Package 'GroupSeq'

April 11, 2018

Title A GUI-Based Program to Compute Probabilities Regarding Group
Sequential Designs

Version 1.3.5

Description A graphical user interface to compute group sequential designs
based on normally distributed test statistics, particularly critical
boundaries, power, drift, and confidence intervals of such designs. All
computations are based on the alpha spending approach by Lan-DeMets with
various alpha spending functions being available to choose among.

Imports tcltk

Suggests testthat

License GPL (>= 2)

URL https://github.com/rpahl/GroupSeq

BugReports https://github.com/rpahl/GroupSeq/issues

NeedsCompilation no

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Repository CRAN

RoxygenNote 6.0.1

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R topics documented:

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groupseq   *Starts the program.*

Description

This function is invoked when the package is loaded into R workspace. It starts the main menu using a graphical user interface (GUI). If, for any reason, the GUI does not work, user can choose an interactive mode by typing groupseq(mode="c") to work within the R console. However, the console mode has not been further developed since GroupSeq version 1.0.

The program itself refers to an earlier Fortran Implementation by Reboussin et al. and was completely recoded in R. Following the maxim of modular programming, it was decomposed in various functions. Furthermore, some algorithms could be improved and the whole application was embedded in a GUI affording much more convenient and faster working. Last but not least, computation results can be saved into common tables of *.html file format to eventually process them further on.

Usage

```
groupseq(mode = "g")
```

Arguments

mode   Default is mode="g" (recommended) to use the gui
                    but user may choose mode="c" to use the R console, in case the gui does not
                    work.

Details

GroupSeq is appropriate for any trial which is based on normally distributed test statistics with independent increments, for survival studies, and certain longitudinal designs. Among other things, it computes critical boundaries for various spending functions and for prespecified power and drift. Confidence intervals are also obtained. Since all computations are done via the alpha spending approach by Lan-DeMets, interim analyses not necessarily need to be equally spaced, and their number need not to be specified in advance, respectively.

The GUI is build within the Tcl/Tk interface of R and therefore basically should work smoothly at every platform R runs on. Customization within the GUI is left to the user, who may create separate windows for each task so that multiple tasks (e.g., computing and comparing several designs) can be performed simultanously.

Author(s)

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References

https://www.biostat.wisc.edu/content/lan-demets-method-statistical-programs-clinical-trials

Examples

```
## call GUI mode (default)
# groupseq() or groupseq(mode="g")

## call console mode
# groupseq(mode="c")
```

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