Statgl (r-package)

Formating, data transformation and use of the Statbank API

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The table collection, 'Greenland in numbers' and the Greenlandic development goals are calculated and presented using numbers from the Statbank.

Data query, processing, and formatting is documented by allowing access to the programming code used to make the presentation. The code is written using the statistical programming language R, which can be downloaded for free on https://cran.r-project.org/

An R package called `statgl` has been developed to ease and standardize the R programming at Statistics Greenland. A development version is available on Github, and can be installed in R-Studio using the command:

```
devtools::install_github("StatisticsGreenland/statgl")
```

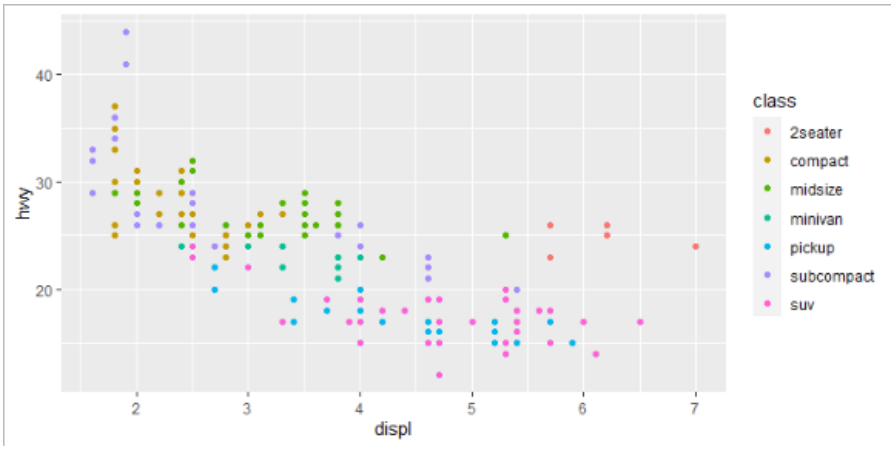
This assumes that the `devtools` package has already been installed:

```
install.packages("devtools")
```

Data visualization

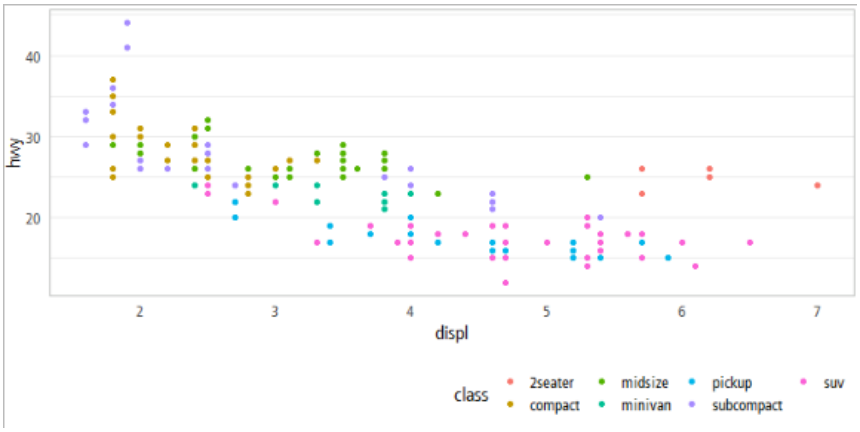
The R package uses the graphics library `ggplot2` for data visualization. This includes functions to define custom themes and color scales, which can be added as layers to existing ggplot objects. This is a typical ggplot:

```
library(ggplot2)
ggplot(data = mpg, mapping = aes(x = displ, y = hwy, color = class)) +
  geom_point()
```



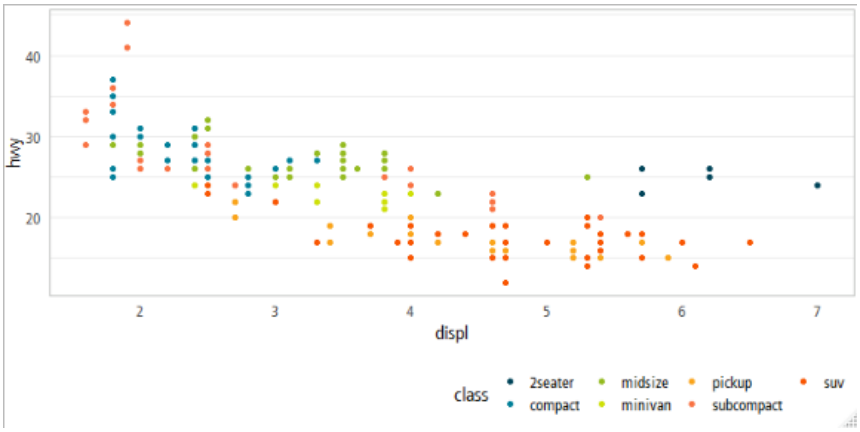
Theme can be added by using the `theme_statgl()` function from the statgl-package:

```
library(ggplot2)
library(statgl)

ggplot(data = mpg, mapping = aes(x = displ, y = hwy, color = class)) +
  geom_point() +
  theme_statgl()
```



Custom color scale can be added using the function `scale_color_statgl()`:

```
library(ggplot2)
library(statgl)

ggplot(data = mpg, mapping = aes(x = displ, y = hwy, color = class)) +
  geom_point() +
  theme_statgl() +
  scale_color_statgl()
```



A similar function is used for bar charts, called `scale_fill_statgl()`.

Tables

The R package uses the `kableExtra` library to draw HTML tables for use on the website. The simplest function is called `statgl_table()`, which returns an HTML table in a specific format, if a *data frame* is provided:

```
library(statgl)
statgl_table(df = head(mtcars))
```

mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
21,0	6	160	110	3,90	2,620	16,46	0	1	4	4
21,0	6	160	110	3,90	2,875	17,02	0	1	4	4
22,8	4	108	93	3,85	2,320	18,61	1	1	4	1
21,4	6	258	110	3,08	3,215	19,44	1	0	3	1
18,7	8	360	175	3,15	3,440	17,02	0	0	3	2
18,1	6	225	105	2,76	3,460	20,22	1	0	3	1

More information about the package is available on Statistics Greenland's Github page.

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