

# Self-Check Sheet

Notes:

- Elements appear in the chronological order we saw them in class.
- Elements marked with \* were mentioned in class but are **not required** to be mastered.

## Week 1: Kickstart with R

```
sqrt()  
ls()  
library()  
mean()  
q()  
?  
getwd()  
file.exists()  
readr::read_csv()  
head()  
View()  
readr::write_csv()  
  
dim()  
mode()  
sd()  
summary()  
*hist()  
*plot()  
log2()  
  
*text()  
*abline()
```

## Week 2: Vectors and Matrices

```
help()
NA
is.numeric()
is.double()
is.integer()
as.numeric()
tyoeof()
is.character()
as.character()
is.logical()

c() :
seq()
paste0()
rep()
is.vector()
length()
names()
str()
tail()
is.na()
sum()
median()

matrix()
rbind()
cbind()
nrow()
ncol()
rownames()
colnames()
is.matrix()
rowSums()
colSums()
rowMeans()
colMeans()

*set.seed()
round()
*rnorm()
shapiro.test()
```

```
*curve()  
*dnorm()
```

### Week 3: Data Frames and Lists

```
data.frame()  
is.data.frame()  
unlist()  
NULL  
factor()  
merge()  
  
list()  
names()  
  
read.table()  
unique()  
wilcox.test()  
*boxplot()
```

### Week 4: Operators, Conditions, and Functions

```
<-  
=  
[]  
$  
[[[]]]  
+, -, *, /, ^  
<, <=, >, >=, ==, !=  
!, &, |  
%in%  
any()  
all()  
which()  
if()  
if () {} else {}  
ifelse()  
print()  
  
abs()  
table()
```

## **Week 5: ggplot2 (part 1)**

```
install.packages()  
remove.packages()  
  
ggplot()  
aes()  
geom_point()  
labs()  
geom_smooth()  
geom_boxplot()  
geom_violin()  
geom_histogram()  
geom_bar()  
theme_grey()  
theme_bw()  
theme_classic()  
theme_bw()  
theme()  
ggsave()  
  
as.data.frame()  
theme_minimal()  
*element_text()
```

## **Week6: Revisiting the Essentials**

```
read.csv()  
write.table()  
write.csv()  
readxl::read_xlsx()  
readxl::read_xls()  
writexl::write_xlsx()  
saveRDS()  
readRDS()  
save()  
  
t.test()
```

## **Week7: Wrangling Data with dplyr and tidyr**

```
|>  
*%>%
```

```
tibble()  
as_tibble()  
  
pivot_longer()  
pivot_wider()  
drop_na()  
  
select()  
starts_with()  
ends_with()  
contains()  
matches()  
mutate()  
rename()  
filter()  
arrange()  
desc()  
count()  
summarise()  
group_by()  
ungroup()  
  
*pull()  
*if_else()  
*slice()  
*slice_head()  
*slice_tail()  
  
*readr::read_csv2()  
*extract()  
*GGally::ggpairs()  
  
cor()
```

## Week 8: ggplot2 (part 2) & Custom Functions

```
theme_set()  
theme_update()  
scale_color_manual()  
scale_fill_manual()  
scale_shape_manual()  
scale_x_continuous()  
scale_y_continuous()  
xlim()
```

```

ylim()
geom_hline()
geom_vline()
facet_wrap()
facet_grid()
geom_label()
*ggrepel::geom_label_repel()
*ggpubr::stat_compare_means()

theme_minimal()
*everything()
*sub()
*rank()
*position_jitter()
paste()

*ggpubr::stat_pvalue_manual()
geom_col()

*patchwork::wrap_plots()
*patchwork::plot_annotation()

```

## Week 9: Reproducible Analysis with Quarto

```

# H1
## H2
### H3
**Bold**
*Italic*
`code`
`r nrow(iris)`
Superscript^1^
Subscript~2~
! [] (path/to/image.png)
- unordered list
  - unordered sub-list
1. ordered list

```

```

left_join()
theme_light()

aov()
*TukeyHSD()

```

```
*bartlett.test()  
*kruskal.test()
```