

Package ‘yaleBraille’

October 5, 2026

Type Package

Title Generate Braille-Enabled Graphics

Version 0.2.3

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Description Provides tools for rendering and visualizing
Braille patterns in R, using the 'liblouis' translation library.
For more information see <<https://github.com/wininger/yaleBraille>>.

License LGPL (>= 2.1)

Imports grDevices, graphics, stats, sysfonts, showtext

Encoding UTF-8

Language en-US

NeedsCompilation yes

URL <https://github.com/wininger/yaleBraille>

BugReports <https://github.com/wininger/yaleBraille/issues>

Config/roxygen2/version 8.1.0

Config/Needs/check spelling

LazyData true

Suggests knitr, rmarkdown, spelling

VignetteBuilder knitr

RoxygenNote 7.3.3

Depends R (>= 3.5.0)

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yaleBraille-package	<i>Data visualization tools for low-vision and blind end-users</i>
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Description

This package provides plotting functions similar to those found in Base R, but with `_br` suffixes, indicating Braille-functionality. These functions deliver as output a two-page .pdf file: first page is a braille-annotated graph; second page is the text-based graph. Coding occurs via conventional syntax (i.e. text); translation is executed by the liblouis package. Graphical standards are adapted to facilitate printing onto swell-paper. For more information see <<https://github.com/wininger/yaleBraille>>.

Author(s)

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Examples

```
library(yaleBraille)
data(yaleSports)
translateToBraille(yaleSports$Sport[1], table = "en-ueb-g2.ctb")
plot_br(Weight~Height, data=yaleSports)
```

barplot_br	<i>Braille on Bar Plot</i>
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Description

Create Braille-enabled Bar Plot

Usage

```
barplot_br(...)
```

Arguments

... plot parameters as would typically be used in barplot()

Value

two-page .pdf file

Examples

```
yale = data.frame(yaleSports)
tbl = table(yale$Sport)
barplot_br(tbl,
            over="Bar Chart",
            main="Yale Athletics Dataset",
            xlab="x-axis = Sport",
            ylab="y-axis = Count (n athletes)",
            stem="newBar")

air = airquality
air$Feel = cut(air$Temp,breaks=c(0,65,80,100),labels=c("cool","warm","hot"))
tbl = table(air$Feel)
barplot_br(tbl,
            over="Bar Chart",
            main="Air Quality: NYC (1973)",
            xlab="x-axis = Temperature Feel",
            ylab="y-axis = Count (n days)",
            stem="airBar",
            cex.main=1.5,
            cex.axis=3.5,
            col="purple")
```

boxplot_br

Braille on Box Plot

Description

Create Braille-enabled Box Plot

Usage

```
boxplot_br(...)
```

Arguments

... plot parameters as would typically be used in boxplot()

Value

two-page .pdf file

Examples

```
yale = data.frame(yaleSports)
boxplot_br(Height~Sport,data=yale,
  over="Box Plot",
  main="Yale Athletics Dataset",
  xlab="x-axis = Sport",
  ylab="y-axis = Height (inches)",
  stem="newBox")

air = airquality
air$Month = as.factor(air$Month)
boxplot_br(Ozone~Month,data=air,
  lwd=2,pch=16,las=3,lty=1,
  over="Box Plot",
  main="Air Quality: NYC (1973)",
  xlab="x-axis = Month (numeric)",
  ylab="y-axis = Ozone (ppb)",
  stem="airBox",
  cex.main=1.5,
  cex.axis=1.5,
  col="chocolate1")
```

hist_br	<i>Braille on Histogram</i>
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Description

Create Braille-enabled Histogram

Usage

```
hist_br(x, breaks = 20, ...)
```

Arguments

- x numerical data for summarizing in histogram
- breaks number (plus one) of bins in the histogram
- ... plot parameters as would typically be used in hist()

Value

two-page .pdf file

Examples

```
yale = data.frame(yaleSports)
hist_br(yale$Weight,
        over="Histogram",
        main="Yale Athletics Dataset",
        xlab="x-axis = Bodyweight (pounds)",
        ylab="y-axis = Count (n athletes)",
        stem="newHist")
```

```
air=airquality
hist_br(air$Temp,
        over="Histogram",
        main="Air Quality: NYC (1973)",
        xlab="x-axis = Temperature (deg)",
        ylab="y-axis = Count (n days)",
        stem="airHist",
        cex.main=2,
        cex.axis=2,
        col="deeppink1")
```

pie_br

Braille on Pie Chart

Description

Create Braille-enabled Pie Chart

Usage

```
pie_br(...)
```

Arguments

... plot parameters as would typically be used in pie()

Value

two-page .pdf file

Examples

```
yale = data.frame(yaleSports)
tbl = table(yale$Sport)
pie_br(tbl,
        over="Pie Chart",
        main="Yale Athletics Dataset",
        xlab=" ",
```

```

      ylab=" ",
      stem="newPie")

air = airquality
air$Feel = cut(air$Temp,breaks=c(0,65,80,1000),labels=c("cool","warm","hot"))
tbl = table(air$Feel)
pie_br(tbl,
       over="Pie Chart",
       main="Air Quality: NYC (1973)",
       xlab="",
       ylab="",
       stem="airPie",
       cex.main=2,
       cex=1)

```

plot_br

Braille on Scatter or Line Plots

Description

Create Braille-enabled Scatter or Line Plot

Usage

```
plot_br(x, y = NULL, data = NULL, ...)
```

Arguments

x	variable for plotting (independent variable, if y is not NULL)
y	dependent variable for plotting
data	data-frame in case formula argument utilized
...	plot parameters as would typically be used in plot()

Value

two-page .pdf file

Examples

```

yale = data.frame(yaleSports)
plot_br(Weight~Height,data=yale,
       over="Scatter Plot",
       main="Yale Athletics Dataset",
       xlab="x-axis = Height (inches)",
       ylab="y-axis = Weight (pounds)",
       stem="plotScatter")

```

```
yale = data.frame(yaleSports)
plot_br(sort(yale$Weight[1:20]),
        over="Scatter Plot",
        main="Yale Athletics Dataset",
        xlab="Athlete (sorted)",
        ylab="y-axis = Weight (pounds)",
        type="b",
        stem="plotLine")

air = airquality
plot_br(air$Temp,air$Ozone,
        over="Scatter Plot",
        main="Air Quality: NYC (1973)",
        xlab="x-axis = Temperature (deg)",
        ylab="y-axis = Ozone (ppb)",
        stem="airPlot",
        cex.main=1.5,
        cex.axis=1.5,
        col="red",
        pch=16)
```

translateToBraille	<i>Translate text to Braille</i>
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Description

Translate text to Braille

Usage

```
translateToBraille(text, table)
```

Arguments

text	A character string to translate.
table	The Braille table to use (e.g., "en-ueb-g2.ctb").

Value

A character string of translated Braille.

`yaleSports`*Yale Sports Dataset*

Description

Adapted from classic dataset from Yale School of Public Health Introduction to Biostatistics courses (EPH-505, EMPH-535, PUBH-505). Date retrieved from Yale Athletics pages.

Usage`yaleSports`**Format**

A data frame with 1,228 rows and 6 variables:

Year Year of sport team operation

Sport Student athlete team membership

ScramName Student athlete full name alpha-sorted and lower-cased

Class Student athlete class standing

Height Student athlete height in inch units

Weight Student athlete weight in pounds units

Source

<https://yalebulldogs.com> (Retrieved Summer, 2018)

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