
# HealthyR QuickStart Sheet

Please use this information throughout the course as a quick guide to R shortcuts symbols

## RStudio keyboard shortcuts

| Shortcut | Result |
|---|---|
| Control+Shift+Enter | Runs the whole Script |
| Control + Enter | Runs the current line or section |
| F1 (fn+F1) | Open Help window with function description |
| Control+Shift+M (Cmd+Shift+M) | %>% (sends data into a function) |
| Control+Shift+K (Cmd+Shift+K) | Knits your script/notebook to Word/PDF/HTML document. |

## Import/Export Spreadsheets

```
mydata = read_csv("my_data_file.csv")
write_csv(mydata, "my_output_file.csv")

Click on Import Dataset in the
Environment tab for other formats.

Project with multiple folders? Add
here::here("my_data_file.csv") into the
read_csv(), e.g.:

read_csv(here::here("data-raw",
"my_data_file.csv"))
```

## Symbols and Operators

| Symbol | What does | Example | Example result |
|---|---|---|---|
| **= or <-** | assigns | x = 2 | the value of x is now 2 |
| **==** | Equal? | x == 2 | TRUE |
| **!=** | Not equal? | x != 1 | TRUE |
| **<** | Less than | x < 2 | FALSE |
| **>** | Greater than | x > 1 | TRUE |
| **<=** | Less than or equal to | x <= 2 | TRUE |
| **>=** | Greater than or equal to | x >= 1 | TRUE |
| **%>%** | sends data into a function | x %>% print() | 2 |
| **::** | indicates package | dplyr::count() | count() fn. from the dplyr package |
| **->** | assigns 2 | 2 -> x | the value of x is now 2 |
| **&** | AND | x > 1 & x < 3 | TRUE |
| **\|** | OR | x > 3 \| x == 3 | FALSE |
| **%in%** | is value in list | x %in% c(1,2,3) | TRUE |
| **$** | select a column | mydata$year | 1990,1996,... |
| **c()** | combines values | c(1, 2) | 1, 2 |
| **#** | comment | # Riinu changed this | ignored by R |

`filter(sex %in% c("F", "M"))`
is equivalent to
`filter(sex == "F" | sex == "M")`

## Is it a variable, a function, or text?

mean = 5.0 #setting a variable's value

| Code | Type | Result | Explanation |
|---|---|---|---|
| mean | Variable | 5.0 | Value of the variable called *mean* |
| mean () | Function | Calculate | Calculates the average of the numbers in brackets |
| "mean" | TEXT/ NAME | "mean" | Text, can be used as label, axis |

Functions are ***always*** followed by brackets (usually with arguments inside the brackets).
Character strings (i.e. words, names, labels, sentences) are always quoted ("text" or 'text').

## Paste Examples

| Code | Result |
|---|---|
| `paste("Number", 5)` | "Number 5" |
| `paste("Number", 5, sep="-")` | "Number-5" |
| `paste("Number", 5, sep="")` | "Number5" |
| `paste0("Number", 5)` | "Number5" |
| NB the last 2 entries are equivalent | |

## Factors

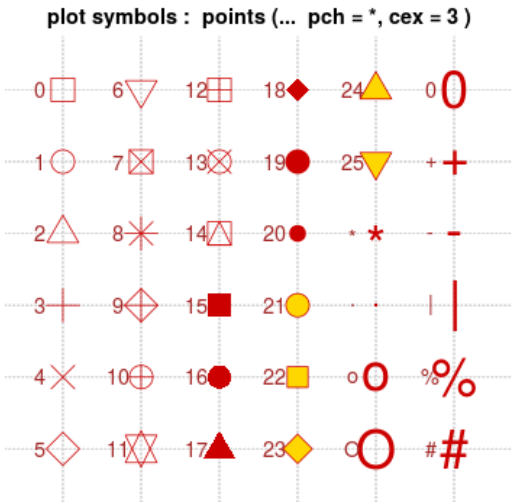
Full reference of library(forcats):
http://forcats.tidyverse.org/reference

Most useful:

- `fct_collapse()` - groups some levels together
- `fct_relevel()` - move level(s) to front
- `fct_rev()` - reverses current level order
- `fct_recode()` - rename factor level(s)

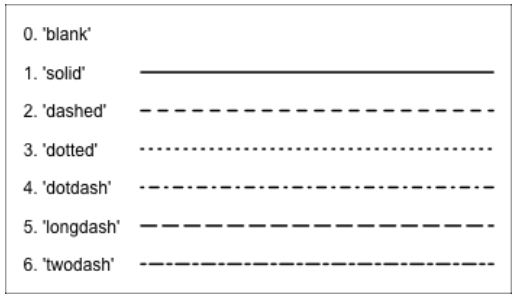

## Point & line types

`shape =`

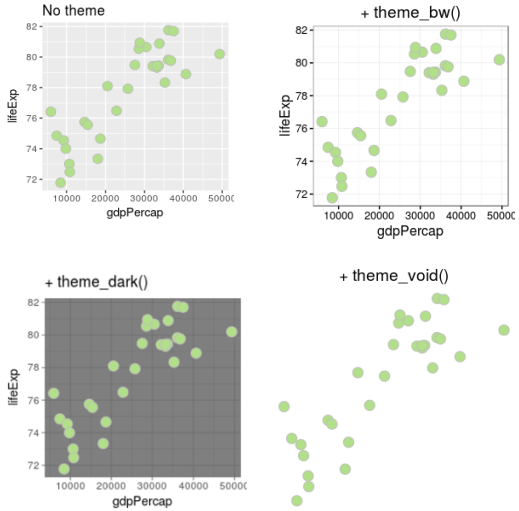



Note that for shapes 21 - 25 you can define a fill and a colour, for all others you can define a colour.

`linetype =`




## Themes




Search for "ggtheme" or press F1 on any theme, e.g. theme_bw(), for more.

## Common errors

Error in library (tidyverse): there is no package called 'tidyverse'

***Solution***: install the package.

```
install.packages("tidyverse") #note that this time the name has to be between quotes
```

Error: could not find function "spread"

***Solution***: load the package that includes this funcion.

```
library(tidyverse)
```

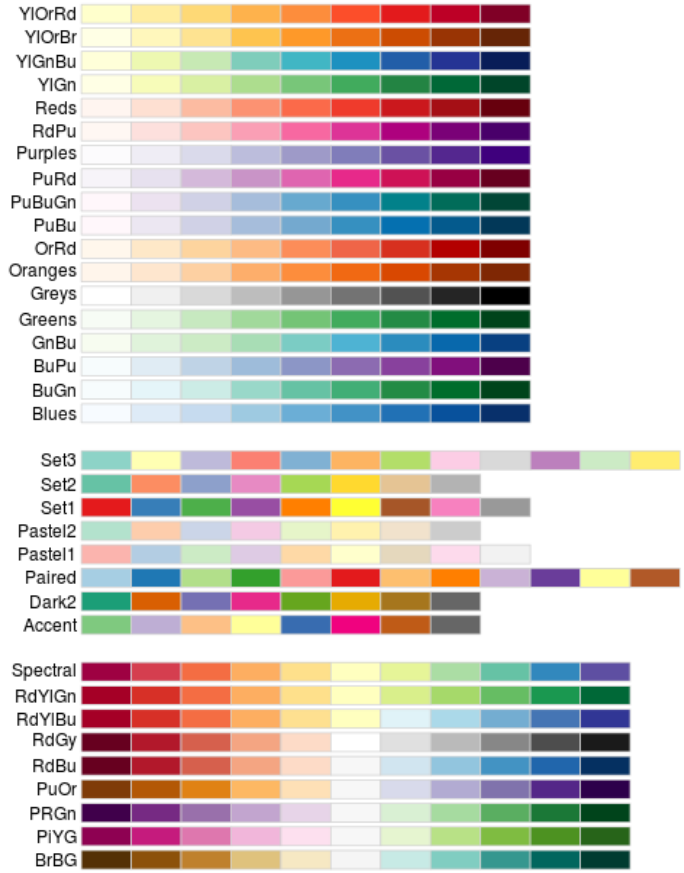
Error: argument is not numeric/date/factor

***Solution***: use `as.numeric()`, `ymd()`, `factor()`, `tibble()`, or other appropriate function to convert your column into the expected format.

## Colours (or fills)

`+ scale_colour_brewer(palette = "Set1")` or

`+ scale_fill_brewer(palette = "Set1")`




Or get individual colour codes from:

http://colorbrewer2.org/