

# Package ‘ztable’

January 20, 2025

**Title** Zebra-Striped Tables in LaTeX and HTML Formats

**Version** 0.2.3

**Description** Makes zebra-striped tables (tables with alternating row colors) in LaTeX and HTML formats easily from a data.frame, matrix, lm, aov, anova, glm, coxph, nls, fitdistr, mytable and cbind.mytable objects.

**Depends** R (>= 3.1.2)

**License** GPL-2

**URL** <https://github.com/cardiomoon/ztable>

**LazyData** true

**Encoding** UTF-8

**Imports** stringr, magrittr, RColorBrewer, flextable, officer, rstudioapi, scales

**Suggests** MASS, moonBook, survival, testthat, knitr, rmarkdown

**VignetteBuilder** knitr

**RoxygenNote** 7.1.1

**NeedsCompilation** no

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**Repository** CRAN

**Date/Publication** 2021-09-28 04:50:02 UTC

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---

`.onAttach` *Hooks for Namespace Events*

---

**Description**

Functions to be called when loaded, attached, detached or unloaded

**Usage**

```
.onAttach(libname, pkgname)
```

**Arguments**

`libname` a character string giving the library directory where  
`pkgname` a character string giving the name of the package.

---

addCellColor	<i>Add column colors of an object of ztable</i>
--------------	---

---

### Description

Add column colors of an object of ztable

### Usage

```
addCellColor(  
  z,  
  rows = NULL,  
  cols = NULL,  
  bg = NULL,  
  color = NULL,  
  condition = NULL  
)
```

### Arguments

z	An object of ztable
rows	An integer vector indicating specific rows
cols	An integer vector indicating specific columns
bg	A character vector indicating background color
color	A character vector indicating color
condition	Logical expression to select rows

### Examples

```
## Not run:  
z=ztable(head(iris))  
z=addRowColor(z,c(1,3),color="platinum")  
z=addColColor(z,2,color="cyan")  
z=addCellColor(z,cols=c(5,4),rows=5,color="red")  
z  
  
## End(Not run)
```

---

addcgroup                      *Add column groups of an object of ztable*

---

**Description**

Add column groups of an object of ztable

**Usage**

```
addcgroup(z, cgroup, n.cgroup, color = "black", bg = "white", top = FALSE)
```

**Arguments**

z	An object of ztable
cgroup	A character vector or matrix indicating names of column group. Default value is NULL
n.cgroup	A integer vector or matrix indicating the numbers of columns included in each cgroup Default value is NULL
color	A character vector indicating the font color of each cells.
bg	A character vector indicating the background color of each cells.
top	Logical. Whether or not cgroup be placed at top.

---

addColColor                      *Add column colors of an object of ztable*

---

**Description**

Add column colors of an object of ztable

**Usage**

```
addColColor(z, cols = NULL, bg = NULL, color = NULL)
```

**Arguments**

z	An object of ztable
cols	An integer vector indicating specific columns
bg	A character vector indicating background color
color	A character vector indicating color

**Examples**

```
z=ztable(head(iris))
z=addColColor(z,c(1,3),color="platinum")
z
```

---

addFrontColor	<i>Add column colors of an object of ztable</i>
---------------	---

---

**Description**

Add column colors of an object of ztable

**Usage**

```
addFrontColor(z, rows, cols, color)
```

**Arguments**

z	An object of ztable
rows	An integer vector indicating specific rows
cols	An integer vector indicating specific columns
color	A character vector indicating color

**Examples**

```
z=ztable(head(iris))
z=addFrontColor(z,rows=2:4,cols=c(2,4,6),color=c("red","green","blue"))
z
```

---

addrgroup	<i>Add row groups of an object of ztable</i>
-----------	--

---

**Description**

Add row groups of an object of ztable

**Usage**

```
addrgroup(  
  z,  
  rgroup,  
  n.rgroup,  
  cspan.rgroup = NULL,  
  color = "black",  
  bg = "white"  
)
```

**Arguments**

z	An object of ztable
rgroup	A character vector indicating names of row group. Default value is NULL
n.rgroup	A integer vector indicating the numbers of rows included in each rgroup Default value is NULL
cspan.rgroup	An integer indicating the column span of rgroup
color	A character vector indicating the font color of rgroup.
bg	A character vector indicating the background color of rgroup.

---

addRowColor	<i>Add row colors of an object of ztable</i>
-------------	--

---

**Description**

Add row colors of an object of ztable

**Usage**

```
addRowColor(z, rows = NULL, bg = NULL, color = NULL, condition = NULL)
```

**Arguments**

z	An object of ztable
rows	An integer vector indicating specific rows
bg	A character vector indicating background color
color	A character vector indicating color
condition	Logical expression to select rows

**Examples**

```
z=ztable(head(iris))
z=addRowColor(z,c(1,3),color="platinum")
z
```

---

addSigColor	<i>Add row color or cellcolor for rows or cells of p-value less than sigp in a ztable</i>
-------------	---

---

**Description**

Add row color or cellcolor for rows or cells of p-value less than sigp in a ztable

**Usage**

```
addSigColor(z, level = 0.05, bg = "lightcyan", color = "black")
```

**Arguments**

z	An object of ztable
level	A p-value
bg	A character indicating background color
color	A character indicating color

---

addSubColNames	<i>Add a adjunctive name below column name in a ztable</i>
----------------	--

---

**Description**

Add a adjunctive name below column name in a ztable

**Usage**

```
addSubColNames(z, subcolnames)
```

**Arguments**

z	An object of ztable
subcolnames	A character vector



---

align2html	<i>Convert the align in Latex format to html format</i>
------------	---

---

**Description**

Convert the align in Latex format to html format

**Usage**

```
align2html(align)
```

**Arguments**

align	A character of align in Latex format
-------	--------------------------------------

---

align2lines	<i>count the vertical column lines from align of Latex format</i>
-------------	---

---

**Description**

count the vertical column lines from align of Latex format

**Usage**

```
align2lines(align)
```

**Arguments**

align	A string of align Latex format
-------	--------------------------------

**Value**

a numeric vector consists of vertical lines of each column

---

align2nd	<i>Delete first components of align</i>
----------	---

---

**Description**

Delete first components of align

**Usage**

```
align2nd(align)
```

**Arguments**

align	A character for define the align of column in Latex format
-------	--

---

---

alignCheck	<i>Check the validity of align</i>
------------	------------------------------------

---

**Description**

Check the validity of align

**Usage**

```
alignCheck(align, ncount, addrow)
```

**Arguments**

align	A character for define the align of column in Latex format
ncount	An integer equals of ncol function
addrow	An integer

---

---

alignCount	<i>Count the number of align</i>
------------	----------------------------------

---

**Description**

Count the number of align

**Usage**

```
alignCount(align)
```

**Arguments**

align	A character for define the align of column in Latex format
-------	--

---

caption2minipage	<i>Convert long caption to minipage</i>
------------------	---

---

**Description**

Convert long caption to minipage

**Usage**

```
caption2minipage(z, caption)
```

**Arguments**

z	An object of ztable
caption	A character vector to convert

---

cgroup2df	<i>Convert cgroup of ztable into data.frame</i>
-----------	---

---

**Description**

Convert cgroup of ztable into data.frame

**Usage**

```
cgroup2df(z)
```

**Arguments**

z	An object of ztable
---	---------------------

**Value**

A data.frame

---

cGroupSpan

*Count the colspan of each colgroup*

---

**Description**

Count the colspan of each colgroup

**Usage**

cGroupSpan(z)

**Arguments**

z                    An object of ztable

**Value**

A matrix indicating the column span occupied by each colgroup

---

colGroupCount

*Count the colgroup of an object of ztable*

---

**Description**

Count the colgroup of an object of ztable

**Usage**

colGroupCount(z)

**Arguments**

z                    An object of class ztable

**Value**

A vector indicating the position of colgroup

---

color2hex	<i>Convert a named color into a hexadecimal color with rgb value</i>
-----------	--

---

**Description**

Convert a named color into a hexadecimal color with rgb value

**Usage**

```
color2hex(color)
```

**Arguments**

color	A named color
-------	---------------

**Value**

a hexadecimal color

**Examples**

```
color2hex("green")  
color2hex("red")
```

---

data2table	<i>Convert data to formatted data for table</i>
------------	---

---

**Description**

Convert data to formatted data for table

**Usage**

```
data2table(z)
```

**Arguments**

z	An object of class "ztable"
---	-----------------------------

---

define_colors	<i>Define colors</i>
---------------	----------------------

---

**Description**

Define colors of mycolors

**Usage**

```
define_colors(mycolors, no = 1)
```

**Arguments**

mycolors	characters vectors of color names
no	An integer indicating start number

---

getNewAlign	<i>Make a character string indicating the alignment of components of table.</i>
-------------	---

---

**Description**

Make a character string indicating the alignment of components of table.

**Usage**

```
getNewAlign(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

getNewSpanCol	<i>Calculating new spanCol with spanCol plus space made by column group</i>
---------------	---

---

**Description**

Calculating new spanCol with spanCol plus space made by column group

**Usage**

```
getNewSpanCol(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

getNewSpanRow	<i>Calculating new spanRow with spanRow plus space made by row group</i>
---------------	--

---

**Description**

Calculating new spanRow with spanRow plus space made by row group

**Usage**

```
getNewSpanRow(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

getspanRowData	<i>Gets the spanRow start column</i>
----------------	--------------------------------------

---

**Description**

Gets the spanRow start column

**Usage**

```
getspanRowData(z, i, j)
```

**Arguments**

z	An object of ztable
i	An integer indicating the row of specific cell
j	An integer indicating the column of specific cell

**Value**

An integer indicating column where spanRow start. This function is for latex multirow

---

getspanRowLength	<i>Gets spanRow length</i>
------------------	----------------------------

---

**Description**

Gets spanRow length

**Usage**

```
getspanRowLength(z, i, j)
```

**Arguments**

z	An object of ztable
i	An integer indicating the row of specific cell
j	An integer indicating the column of specific cell

**Value**

row count when spanRow starts, 0 when column spans.

---

gradientColor	<i>Make Sequential colour gradient palette</i>
---------------	--

---

**Description**

Make Sequential colour gradient palette

**Usage**

```
gradientColor(high = "red", low = "white", mid = NULL, n = 20, plot = FALSE)
```

**Arguments**

high	colour for high end of gradient.
low	colour for low end of gradient.
mid	colour for middle of gradient.
n	the number of colors in palette
plot	Logical. Whether or not draw plot



---

hlines	<i>Add or delete horizontal lines in a ztable</i>
--------	---

---

**Description**

Add or delete horizontal lines in a ztable

**Usage**

```
hlines(z, type = NULL, add = NULL, del = NULL)
```

**Arguments**

z	An object of ztable
type	An integer or one of c("none","all")
add	An integer vector indicating rows where the horizontal lines added
del	An integer vector indicating rows where the horizontal lines deleted

---

isGroupCol	<i>Returns whether or not column with position start plus length is group column</i>
------------	--

---

**Description**

Returns whether or not column with position start plus length is group column

**Usage**

```
isGroupCol(start, length, colCount)
```

**Arguments**

start	An integer indicating start column position
length	An integer indicating spanCol length
colCount	An integer vector calculating from colGroupCount()

---

isspanCol	<i>Identify the spanCol status of a cell</i>
-----------	--

---

**Description**

Identify the spanCol status of a cell

**Usage**

```
isspanCol(z, i, j)
```

**Arguments**

z	An object of ztable
i	An integer indicating the row of specific cell
j	An integer indicating the column of specific cell

**Value**

column plus space count when spanCol starts, 0 when column spans, minus value when spanCol ends, NULL when no span.

---

isspanRow	<i>Identify the spanRow status of a cell</i>
-----------	--

---

**Description**

Identify the spanRow status of a cell

**Usage**

```
isspanRow(z, i, j)
```

**Arguments**

z	An object of ztable
i	An integer indicating the row of specific cell
j	An integer indicating the column of specific cell

**Value**

columns count plus spaces by rgroup when spanRow starts, 0 when row spans, minus value when spanRow ends, NULL when no span.

---

make.cell.color	<i>Make a data.frame named "cellcolor" from ztable call</i>
-----------------	---

---

### Description

Make a data.frame named "cellcolor" from ztable call

### Usage

```
make.cell.color(
  x,
  zebra,
  zebra.color,
  zebra.type,
  zebra.list,
  zebra.colnames,
  zebra.rownames
)
```

### Arguments

x	a data.frame
zebra	Null or an integer of 0 or 1 or 2. The arguments zebra and zebra.color are used to make a Zebra striping table(table with alternating background colors) easily. A value of 1 sets background color of all odd rows/columns with specified with zebra.color. A value of 2 sets all even rows/columns. A value of 0 sets background colors of all rows/columns with colors specified with zebra.color. When zebra is 1 or 2, the parameters of prefix.rows and commands ignored. Default is NULL.
zebra.color	A color name or a numeric value indicating pre-defined color. When parameter zebra is 0 or 1 or 2 and zebra.color is NULL, then zebra.color is set to "platinum". Numeric values between 1 to 13 is converted to predefined color names. The predefined color names are c("peach", "peach-orange", "peachpuff", "peach-yellow", "pear", "pearl", "peridot", "periwinkle", "pastelred", "pastelgray"). Default is NULL.
zebra.type	An integer of 0 or 1 or 2 or 3. A value of 1 sets background colors by row. A value of 2 sets background colors by column. A value of 0 sets background colors of all cells. A value of 3 sets background colors of cells specified with zebra.list. Default value is 1.
zebra.list	A list consists of y,x,color. zebra.list is used only when zebra.type=3. zebra.list sets the cells specified with rows of vector "y" and columns of vector "x" with "color". The y and x are integer vector indicating rows and columns. NA value of y or x indicating all columns or rows. The color is an character vector consists of names of color.
zebra.colnames	whether or not use background colors in column names row, Default value is FALSE

zebra.rownames whether or not use background colors in row names column, Default value is TRUE

---

make.frontcolor *Make a data.frame named "cellcolor" from ztable call*

---

### Description

Make a data.frame named "cellcolor" from ztable call

### Usage

```
make.frontcolor(x, color = "black")
```

### Arguments

x A data.frame  
color A character string

---

makeHeatmap *Add gradient background color to ztable*

---

### Description

Add gradient background color to ztable

### Usage

```
makeHeatmap(
  z,
  palette = "Reds",
  mycolor = NULL,
  rows = NULL,
  cols = NULL,
  changeColor = TRUE,
  reverse = FALSE,
  margin = 0
)
```

**Arguments**

z	An object of class ztable
palette	Name of color palette
mycolor	user defined color vectors
rows	columns to make heatmap
cols	columns to make heatmap
changeColor	Logical. Whether of not change font color automatically
reverse	If true, reverse the font color
margin	An integer. Choices are one of 0,1 and 2. 0(default), heatmap for all numeric data. 1 ; rowwise heatmap, 2: columnwise heatmap.

**Examples**

```

require(magrittr)
ztable(head(mtcars)) %>% makeHeatmap()
## Not run:
ztable(head(mtcars)) %>% makeHeatmap(palette="YlOrRd",cols=c(1,4,6),margin=2)
ztable(head(mtcars)) %>% makeHeatmap(rows=c(1,3,5),margin=1)
require(moonBook)
x=table(acs$smoking,acs$Dx)
ztable(x) %>% makeHeatmap
ztable(x) %>% makeHeatmap(palette="Blues")
ztable(x) %>% makeHeatmap(mycolor=gradientColor(low="yellow",mid="orange",high="red"))

## End(Not run)

```

---

make\_align

*Make align for an object of class ztable.mytable*


---

**Description**

Make align for an object of class ztable.mytable

**Usage**

```
make_align(z)
```

**Arguments**

z	An object of class ztable.mytable
---	-----------------------------------

---

myhtmlStyle	<i>print html style</i>
-------------	-------------------------

---

**Description**

print html style

**Usage**

myhtmlStyle(z)

**Arguments**

z                    An object of ztable

---

name2rgb	<i>Find rgb value from color name</i>
----------	---------------------------------------

---

**Description**

Find rgb value from color name

**Usage**

name2rgb(name)

**Arguments**

name                a valid color name

**Value**

rgb value

---

normalize2	<i>Convert numeric vector min to 0, max to maxvalue</i>
------------	---

---

**Description**

Convert numeric vector min to 0, max to maxvalue

**Usage**

```
normalize2(x, maxvalue = 10)
```

**Arguments**

x	A vector
maxvalue	maximal value

---

palette2colors	<i>Extract hexadecimal colors from a color palette</i>
----------------	--

---

**Description**

Extract hexadecimal colors from a color palette

**Usage**

```
palette2colors(name, reverse = FALSE)
```

**Arguments**

name	The name of color palette from RColorBrewer package
reverse	Whether or not reverse the order of colors

**Value**

hexadecimal colors

**Examples**

```
require(RColorBrewer)
require(magrittr)
palette2colors("Reds")
ztable(head(mtcars, 10)) %>%
  addColColor(cols=1:12, bg=palette2colors("Set3"))
```

---

parallelTables      *Place two or more ztables or figures side by side in Latex or HTML format*

---

### Description

Place two or more ztables or figures side by side in Latex or HTML format. Requires Latex "boxed-minipage" package in preamble. The ztable for this purpose should be made by function ztable with tabular="TRUE".

### Usage

```
parallelTables(width, listTables, type = "latex")
```

### Arguments

width                a numeric vector specifies the width to which the tables or figures should be scaled

listTables          a list consists of object of "ztable" or valid figure name

type                 Type of table to produce. Possible values for type are "latex" or "html". Default value is "latex".

### Examples

```
require(ztable)
z=ztable(head(mtcars[1:3]), tabular=TRUE)
parallelTables(c(0.4,0.3), list(z,z))
parallelTables(c(0.5,0.5), list(z,z))
parallelTables(c(0.5,0.5), list(z,z, type="html"))
z1=ztable(head(iris[1:3]), turn=TRUE, angle=10, zebra=1)
z2=ztable(head(iris[1:3]), turn=TRUE, angle=-10, zebra=2)
parallelTables(c(0.5,0.5), list(z1,z2))
```

---

parallelTablesHTML      *Place two or more ztables or figures side by side in HTML format*

---

### Description

Place two or more ztables or figures side by side in HTML format. The ztable for this purpose should be made by function ztable with tabular="TRUE".

### Usage

```
parallelTablesHTML(width, listTables)
```



**Arguments**

width	a numeric vector specifies the width to which the tables or figures should be scaled
listTables	a list consists of object of "ztable" or valid figure name

---

parallelTablesLatex     *Place two or more ztables or figures side by side in Latex format*

---

**Description**

Place two or more ztables or figures side by side in HTML format. The ztable for this purpose should be made by function ztable with tabular="TRUE".

**Usage**

```
parallelTablesLatex(width, listTables)
```

**Arguments**

width	a numeric vector specifies the width to which the tables or figures should be scaled
listTables	a list consists of object of "ztable" or valid figure name

---

print.ztable     *Print an object of class "ztable"*

---

**Description**

Print an object of class "ztable"

**Usage**

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

**Arguments**

x	An object of class "ztable"
...	further argument passed to other function

---

printHTMLHead	<i>Print HTML head if ztable object a has a colgroup</i>
---------------	--

---

**Description**

Print HTML head if ztable object a has a colgroup

**Usage**

```
printHTMLHead(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

printLatexHead	<i>Print the head of latex table if the object of ztable has a colgroup</i>
----------------	---

---

**Description**

Print the head of latex table if the object of ztable has a colgroup

**Usage**

```
printLatexHead(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

printRowGroup	<i>Print Row Groups in a latex table</i>
---------------	--

---

**Description**

Print Row Groups in a latex table

**Usage**

```
printRowGroup(z, i)
```

**Arguments**

z	An object of class ztable
i	An integer indicating row

---

print_ztable	<i>Print an object of class "ztable"</i>
--------------	--

---

**Description**

Print an object of class "ztable"

**Usage**

```
print_ztable(z)
```

**Arguments**

z	An object of class "ztable"
---	-----------------------------

---

repColor	<i>Make vector x from vector color</i>
----------	--

---

**Description**

Internal function of make.cell.color

**Usage**

```
repColor(x, color)
```

**Arguments**

x	A destination vector
color	A character vector consists of color names

---

roundDf	<i>Round the numbers of a data.frame</i>
---------	--

---

**Description**

Round the numbers of a data.frame

**Usage**

```
roundDf(df, digits = 2)
```

**Arguments**

df                    A data.frame  
 digits                A vector of integer indicating the number of decimal places

**Value**

a rounded data.frame

---

spanCol	<i>Merging data cells of ztable object in columns</i>
---------	---

---

**Description**

Merging data cells of ztable object in columns

**Usage**

```
spanCol(z, row, from, to, bg = NULL, color = NULL)
```

**Arguments**

z                    An object of ztable  
 row                 An integer indicating the row of merging data cell  
 from                An integer indicating start column of merging data cell  
 to                  An integer indicating end column of merging data cell  
 bg                  An optional character indicating the background color of merging cell  
 color               An optional character indicating the font color of merging cell

---

spanColWidth	<i>Calculate the spanColWidth when spanCol start</i>
--------------	--

---

**Description**

Calculate the spanColWidth when spanCol start

**Usage**

```
spanColWidth(z, i, j)
```

**Arguments**

z                    An object of ztable  
 i                    An integer indicating the row of specific cell  
 j                    An integer indicating the column of specific cell

**Value**

column count when spanCol start

---

spanRow	<i>Merging data cells of ztable object in rows</i>
---------	--

---

**Description**

Merging data cells of ztable object in rows

**Usage**

```
spanRow(z, col, from, to, bg = NULL, color = NULL)
```

**Arguments**

z	An object of ztable
col	An integer indicating the column of merging data cell
from	An integer indicating start row of merging data cell
to	An integer indicating end row of merging data cell
bg	An optional character indicating the background color of merging cell
color	An optional character indicating the font color of merging cell

---

tableLength	<i>Convert data to formatted data for table</i>
-------------	---

---

**Description**

Convert data to formatted data for table

**Usage**

```
tableLength(z)
```

**Arguments**

z	An object of class "ztable"
---	-----------------------------

---

totalCol	<i>Calculating total columns of ztable</i>
----------	--

---

**Description**

Calculating total columns of ztable

**Usage**

```
totalCol(z)
```

**Arguments**

z                    An object of ztable

---

totalLeft	<i>Arrange total column to the left</i>
-----------	---

---

**Description**

Arrange total column to the left

**Usage**

```
totalLeft(z)
```

**Arguments**

z                    An object of class ztable.mytable or ztable.cbind.mytable

**Examples**

```
require(moonBook)
require(ztable)
require(magrittr)
mytable(sex~., data=acs, show.total=TRUE) %>% ztable() %>% totalLeft()
## Not run:
mytable(sex+Dx~., data=acs, show.total=TRUE) %>% ztable %>% totalLeft

## End(Not run)
```

---

tr	<i>Subfunction used in ztable2latex</i>
----	---

---

**Description**

Subfunction used in ztable2latex

**Usage**

tr(string)

**Arguments**

string	a character vector
--------	--------------------

---

tr2	<i>Subfunction used in ztable2html</i>
-----	--

---

**Description**

Subfunction used in ztable2html

**Usage**

tr2(string)

**Arguments**

string	a character vector
--------	--------------------

---

trim.ztable	<i>Make align and edit p value column for an object of class ztable.mytable</i>
-------------	---

---

**Description**

Make align and edit p value column for an object of class ztable.mytable

**Usage**

trim.ztable(z)

**Arguments**

z	An object of class ztable.mytable
---	-----------------------------------

---

update_ztable	<i>Update ztable before print</i>
---------------	-----------------------------------

---

**Description**

Update options of ztable before print

**Usage**

```
update_ztable(  
  z,  
  family = NULL,  
  size = NULL,  
  color = NULL,  
  tablewidth = NULL,  
  type = NULL,  
  include.rownames = NULL,  
  placement = NULL,  
  position = NULL,  
  show.heading = NULL,  
  show.footer = NULL,  
  caption = NULL,  
  caption.placement = NULL,  
  caption.position = NULL,  
  caption.bold = NULL,  
  align = NULL,  
  digits = NULL,  
  display = NULL,  
  sidewaysstable = NULL,  
  longtable = NULL,  
  rotate = NULL,  
  turn = NULL,  
  angle = NULL,  
  wratable = NULL,  
  wratablewidth = NULL,  
  tabular = NULL,  
  label = NULL,  
  hline.after = NULL,  
  booktabs = NULL,  
  prefix.rows = NULL,  
  commands = NULL,  
  top.command = NULL,  
  zebra = NULL,  
  zebra.color = NULL,  
  zebra.type = NULL,  
  zebra.list = NULL,  
  zebra.colnames = NULL,  
)
```



```

zebra.rownames = NULL,
colnames.bold = NULL,
include.colnames = NULL,
cgroup = NULL,
n.cgroup = NULL,
rgroup = NULL,
n.rgroup = NULL,
cspan.rgroup = NULL,
pcol = NULL
)

```

### Arguments

z	An object of class "ztable"
family	Font family. Default value is NULL. Possible value is one of the c("serif","times").
size	An integer from 1 to 10 indicating font size= c("tiny","scriptsize", "footnote-size","small","normalsize","large","Large","LARGE","huge","Huge") respectively.
color	A character indicating color of ztable
tablewidth	A numeric indicating desired table width as a ratio to linewidth. Default value is 0.3.
type	character indicating formats of ztable, either "html" or "latex".
include.rownames	A logical value whether or not include rownames in the table
placement	The table will have placement given by placement where placement must be NULL or contain only elements of "h","t","b","p","!", "H".
position	The table will be have placed at the center of the paper if position is "center" or "c", and at the left side of the paper if it equals "left" or "l", and at the right side of the paper if it equals "right" or "r". The position is translated to specific latex environments such as "flushright" or "flushleft" or "center" (provided as a character vector) will enclose the tabular environment.
show.heading	A logical value whether or not include headings in the table.
show.footer	A logical value whether or not include headings in the table.
caption	A character
caption.placement	The caption will be have placed at the top of the table if caption.placement is "top" and at the bottom of the table if it equals "bottom".
caption.position	The caption will be have placed at the center of the table if caption.position is "center" or "c", and at the left side of the table if it equals "left" or "l", and at the right side of the table if it equals "right" or "r".
caption.bold	whether or not use bold font for caption
align	Character vector : nchar equal to the number of columns of the resulting table indicating the alignment of the corresponding columns.
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

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.
sidewaystable	Logical value whether or not set the tabular environment= "sidewaystable". Requires Latex "rotating" package in preamble.
longtable	Logical value whether or not set the tabular environment= "longtable". Requires Latex "longtable" package in preamble.
rotate	Logical value whether or not set the tabular environment= "rotate". No special arrangement is made to find space for the result. Requires Latex "rotating" package in preamble. If TRUE, requires the rotate angle(counterclockwise).
turn	Logical value whether or not set the tabular environment= "turn". In this environment, Latex leaves space for the rotated table. Requires Latex "rotating" package in preamble. If TRUE, requires the rotate angle.
angle	An integer indicate the angle to rotate(degree); range -180 to 180.
wratable	Logical value whether or not set the tabular environment= "wratable". Requires Latex "wrapfig" package in preamble.
wratablewidth	A integer indicate wratable width in centimeter.
tabular	Logical value whether or not set the tabular environment. If TRUE, no tabular environment is set.
label	Character vector of length 1 containing the LaTeX label or HTML anchor. Set to NULL to suppress the label.
hline.after	A vector of numbers between -1 and "nrow(x)", inclusive, indicating the rows after which a horizontal line should appear. If NULL is used no lines are produced. Default value is c(-1,0,nrow(x)) which means draw a line before and after the columns names and at the end of the table. Repeated values are allowed.
booktabs	Logical value. If TRUE, the toprule, midrule and bottomrule tags from the LaTeX "booktabs" package are used rather than hline for the horizontal line tags. Requires Latex "booktabs" package in preamble.
prefix.rows	A numeric vector contains the position of rows on which extra Latex commands should be added as a prefix.
commands	A character vector of the length 1 or same length of the nrow of data.frame which contains the command that should be added as a prefix at the specified rows.
top.command	A character vector of the length 1 which contains the command that should be added as a prefix at the colnames row.
zebra	Null or a integer of 1 or 2. The arguments zebra and zebra.color are used to make a Zebra striping table(table with alternating background colors) easily. A value of 1 sets background color of all odd rows with specified with zebra.color. A

	value of 2 sets all even rows. when zebra is 1 or 2, the parameters of prefix.rows and commands ignored.
zebra.color	A color name or a numeric value indicating pre-defined color. When parameter zebra is 0 or 1 or 2 and zebra.color is NULL, then zebra.color is set to "platinum". Numeric values between 1 to 13 is converted to predefined color names. The predefined color names are c("peach", "peach-orange", "peachpuff", "peach-yellow", "pear", "pearl", "peridot", "periwinkle", "pastelred", "pastelgray").
zebra.type	An integer of 0 or 1 or 2 or 3. A value of 1 sets background colors by row. A value of 2 sets background colors by column. A value of 0 sets background colors of all cells. A value of 3 sets background colors of cells specified with zebra.list. Default value is 1.
zebra.list	A list consists of y,x,color. zebra.list is used only when zebra.type=3. zebra.list sets the cells specified with cells[y,x] with "color". The y and x are integer indicating rows and columns. NA value of y or x indicating all columns or rows.
zebra.colnames	whether or not use background colors in column names row, Default value is FALSE
zebra.rownames	whether or not use background colors in row names column, Default value is TRUE
colnames.bold	whether or not use bold font for column names.
include.colnames	Logical. If TRUE the column names is printed.
cgroup	A character vector or matrix indicating names of column group. Default value is NULL
n.cgroup	A integer vector or matrix indicating the numbers of columns included in each cgroup Default value is NULL
rgroup	A character vector indicating names of row group. Default value is NULL
n.rgroup	A integer vector indicating the numbers of rows included in each rgroup Default value is NULL
cspan.rgroup	The number of columns that an rgroup should span. It spans by default all columns but you may want to limit this if you have column colors that you want to retain.
pcol	number of column displaying p value

---

 validColor

*Find valid color name*


---

### Description

Find valid color name

### Usage

```
validColor(a, mycolor)
```

**Arguments**

a	An integer or a character
mycolor	predefined color names

**Value**

a valid Latex color name

---

validColor2	<i>Find valid color name</i>
-------------	------------------------------

---

**Description**

Find valid color name

**Usage**

validColor2(a)

**Arguments**

a	An integer or a character
---	---------------------------

**Value**

a valid Latex color name

---

vline2align	<i>Make a latex "align" from a string and vertical line specifier</i>
-------------	---

---

**Description**

Make a latex "align" from a string and vertical line specifier

**Usage**

vline2align(align, vlines)

**Arguments**

align	A character string indicating align of latex table
vlines	An integer vector indicating vertical line position

---

vlines	<i>Add or delete vertical lines in a ztable</i>
--------	---

---

**Description**

Add or delete vertical lines in a ztable

**Usage**

```
vlines(z, type = NULL, add = NULL, del = NULL)
```

**Arguments**

z	An object of ztable
type	An integer or one of c("none","all")
add	An integer vector indicating columns where the width of vertical lines added
del	An integer vector indicating columns where the width of vertical lines subtracted

---

zcolors	<i>Definition of Latex Color</i>
---------	----------------------------------

---

**Description**

A dataset containing the name of color and Hex-triplets and latex definition

**Usage**

```
zcolors
```

**Format**

A data frame with 749 rows and 3 variables:

**name** Color name

**rgb** Hex triplet of color

**definition** Latex command of color definition

**Details**

To use this color definition, a latex package "color" should be included in your preamble.

---

`ztable.cbind.mytable`    *Make ztable from object cbind.mytable*

---

### Description

Make ztable from object cbind.mytable

### Usage

```
## S3 method for class 'cbind.mytable'
ztable(x, digits = NULL, ...)
```

### Arguments

<code>x</code>	An object of cbind.mytable
<code>digits</code>	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
<code>...</code>	arguments to be passed to <a href="#">ztable_sub</a>

### Examples

```
require(moonBook)
res=mytable(sex+DM~.,data=acs)
z=ztable(res)
z
```

---

`ztable.mytable`    *Make ztable from object mytable*

---

### Description

Make ztable from object mytable

### Usage

```
## S3 method for class 'mytable'
ztable(x, digits = NULL, ...)
```

### Arguments

<code>x</code>	An object of mytable
<code>digits</code>	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
<code>...</code>	arguments to be passed to <a href="#">ztable_sub</a>

**Examples**

```
require(moonBook)
res=mytable(sex~.,data=acs)
z=ztable(res)
z
```

---

`ztable.table`*Exporting a R object to an object of class "ztable"*

---

**Description**

Exporting a R object to an object of class "ztable"

**Usage**

```
## S3 method for class 'table'
ztable(x, digits = NULL, ...)

ztable(x, digits = NULL, ...)

## Default S3 method:
ztable(x, digits = NULL, ...)

## S3 method for class 'data.frame'
ztable(x, digits = NULL, ...)

## S3 method for class 'matrix'
ztable(x, digits = NULL, ...)

## S3 method for class 'lm'
ztable(x, digits = NULL, ...)

## S3 method for class 'fitdistr'
ztable(x, digits = NULL, ...)

## S3 method for class 'nls'
ztable(x, digits = NULL, ...)

## S3 method for class 'aov'
ztable(x, digits = NULL, ...)

## S3 method for class 'anova'
ztable(x, digits = NULL, ...)

## S3 method for class 'glm'
ztable(x, digits = NULL, ...)
```

```
## S3 method for class 'coxph'
ztable(x, digits = NULL, ...)

## S3 method for class 'prcomp'
ztable(x, digits = NULL, ...)

## S3 method for class 'summary.prcomp'
ztable(x, digits = NULL, ...)
```

### Arguments

<code>x</code>	An R object, mainly <code>data.frame</code>
<code>digits</code>	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
<code>...</code>	arguments to be passed to <code>ztable_sub</code>

### Methods (by class)

- `table`: Makes a `ztable` for class `table`
- `default`: Default method of `ztable`
- `data.frame`: Makes a `ztable` for class `'data.frame'`
- `matrix`: Makes a `ztable` for class `matrix`
- `lm`: Makes a `ztable` for class `'lm'`
- `fitdistr`: Makes a `ztable` for class `'fitdistr'`
- `nls`: Makes a `ztable` for class `'nls'`
- `aov`: Makes a `ztable` for class `'aov'`
- `anova`: Makes a `ztable` for class `'anova'`
- `glm`: Makes a `ztable` for class `'glm'`
- `coxph`: Makes a `ztable` for class `'coxph'`
- `prcomp`: Makes a `ztable` for class `'prcomp'`
- `summary.prcomp`: Makes a `ztable` for class `'summary.prcomp'`

---

<code>ztable2flextable</code>	<i>Convert an object of <code>ztable</code> into an object of <code>flextable</code></i>
-------------------------------	--

---

### Description

Convert an object of `ztable` into an object of `flextable`

### Usage

```
ztable2flextable(z)
```



**Arguments**

z                    An object of class ztable

**Value**

An object of class flextable

**Examples**

```
z=ztable(head(mtcars))
ztable2flextable(z)
```

---

ztable2html                    *Print an object of class "ztable" to html table*

---

**Description**

Print an object of class "ztable" to html table

**Usage**

```
ztable2html(z, xdata)
```

**Arguments**

z                    An object of class "ztable"  
xdata                A formatted data.frame

---

ztable2latex                    *Print an object of class "ztable" to Latex table*

---

**Description**

Print an object of class "ztable" to Latex table

**Usage**

```
ztable2latex(z, xdata)
```

**Arguments**

z                    An object of class "ztable"  
xdata                A formatted data.frame

---

ztable2viewer	<i>Print an object of ztable via rstudioapi::viewer</i>
---------------	---

---

**Description**

Print an object of ztable via rstudioapi::viewer

**Usage**

```
ztable2viewer(z)
```

**Arguments**

z	An object of ztable
---	---------------------

---

ztable_sub	<i>Exporting "data.frame" to an object of class "ztable"</i>
------------	--

---

**Description**

Exporting "data.frame" to an object of class "ztable"

**Usage**

```
ztable_sub(
  x,
  family = NULL,
  size = 5,
  color = getOption("ztable.color", "black"),
  tablewidth = 0.3,
  type = getOption("ztable.type", "latex"),
  include.rownames = getOption("ztable.include.rownames", TRUE),
  placement = "!hbt",
  position = "c",
  show.heading = getOption("ztable.show.heading", TRUE),
  show.footer = getOption("ztable.show.footer", TRUE),
  caption = NULL,
  caption.placement = getOption("ztable.caption.placement", "top"),
  caption.position = getOption("ztable.caption.position", "c"),
  caption.bold = getOption("ztable.caption.bold", FALSE),
  align = NULL,
  digits = NULL,
  display = NULL,
  sideways = FALSE,
  longtable = FALSE,
```

```

rotate = FALSE,
turn = FALSE,
angle = 0,
wratable = FALSE,
writablewidth = 12,
tabular = FALSE,
label = NULL,
hline.after = NULL,
booktabs = getOption("ztable.booktabs", TRUE),
prefix.rows = NULL,
commands = NULL,
top.command = NULL,
zebra = getOption("ztable.zebra", NULL),
zebra.color = getOption("ztable.zebra.color", NULL),
zebra.type = getOption("ztable.zebra.type", 1),
zebra.colnames = getOption("ztable.zebra.colnames", FALSE),
zebra.rownames = getOption("ztable.zebra.rownames", TRUE),
zebra.list = NULL,
colnames.bold = getOption("ztable.colnames.bold", FALSE),
include.colnames = getOption("ztable.include.colnames", TRUE),
cgroup = NULL,
n.cgroup = NULL,
rgroup = NULL,
n.rgroup = NULL,
cspan.rgroup = NULL,
pcol = NULL
)

```

### Arguments

x	A data.frame
family	Font family. Default value is NULL. Possible value is one of the c("serif","times").
size	An integer from 1 to 10 indicating font size= c("tiny","scriptsize", "footnote-size","small","normalsize","large","Large","LARGE","huge","Huge") respectively. Defaulting is 5(= "normalsize").
color	A character indicating color of ztable
tablewidth	A numeric value indicating desired table width as a ratio to linewidth. This value is only useful when caption is longer than table length. Default value is 0.3.
type	character indicating formats of ztable, either "html" or "latex". Default value is "latex"
include.rownames	A logical value whether or not include rownames in the table Default value is TRUE.
placement	The table will have placement given by placement where placement must be NULL or contain only elements of "h","t","b","p","!","H". Default value is "!hbtP".

position	The table will be have placed at the center of the paper if position is "center" or "c", and at the left side of the paper if it equals "left" or "l", and at the right side of the paper if it equals "right" or "r". The position is translated to specific latex environments such as "flushright" or "flushleft" or "center" (provided as a character vector) will enclose the tabular environment. Default value is "center".
show.heading	A logical value whether or not include headings in the table. Default value is TRUE.
show.footer	A logical value whether or not include headings in the table. Default value is TRUE.
caption	A character
caption.placement	The caption will be have placed at the top of the table if caption.placement is "top" and at the bottom of the table if it equals "bottom". Default value is "top".
caption.position	The caption will be have placed at the center of the table if caption.position is "center" or "c", and at the left side of the table if it equals "left" or "l", and at the right side of the table if it equals "right" or "r". Default value is "center".
caption.bold	whether or not use bold font for caption
align	Character vector : nchar equal to the number of columns of the resulting table indicating the alignment of the corresponding columns.
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
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 value is NULL. the class of x.
sidewaystable	Logical value whether or not set the tabular environment= "sidewaystable". Requires Latex "rotating" package in preamble. Default value is FALSE.
longtable	Logical value whether or not set the tabular environment= "longtable". Requires Latex "longtable" package in preamble. Default value is FALSE.
rotate	Logical value whether or not set the tabular environment= "rotate". No special arrangement is made to find space for the result. Requires Latex "rotating" package in preamble. If TRUE, requires the rotate angle(counterclockwise). Default value is FALSE.
turn	Logical value whether or not set the tabular environment= "turn". In this environment, Latex leaves space for the rotated table. Requires Latex "rotating" package in preamble. If TRUE, requires the rotate angle. Default value is FALSE.

angle	An integer indicate the angle to rotate(degree); range -180 to 180. Default value is 0.
wraptable	Logical value whether or not set the tabular environment= "wraptable". Requires Latex "wrapfig" package in preamble. Default value is FALSE.
wraptablewidth	A integer indicate wraptable width in centimeter. Default=12.
tabular	Logical value whether or not set the tabular environment. If TRUE, no tabular environment is set. Default value is FALSE.
label	Character vector of length 1 containing the LaTeX label or HTML anchor. Set to NULL to suppress the label. Default value is NULL.
hline.after	A vector of numbers between -1 and "nrow(x)", inclusive, indicating the rows after which a horizontal line should appear. If NULL is used no lines are produced. Default value is c(-1,0,nrow(x)) which means draw a line before and after the columns names and at the end of the table. Repeated values are allowed.
booktabs	Logical value. If TRUE, the toprule, midrule and bottomrule tags from the LaTeX "booktabs" package are used rather than hline for the horizontal line tags. Requires Latex "booktabs" package in preamble. Default value is TRUE.
prefix.rows	A numeric vector contains the position of rows on which extra Latex commands should be added as a prefix.
commands	A character vector of the length 1 or same length of the nrow of data.frame which contains the command that should be added as a prefix at the specified rows. Default value is NULL, i.e. do not add commands.
top.command	A character vector of the length 1 which contains the command that should be added as a prefix at the colnames row.
zebra	Null or an integer of 0 or 1 or 2 or 3. The arguments zebra and zebra.color are used to make a Zebra striping table(table with alternating background colors) easily. A value of 1 sets background color of all odd rows/columns with specified with zebra.color. A value of 2 sets all even rows/columns. A value of 0 sets background colors of all rows/columns with colors specified with zebra.color. When zebra is 1 or 2, the parameters of prefix.rows and commands ignored. When zebra=3, the background colors can be defined by addRowColor, addColColor and addCellColor functions. Default is NULL.
zebra.color	A color name or a numeric value indicating pre-defined color. When parameter zebra is 0 or 1 or 2 and zebra.color is NULL, then zebra.color is set to "platinum". Numeric values between 1 to 13 is converted to predefined color names. The predefined color names are c("peach", "peach-orange", "peachpuff", "peach-yellow", "pear", "pearl", "peridot", "periwinkle", "pastelred", "pastelgray"). Default is NULL.
zebra.type	An integer of 0 or 1 or 2 or 3. A value of 1 sets background colors by row. A value of 2 sets background colors by column. A value of 0 sets background colors of all cells. A value of 3 sets background colors of cells specified with zebra.list. Default value is 1.
zebra.colnames	whether or not use background colors in column names row, Default value is FALSE
zebra.rownames	whether or not use background colors in row names column, Default value is TRUE

<code>zebra.list</code>	A list consists of y,x,color. <code>zebra.list</code> is used only when <code>zebra.type=3</code> . <code>zebra.list</code> sets the cells specified with rows of vector "y" and columns of vector "x" with "color". The y and x are integer vector indicating rows and columns. NA value of y or x indicating all columns or rows. The color is an character vector consists of names of color.
<code>colnames.bold</code>	whether or not use bold font for column names, Default value is FALSE
<code>include.colnames</code>	Logical. If TRUE the column names is printed. Default value is TRUE.
<code>cgroup</code>	A character vector or matrix indicating names of column group. Default value is NULL
<code>n.cgroup</code>	A integer vector or matrix indicating the numbers of columns included in each cgroup Default value is NULL
<code>rgroup</code>	A character vector indicating names of row group. Default value is NULL
<code>n.rgroup</code>	A integer vector indicating the numbers of rows included in each rgroup Default value is NULL
<code>cspan.rgroup</code>	The number of columns that an rgroup should span. It spans by default all columns but you may want to limit this if you have column colors that you want to retain.
<code>pcol</code>	number of column displaying p value

## Examples

```

require(ztable)
x=head(iris)
ztable(x)
## Not run:
ztable(x,size=3,caption="Table 1. ztable Test")
ztable(x,size=7,caption="Table 1. ztable Test",caption.position="1")
ztable(x,size=7,caption="Table 1. ztable Test",caption.placement="bottom",
       caption.position="1")
fit=lm(mpg~.,data=mtcars)
ztable(fit)
data(USArrests)
pr1 <- prcomp(USArrests)
ztable(pr1)
ztable(summary(pr1))
require(survival)
data(colon)
attach(colon)
out <- glm(status ~ rx+obstruct+adhere+nodes+extent, data=colon, family=binomial)
ztable(out)
colon$TS = Surv(time,status==1)
out1=coxph(TS~rx+obstruct+adhere+differ+extent+surg+node4,data=colon)
ztable(out1)
ztable(head(mtcars),zebra=1)
ztable(head(mtcars),zebra=1,zebra.type=2)

## End(Not run)

```

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