

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()
```