

Preparatory Steps and Work Environment

October 31, 2019

1 Preparatory steps

Prior to performing calculations, let us first set up our work environment. Run the following lines of code in an R console:

```
# Creates or reads existing user-specific .Renviron file
user.renviro = path.expand(file.path("~", ".Renviron"))

# Opens user-specific .Renviron file
file.edit(user.renviro)
```

After running this, an .Renviron file will pop up. Specify the location of the folder `examples` and the folder `code`. For example, in a machine running on a Windows OS this could look like:

```
path.input_data = "J:/CountSMART/run-examples/dat-example-01a"
path.output_data = "J:/CountSMART/run-examples/output-example-01a"
path.code = "J:/CountSMART/code"
```

Now, restart R so that these paths can be loaded into R's namespace.

2 List of packages used

- dplyr
- purrr
- assertthat
- rootSolve
- mvtnorm
- geeM
- parallel
- ggplot2

3 Display session information

To facilitate reproducibility, we display details on the set-up of our work environment when running power calculation computations in illustrative examples below.

```
sessionInfo()

## R version 3.6.1 (2019-07-05)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 18362)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United States.1252
## [2] LC_CTYPE=English_United States.1252
## [3] LC_MONETARY=English_United States.1252
## [4] LC_NUMERIC=C
```

```

## [5] LC_TIME=English_United States.1252
##
## attached base packages:
## [1] parallel stats      graphics grDevices utils      datasets  methods
## [8] base
##
## other attached packages:
## [1] ggplot2_3.2.1    geeM_0.10.1      Matrix_1.2-17    mvtnorm_1.0-11
## [5] rootSolve_1.7    assertthat_0.2.1 purrr_0.3.2      dplyr_0.8.3
## [9] formatR_1.7      kableExtra_1.1.0 knitr_1.25       rmarkdown_1.15
##
## loaded via a namespace (and not attached):
## [1] Rcpp_1.0.2      pillar_1.4.2     compiler_3.6.1
## [4] tools_3.6.1     zeallot_0.1.0    digest_0.6.20
## [7] gtable_0.3.0    lattice_0.20-38  evaluate_0.14
## [10] tibble_2.1.3    viridisLite_0.3.0 pkgconfig_2.0.2
## [13] rlang_0.4.0     rstudioapi_0.10  yaml_2.2.0
## [16] xfun_0.9        withr_2.1.2      stringr_1.4.0
## [19] httr_1.4.1      xml2_1.2.2       vctrs_0.2.0
## [22] hms_0.5.1       grid_3.6.1       webshot_0.5.1
## [25] tidyselect_0.2.5 glue_1.3.1       R6_2.4.0
## [28] readr_1.3.1     magrittr_1.5     backports_1.1.4
## [31] scales_1.0.0    htmltools_0.3.6  rvest_0.3.4
## [34] colorspace_1.4-1 stringi_1.4.3     lazyeval_0.2.2
## [37] munsell_0.5.0   crayon_1.3.4

```