPlot; color=signif_qual)
draw=plt; axis=(; xticks=(1:4, ["A", "B", "C", "D"])))
```

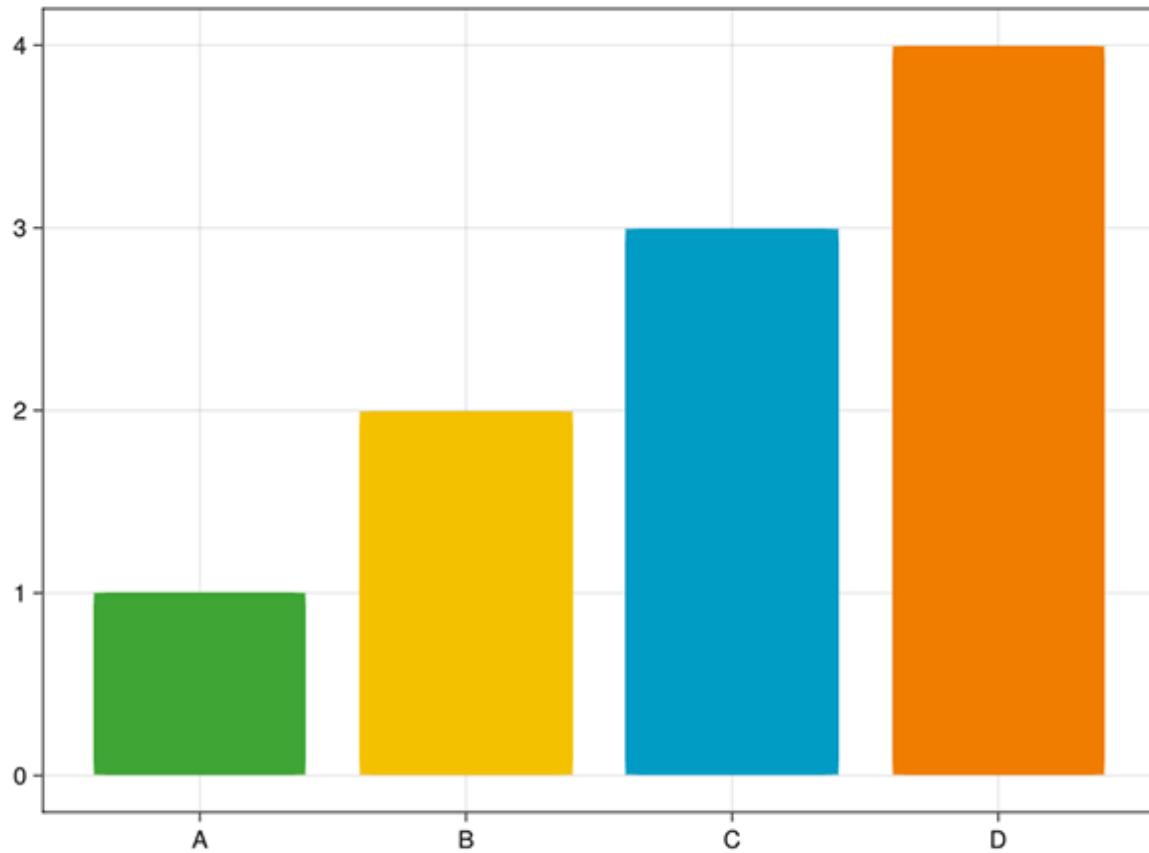


Figure 19: signif_qual

```
axis      :
# define labels and title
title = " Significance "
subtitle = " "
xlabel = "X"
ylabel = "Y"

# create barchart
draw=plt;
axis=(;
```

```
        xticks=(1:4, ["A", "B", "C", "D"]),
        title=title,
        subtitle=subtitle,
        titlealign=:left,
        xlabel=xlabel,
        ylabel=ylabel,
    ),
)
```

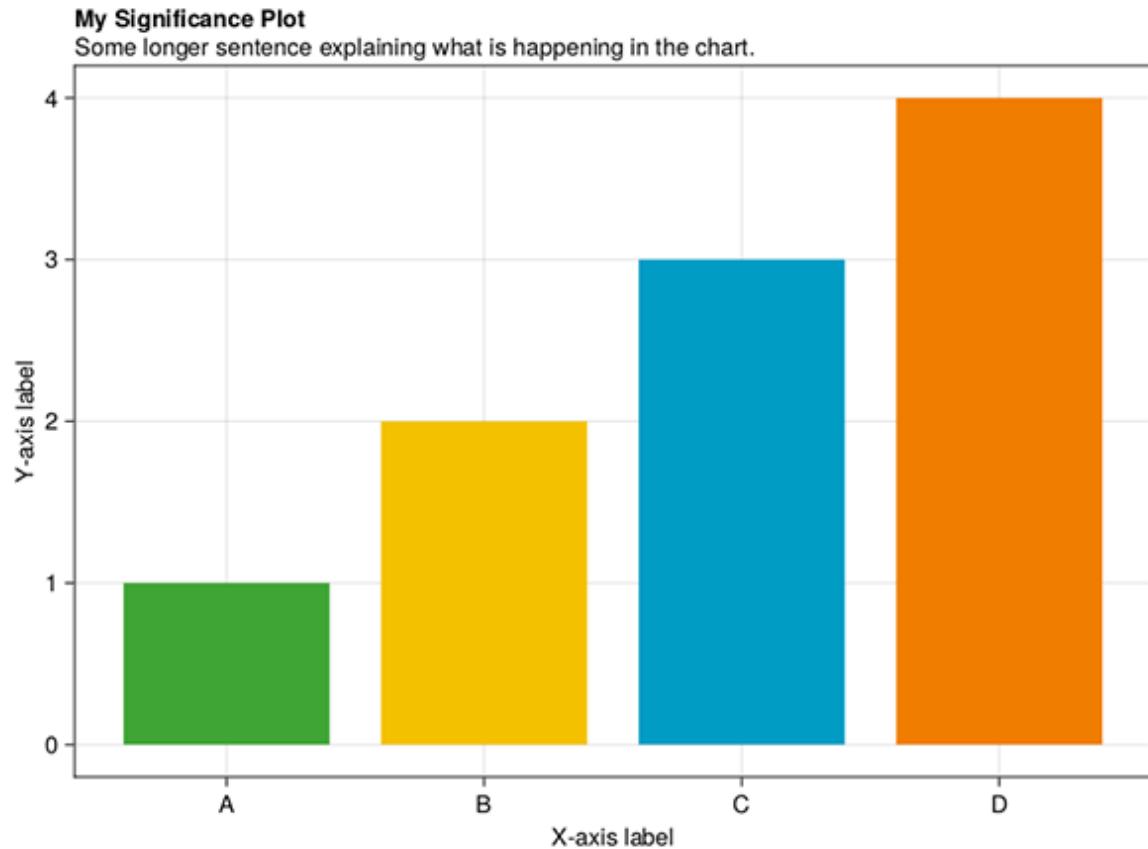


Figure 20:

Significance Magazine

(W) 212.55 mm x (H) 263.65 mm
(W) 188 mm x (H) 212 mm
300 dpi ()
jpeg, png

Notebook

4 .

1x	45 mm
2x	93 mm
3x	140 mm
4x	188 mm

Meta Serif OT, Book
8.5 pt
:
(RSSthemes signif_red)

- CMYK = 0, 96, 98, 1
- RGB = 228, 27, 18
- Hex code = #e41b12

Features

3 .

1x	60 mm
2x	124 mm
3x	188 mm

Source Sans Pro, Regular
9 pt

```
:  
(RSSthemes    signif_green  )
```

- CMYK = 75, 5, 100, 0
 - RGB = 63, 165, 53
 - Hex code = #3fa535
-

Profiles / Perspectives / Statscom

3

```
.  
-----  
1x          60 mm  
2x          124 mm  
3x          188 mm  
           Meta Serif OT, Book  
           8.5 pt  
:  
Profiles   :  
(RSSthemes    signif_blue  )
```

- CMYK = 78, 19, 15, 1
- RGB = 0, 156, 196
- Hex code = #009cc4

```
Perspectives  :  
(RSSthemes    signif_yellow  )
```

- CMYK = 5, 24, 95, 1
- RGB = 244, 193, 0
- Hex code = #f4c100

```
Statscomm      :  
  (RSSthemessignif_orange )  
  
  • CMYK = 0, 60, 99, 0  
  • RGB = 240, 125, 0  
  • Hex code = #f07d00
```

Journal of the Royal Statistical Society Series A

(W) 189 mm x (H) 246 mm
(W) 136 mm x (H) 217 mm
Sabon LT Std Roman
9.25 pt
300 dpi ()
jpeg, png

- R Core Team. 2021. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.
- “Styling Base r Graphics.” 2018. Jumping Rivers. 2018. <https://www.jumpingrivers.com/blog/styling-base-r-graphics/>.
- Wickham, Hadley. 2016. *Ggplot2: Elegant Graphics for Data Analysis*. Springer-Verlag New York. <https://ggplot2.tidyverse.org>.