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()

2

*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()