Package 'a4Reporting'

April 10, 2023

Type Package

Title Automated Affymetrix Array Analysis Reporting Package

Version 1.46.0

Date 2020-10-15

Description Utility functions to facilitate the reporting of the Automated Affymetrix Array Analysis Reporting set of packages.

Imports methods, xtable

Suggests knitr, rmarkdown

biocViews Microarray

License GPL-3

VignetteBuilder knitr

RoxygenNote 7.1.1

git_url https://git.bioconductor.org/packages/a4Reporting

git_branch RELEASE_3_16

git_last_commit 00b82d2

git_last_commit_date 2022-11-01

Date/Publication 2023-04-10

Author Tobias Verbeke [aut],
Laure Cougnaud [cre]

Maintainer Laure Cougnaud <laure.cougnaud@openanalytics.eu>

R topics documented:

---

annotationTable   *Function to Create an annotationTable*

Description

This function takes data to be displayed as well as data containing hyperlinks corresponding to displayed data and constructs an object of class annotationTable

Usage

```
annotationTable(displayData, displayCols = NULL, hrefData = NULL)
```

Arguments

displayData   data frame containing data that is meant to be displayed in a LaTeX table

displayCols   list of named character vectors (of length one) that function as key-value pairs; the names (keys) correspond to columns for which the hyperlinks should be generated whereas the strings (values) indicate what kind of link should be produced based on the corresponding column in the displayData. The values should be one of "EntrezId" or "GOId".

hrefData   data frame containing hyperlink information for the columns of the same name in the displayData data frame

Details

If hrefData is given, the displayCols are not taken into account. If no hrefData is given, the information in displayCols allows to automatically create the hrefData.

Value

object of class 'annotationTable'

Author(s)

Tobias Verbeke

Examples

```
## some dummy data
dData <- data.frame(someSymbol = LETTERS[1:5],
 accessionNumber = c("X83928", "V00540", "U21090", "L38487", "M34057"))
at <- annotationTable(displayData = dData,
 displayCols = list(accessionNumber = "EntrezId"))
```

---

annotationTable-class *Class 'annotationTable'*

Description

Class to represent both displayed information and hyperlink information to prepare tabular output for LaTeX (with hyperlinks)

Usage

```
## S4 method for signature 'annotationTable'
show(object)
```

Arguments

object   annotationTable object

Objects from the Class

Objects can be created by calls of the form new("annotationTable", ...) or using the wrapper function annotationTable

Slots

displayData: Object of class "data.frame" containing the columns to be displayed in the table

displayCols: Object of class "list" giving key-value pairs that allow to automatically generate the hyperlinks for the corresponding columns of the displayData

hrefData: Object of class "data.frame" giving the hyperlink information for the corresponding columns of the displayData

Methods

show signature(object = "annotationTable"): print an annotationTable (without displaying the hyperlink information)

Author(s)

Tobias Verbeke

Examples

```
showClass("annotationTable")
```

---

generateEntrezIdLinks   *Transform an ENTREZ ID into a hyperlink*

Description

Utility function to transform an ENTREZ ID into a hyperlink on the NCBI Entrez page for the given gene

Usage

```
generateEntrezIdLinks(x)
```

Arguments

x   vector of Entrez IDs

Value

vector of hyperlinks for the corresponding Entrez IDs

Note

Snippet taken from the annaffy package

Author(s)

Tobias Verbeke

See Also

[generateGOIdLinks](#)

Examples

```
generateEntrezIdLinks(c("5230", "18655"))
```

---

generateGOIdLinks   *Transform a GO ID into a hyperlink*

Description

Utility function to transform a GO ID into a hyperlink to the corresponding page on the gene ontology website

Usage

```
generateGOIdLinks(x)
```

Arguments

x   vector of GO IDs

Value

vector of hyperlinks

Note

Snippet taken from the annaffy package

Author(s)

Tobias Verbeke

See Also

generateEntrezIdLinks

---

print.xtableAnnotationTable
                 Print method for 'xtableAnnotationTable' objects

---

Description

Print method for 'xtableAnnotationTable' objects

Usage

```
## S3 method for class 'xtableAnnotationTable'
print(x, ...)
```

Arguments

x	Object of class 'xtableAnnotationTable'
...	Further arguments passed to `print.xtable`

Details

Wrapper to be able to use a specific `sanitize.text` function in the `print.xtable` call

Value

No returned value, the object is printed.

Author(s)

Tobias Verbeke

See Also

print.xtable

---

xtable,annotationTable,missing,missing,missing,missing,missing-method
                         Methods for Function xtable in Package 'annotationTable'

Description

xtable methods for several a4 objects, such as `annotationTable` objects, `topTable` objects etc.

Usage

```
## S4 method for signature
## 'annotationTable,missing,missing,missing,missing,missing'
xtable(x, caption, label, align, digits, display)

## S4 method for signature 'annotationTable,ANY,ANY,ANY,ANY,ANY'
xtable(x, caption, label, align, digits, display)

## S4 method for signature 'annotationTable,ANY,ANY,ANY,numeric,ANY'
xtable(x, caption, label, align, digits, display)

## S3 method for class 'topTableGlmnet'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
```

```
  display = NULL,
  ...
)

## S3 method for class 'topTableLognet'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
  display = NULL,
  ...
)

## S3 method for class 'topTableElnet'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
  display = NULL,
  ...
)

## S3 method for class 'pamClassConfusionTable'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
  display = NULL,
  ...
)

## S3 method for class 'topTablePam'
xtable(x, ...)

## S3 method for class 'topTableRfClass'
xtable(
  x,
  caption = NULL,
  label = NULL,
  align = NULL,
  digits = NULL,
  display = NULL,
```

```
    ...
)
```

Arguments

x   annotationTable object

caption   Character vector of length 1 or 2 containing the table's caption or title. If length
                  is 2, the second item is the "short caption" used when LaTeX generates a "List
                  of Tables". Set to NULL to suppress the caption. Default value is NULL.

label   Character vector of length 1 containing the LaTeX label or HTML anchor. Set
                  to NULL to suppress the label. Default value is NULL.

align   Character vector of length equal to the number of columns of the resulting ta-
                  ble, indicating the alignment of the corresponding columns. Also, "|" may be
                  used to produce vertical lines between columns in LaTeX tables, but these are
                  effectively ignored when considering the required length of the supplied vector.
                  If a character vector of length one is supplied, it is split as strsplit(align,
                  "")[[1]] before processing. Since the row names are printed in the first col-
                  umn, the length of align is one greater than ncol(x) if x is a data.frame. Use
                  "l", "r", and "c" to denote left, right, and center alignment, respectively. Use
                  "p{3cm}" etc. for a LaTeX column of the specified width. For HTML output the
                  "p" alignment is interpreted as "l", ignoring the width request. Default depends
                  on the class of x.

digits   Numeric vector of length equal to one (in which case it will be replicated as
                  necessary) or to the number of columns of the resulting table **or** matrix of the
                  same size as the resulting table, indicating the number of digits to display in the
                  corresponding columns. Since the row names are printed in the first column, the
                  length of the vector digits or the number of columns of the matrix digits is
                  one greater than ncol(x) if x is a data.frame. Default depends on the class of
                  x. If values of digits are negative, the corresponding values of x are displayed
                  in scientific format with abs(digits) digits.

display   Character vector of length equal to the number of columns of the resulting table,
                  indicating the format for the corresponding columns. Since the row names are
                  printed in the first column, the length of display is one greater than ncol(x) if
                  x is a data.frame. These values are passed to the formatC function. Use "d"
                  (for integers), "f", "e", "E", "g", "G", "fg" (for reals), or "s" (for strings). "f"
                  gives numbers in the usual xxx.xxx format; "e" and "E" give n.ddde+nn or
                  n.dddE+nn (scientific format); "g" and "G" put x[i] into scientific format only
                  if it saves space to do so. "fg" uses fixed format as "f", but digits as number
                  of *significant* digits. Note that this can lead to quite long result strings. Default
                  depends on the class of x.

...   Additional arguments. (Currently ignored.)

Methods

x = "annotationTable", caption = "missing", label = "missing", align = "missing", digits = "missing", display = "mis
      generates a LaTeX representation for the given annotationTable

x = "annotationTable", caption = "ANY", label = "ANY", align = "ANY", digits = "ANY", display = "ANY"
 generates a LaTeX representation for the given annotationTable

x = "annotationTable", caption = "ANY", label = "ANY", align = "ANY", digits = "numeric", display = "ANY"
 generates a LaTeX representation for the given annotationTable

Examples

```
## some dummy data
dData <- data.frame(someSymbol = LETTERS[1:5], accessionNumber = c("X83928", "V00540", "U21090", "L38487", "M3405
at <- annotationTable(displayData = dData, displayCols = list(accessionNumber = "EntrezId"))
xat <- xtable(at)
print(xat, include.rownames = FALSE)
```

Index