

# 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()  
typeof()  
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)`
Superscript1
Subscript2
![] (path/to/image.png)
- unordered list
  - unordered sub-list
1. ordered list

```

```

left_join()
theme_light()

aov()
*TukeyHSD()

```

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