

Package: RJSplot (via r-universe)

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Description Creates interactive graphs with 'R'. It joins the data analysis power of R and the visualization libraries of JavaScript in one package.

URL <https://rjsplot.usal.es>

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Depends R (>= 3.0.0)

Suggests IRdisplay

NeedsCompilation no

Author Carlos Prieto <cprietos@usal.es>, David Barrios <metal@usal.es>

Maintainer Carlos Prieto <cprietos@usal.es>

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| | |
|-------------|---|
| barplot_rjs | <i>Produce interactive bar plot(s).</i> |
|-------------|---|

Description

barplot_rjs produce interactive bar plot(s) of the given values.

Usage

```
barplot_rjs(height, xlab = "", ylab = "", ylim = NULL, cex = 1,
            plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|---|
| height | either a vector or matrix of values describing the bars which make up the plot. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |
| ylim | a vector with two values which specifies the Y minimum and maximum values in the representation. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive barplot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  barplot_rjs(USArrests, "states", "arrests")
}
```

 boxplot_rjs

Produce interactive box-and-whisker plot(s).

Description

boxplot_rjs produce interactive box-and-whisker plot(s) of the given values.

Usage

```
boxplot_rjs(data, xlab = "", ylab = "",
            outline = TRUE, col = NULL, ylim = NULL, cex = 1,
            plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| data | a Data Frame or Matrix from which the data for each box will be taken. |
| outline | if outline is not true, the outliers are not drawn. |
| col | if 'col' is non-null it is assumed to contain colors to be used to colour the bodies of the box plots. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |

| | |
|---------|---|
| ylim | a vector with two values which specifies the Y minimum and maximum values in the representation. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive boxplot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  boxplot_rjs(attitude, "attitude", "favourable responses")
}
```

bubbles_rjs

Produce interactive bubble plots.

Description

bubbles_rjs produce interactive bubble plot(s) of the given values.

Usage

```
bubbles_rjs(data, size = NULL, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|---|
| data | a numeric Data Frame or Matrix with two columns and one row per bubble which contains represented values for each bubble. Row names will be used as bubble names. |
| size | a vector giving each bubble size. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive barplot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  bubbles_rjs(scale(mtcars[,c("mpg", "hp")], FALSE), mtcars$wt)
}
```

| | |
|----------------|---|
| circularfv_rjs | <i>Prduce a circular sequence viewer.</i> |
|----------------|---|

Description

circularfv_rjs creates a circular sequence viewer.

Usage

```
circularfv_rjs(sequence, features = FALSE,
               plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|----------|---|
| sequence | a "character" string giving the DNA sequence. |
| features | Data Frame with the segments that will be seen in the viewer. It contains 5 columns which describe the identifier, start coordinate, stop coordinate, segment type and segment color. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
if(interactive()){
## Create a circular sequence viewer in a temporal directory of your local machine
## Generate test input data
sequence <- paste(sample(c("c","a","t","g"), 10000, replace = TRUE), collapse = "")
data <- matrix(round(runif(12,0,10000)),6,2)
features <- data.frame(id = 0:5, start = data[,1], stop = data[,2],
type = c("voluptate","non","voluptate","sit","et","proident"),
color = c("SandyBrown","Tan","Wheat","SteelBlue","LightSkyBlue","LightBlue"))

## Create the circular sequence viewer
circularfv_rjs(sequence, features)
}
```

| | |
|----------------|--|
| createAssembly | <i>Creates a genome assembly for genomemap_rjs or manhattan_rjs.</i> |
|----------------|--|

Description

createAssembly create assemblies for their use as parameter of genomemap_rjs or manhattan_rjs.

Usage

```
createAssembly(name, size)
```

Arguments

| | |
|------|---|
| name | a vector with the chromosome or scaffold names. |
| size | a vector with the chromosome or scaffold sizes. |

Value

a data frame in BED format to be used as an assembly in genomemap_rjs or manhattan_rjs.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[genomemap_rjs](#).
[manhattan_rjs](#).

Examples

```
## Creates a fake genome assembly for its posterior use as parameter of genomemap or manhattan plot
## Live examples and full tutorial on https://rjsplot.usal.es

## Generate a test assembly with three scaffolds
assembly <- createAssembly(c("scaffold1", "scaffold2", "scaffold3"), c(1000000, 800000, 650000))
```

| | |
|----------------|---------------------------|
| dendrogram_rjs | <i>Draw a Dendrogram.</i> |
|----------------|---------------------------|

Description

dendrogram_rjs creates a dendrogram.

Usage

```
dendrogram_rjs(data, metadata = NULL, method = "complete", cex = 1,  
               plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|----------|---|
| data | a dissimilarity object of class dist (p.e. produced by function dist). |
| metadata | a data frame with metadata information for leaf features (p.e. sample phenotypes). Corresponding Leaf/Sample should be provided as row name. |
| method | Name of the agglomeration method to be used. It should be (an unambiguous abbreviation of) one of "ward.D", "ward.D2", "single", "complete", "average" (= UPGMA), "mcquitty" (= WPGMA), "median" (= WPGMC) or "centroid" (= UPGMC). |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | A "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create a dendrogram in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  dendrogram_rjs(dist(USArrests),USArrests)
}
```

densityplot_rjs *Draw an interactive density plot.*

Description

densityplot_rjs creates density plots.

Usage

```
densityplot_rjs(data, xlab = "", ylab = "", cex = 1,
  plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|---|
| data | a data frame from which distribution will be represented for each column. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Creates a density plot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
  ## Generate test input data
  data <- data.frame(Uni05 = (1:100)/21, Norm = rnorm(100), `5T` = rt(100, df = 5),
    Gam2 = rgamma(100, shape = 2))

  # Create the density plot
  densityplot_rjs(data, "x", "y")
}
```

| | |
|---------------|--|
| genomemap_rjs | <i>Create an interactive genome map.</i> |
|---------------|--|

Description

genomemap_rjs creates an interactive genome map.

Usage

```
genomemap_rjs(assembly, track = NULL, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|----------|--|
| assembly | a genome assembly data frame. RJSplot provides human assemblies (NCBI36, GRCh37, GRCh38), human assemblies with cytobands (GRCh37.bands or GRCh38.bands), or methods for creating your own assembly from a FASTA file getAssemblyFromFasta . |
| track | a data frame with values to represent on the genome map (chromosome, position, value). |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with Firefox. If you want to open this file stored in your local machine with other Web browser, please visit the help section on the RJSplot Web site (<https://rjsplot.usal.es>).

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive Genome map in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# Create test data
chr <- character()
pos <- numeric()

for(i in 1:nrow(GRCh38)){
  chr <- c(chr,as.character(rep(GRCh38[i,"chr"],100)))
  pos <- c(pos,sample(GRCh38[i,"start"]:GRCh38[i,"end"],100))
}

value <- round(rexp(length(pos)),2)

# Create a genome map
track <- data.frame(chr,pos,pos+1,NA,value)
genomemap_rjs(GRCh38.bands, track)
}
```

`getAssemblyFromFasta` *Create an assembly from a FASTA file for its use as parameter of `genomemap_rjs` or `manhattan_rjs`.*

Description

`getAssemblyFromFasta` create assemblies from a FASTA file for their use as parameter of `genomemap_rjs` or `manhattan_rjs`.

Usage

```
getAssemblyFromFasta(fasta)
```

Arguments

`fasta` a "character" string representing the input Fasta file to be added in the genome browser.

Value

a data frame in BED format ready to use as an assembly in `genomemap_rjs` or `manhattan_rjs`.

Note

FASTA format is a text-based format for representing either nucleotide sequences or peptide sequences, in which nucleotides or amino acids are represented using single-letter codes.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[genomemap_rjs.](#)
[manhattan_rjs.](#)

Examples

```
## Live examples and full tutorial on https://rjsplot.usal.es
```

GRCh37

Length of human chromosomes based on GRCh37 assembly

Description

Length of human chromosomes based on GRCh37 assembly.

Source

See https://www.ncbi.nlm.nih.gov/assembly/GCF_000001405.13/.

GRCh37.bands

Cytoband information based on GRCh37

Description

A Data Frame containing cytobands of GRCh37 assembly.

Source

See http://grch37.ensembl.org/Homo_sapiens/Location/Genome.

| | |
|--------|---|
| GRCh38 | <i>Length of human chromosomes based on GRCh38 assembly</i> |
|--------|---|

Description

Length of human chromosomes based on GRCh38 assembly.

Source

See <https://www.ncbi.nlm.nih.gov/assembly/883148/>.

| | |
|--------------|---|
| GRCh38.bands | <i>Cytoband information based on GRCh38</i> |
|--------------|---|

Description

A Data Frame containing cytobands of GRCh38 assembly.

Source

See http://www.ensembl.org/Homo_sapiens/Location/Genome.

| | |
|-------------|--|
| heatmap_rjs | <i>Produce an interactive heatmap.</i> |
|-------------|--|

Description

heatmap_rjs creates interactive heatmaps.

Usage

```
heatmap_rjs(data, metadata = NULL, scale = c("row", "column", "none"),
  cluster = TRUE, color = c("Reds", "Greens", "Blues", "RdBkGr", "RdWhBu"),
  na.color = "transparent", cex = 1, plot = TRUE, jupyter = FALSE,
  dir = tempdir(), distfun = dist, hclustfun = hclust)
```

Arguments

| | |
|-----------|---|
| data | numeric matrix of the values to be plotted. |
| metadata | a data frame with metadata information for column features (p.e. sample phenotypes). Samples are given in rows and features in columns. |
| scale | character indicating if the values should be centered and scaled in either the row direction or the column direction, or none. The default value is "none". |
| cluster | logical value to enable (TRUE) or disable (FALSE) data clustering. |
| color | character indicating the color scale to paint values. The default value is "Blues". |
| na.color | character indicating the color to use for missing values. Transparent by default. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |
| distfun | function used to compute the distance between rows and columns. |
| hclustfun | function used to compute the hierarchical clustering. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive heatmap in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  metadata <- data.frame(phenotype1 = sample(c("yes","no"),ncol(mtcars),TRUE),
                        phenotype2 = sample(1:5,ncol(mtcars),TRUE))

  heatmap_rjs(data.matrix(mtcars), metadata, scale="column")
}
```

| | |
|--------------|--------------------------------------|
| hiveplot_rjs | <i>Produce interactive hive plot</i> |
|--------------|--------------------------------------|

Description

hiveplot_rjs creates an interactive hive plot.

Usage

```
hiveplot_rjs(links, nodes = NULL, group = NULL, size = NULL, color = NULL,  
             cex = 1, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| links | an edge list table stored in a data frame with three possible columns (source node id, target node id and link value). |
| nodes | node attributes stored in a data frame with rownames as node id. |
| group | column name of nodes data frame which describes visualized axes. |
| size | column name of nodes data frame which describes each node size. |
| color | column name of nodes data frame which describes each node color. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive hive plot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
  # Prepare data
  x <- 1-cor(t(mtcars))

  source <- rep(rownames(x),nrow(x))
  target <- rep(rownames(x),rep(ncol(x),nrow(x)))
  links <- data.frame(source=source,target=target,value=as.vector(x))

  # Generate the hive plot
  hiveplot_rjs(links, mtcars, group = "cyl", size = "wt", color = "carb")
}
```

manhattan_rjs

Create an interactive manhattan plot

Description

manhattan_rjs creates an interactive Manhattan plot.

Usage

```
manhattan_rjs(data, assembly, axisv, distv, cell = 1e+06,
  outliers = TRUE, ylab = "score", yscale = NULL,
  cex = 1, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|----------|---|
| data | a data frame with four columns (identifier, chromosome/scaffold, position, score). |
| assembly | a data frame with an assembly to be used. It should be one of the following human assemblies data frames provided by RJSplot: NCBI36, GRCh37, GRCh38. |
| axisv | value for the coordinate of the main horizontal axis. |
| distv | distance between the main horizontal axis and the secondary axes (which establishes the limit for the outlier representation). |
| cell | segment size which is represented. |
| outliers | logical value to enable (TRUE) or disable (FALSE) outliers. |
| ylab | a title for the y axis. |
| yscale | a vector with two values which specifies the minimum and maximum limits in the representation. By default maximum and minimum scores are taken as the limits. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive Manhattan plot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# Create test data
chr <- character()
pos <- numeric()

for(i in 1:nrow(GRCh38)){
  chr <- c(chr,as.character(rep(GRCh38[i,"chr"],100)))
  pos <- c(pos,sample(GRCh38[i,"start"]:GRCh38[i,"end"],100))
}

value <- round(rexp(length(pos)),2)

# Create a manhattan plot
data <- data.frame(paste0("ProbeSet_",seq_along(pos)),chr,pos,value)
manhattan_rjs(data, GRCh38, 0, 1, 0, TRUE, "log2Ratio")
}
```

NCBI36

Length of human chromosomes based on NCBI36 assembly

Description

Length of human chromosomes based on NCBI36 assembly.

Source

See https://www.ncbi.nlm.nih.gov/assembly/GCF_000001405.12/.

network_rjs

Produce interactive network graph

Description

network_rjs creates an interactive network graph.

Usage

```
network_rjs(links, nodes = NULL,
            weight = NULL, linkLabel = NULL, linkColor = NULL,
            group = NULL, size = NULL, color = NULL, label = NULL,
            nodeColorScale = c("RdBk", "RdBkGr"), cex = 1,
            plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|----------------|--|
| links | an edge list table stored in a data frame with at least two columns (source node id and target node id). |
| nodes | a node list stored in a data frame object with rownames as node id. |
| weight | a vector giving the column of links to show as weight. If NULL but third links column is numeric, this one will be used as weight. |
| linkLabel | a vector giving the column of links to show as link text. |
| linkColor | a vector giving the column of links to compute link color or directly a vector of colors. |
| group | a vector giving the column of nodes to show as group. |
| size | a vector giving the column of nodes to show as size. |
| color | a vector giving the column of nodes to compute node color or directly a vector of colors. |
| label | a vector giving the column of nodes to show as label. |
| nodeColorScale | a "character" string representing the color scale applied to nodes by default. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive network graph in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# Prepare data
x <- 1-cor(t(mtcars))

source <- rep(rownames(x),nrow(x))
target <- rep(rownames(x),rep(ncol(x),nrow(x)))
links <- data.frame(source=source,target=target,value=as.vector(x))

# Generate the network graph
network_rjs(links[links[,3]>0.1,], mtcars, group = "cyl", size = "hp", color = "mpg")
}
```

newInput

Produce a newInput object for R4web.

Description

newInput produce newInput object for R4web.

Usage

```
newInput(name, type = c("character", "numeric", "matrix", "data.frame", "factor"),
         default = "", levels = NULL, multi = FALSE)
```

Arguments

| | |
|---------|---|
| name | character string with the variable name. |
| type | character string which describes the variable type. Possible values are "character", "numeric", "matrix", "data.frame" or "factor". |
| default | default value for this input. |
| levels | a vector with the possible input values. It is described only for factor data type. |
| multi | boolean value which indicates if multiple selection are enabled for this input. It is described only for factor data type. |

Value

Return a newInput object.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

| | |
|--------------|--|
| piechart_rjs | <i>Produce interactive pie charts.</i> |
|--------------|--|

Description

piechart_rjs produce interactive pie charts.

Usage

```
piechart_rjs(data, cex = 1, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|---|
| data | a Data Frame or Matrix from which the data for each pie will be taken. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive pie chart in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  piechart_rjs(VADeaths)
}
```

R4web

Generate a PHP website which runs an R function.

Description

R4web generate a PHP website which runs an R function.

Usage

```
R4web(..., fnfile, dir)
```

Arguments

| | |
|--------|--|
| ... | one or more newInput objects which will be included as form fields. Form values will be used as parameters for the R script. |
| fnfile | a character string representing the R script file to be executed with the website. |
| dir | a "character" string representing the directory where the PHP code will be saved. |

Value

The function creates a folder in the working directory of your computer with some PHP files. Resulting folder should be added to the Apache applications directory and enable writing permissions.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

| | |
|------------|----------------------------------|
| report_rjs | <i>Create a report web page.</i> |
|------------|----------------------------------|

Description

report_rjs creates a report web page.

Usage

```
report_rjs(dir = "RJSreport")
addCSS2report(report,css)
addHTML2report(report,HTML)
addParagraph2report(report,p)
addPlot2report(report,plot,height=600)
addImage2report(report,img)
```

Arguments

| | |
|--------|---|
| dir | a "character" string representing the directory where the report will be saved. |
| report | a RJSreport object produced by the function report_rjs. |
| css | a character string representing the CSS path to be added. |
| HTML | a character string giving the HTML code to be added. |
| p | a character string giving the new paragraph to be added. |
| plot | a character string representing the plot directory to be added. |
| height | an integer vector giving a default height of the plot. |
| img | a character string representing the image path to be added. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the report. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

RJSplot

Interactive graphs with R

Description

Create interactive graphs with 'R'.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

scatter3d_rjs

Produce and interactive 3D Scatter plot (XYZ plot).

Description

scatter3d_rjs generates an interactive 3D Scatter Plot.

Usage

```
scatter3d_rjs(x, y, z, color="#000", xlab = "x", ylab = "y", zlab = "z",
             plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| x | a vector with the x data of each point. |
| y | a vector with the y data of each point. |
| z | a vector with the z data of each point. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |
| zlab | a title for the z axis. |
| color | a vector with the colour of each represented point. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive 3D Scatter plot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

# 3D Scatter plot creation
if(interactive()){
scatter3d_rjs(iris$Sepal.Width, iris$Sepal.Length, iris$Petal.Width,
  color = iris$Species, xlab = "Sepal Width (cm)", ylab = "Sepal Length (cm)",
  zlab = "Petal Width (cm)")
}
```

| | |
|-----------------|--|
| scatterplot_rjs | <i>Produce and interactive Scatter plot (XY plot).</i> |
|-----------------|--|

Description

scatterplot_rjs generates an interactive Scatter Plot.

Usage

```
scatterplot_rjs(x, y, id = NULL, xlab = "", ylab = "",
  xlim = NULL, ylim = NULL, col = NULL,
  pch = NULL, abline.x = NULL, abline.y = NULL, cex = 1,
  plot = TRUE, jupyter = FALSE, dir = tempdir())
```


Arguments

| | |
|----------|---|
| x | a vector with the x data of each point. |
| y | a vector with the y data of each point. |
| id | a vector giving the id of each point. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |
| xlim | a vector with two values which specifies the X minimum and maximum values in the representation. |
| ylim | a vector with two values which specifies the Y minimum and maximum values in the representation. |
| col | a vector with the colour of each represented point. |
| pch | a character vector with the shape of each point. It should be one of: 1-"circle", 2-"triangle-up", 3-"cross", 4-"square", 5-"diamond", 6-"triangle-down". |
| abline.x | a numeric vector with x coordinates where a vertical line will be placed. |
| abline.y | a numeric vector with y coordinates where a horizontal line will be placed. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive Scatter plot in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# Scatter plot creation
```

```
scatterplot_rjs(iris$Sepal.Width, iris$Sepal.Length,
  abline.x = c(3.4,3.8), abline.y = c(5.8,7),
  col = iris$Species, pch = as.numeric(iris$Species), id = iris$Species,
  xlab = "Sepal Width (cm)", ylab = "Sepal Length (cm)")
}
```

surface3d_rjs

Produce and interactive 3D surface.

Description

surface3d_rjs generates an interactive 3D surface.

Usage

```
surface3d_rjs(x, color = "#fff", xlab = "x", ylab = "y", zlab = "z",
  plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| x | numeric matrix of the values to be plotted. |
| color | a vector with colors to construct the color scale. |
| xlab | a title for the x axis. |
| ylab | a title for the y axis. |
| zlab | a title for the z axis. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive 3D Surface in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# 3D surface creation
surface3d_rjs(volcano,color=c("red","green"))
}
```

| | |
|----------------|---|
| symheatmap_rjs | <i>Creates a Symetric Heatmap representation.</i> |
|----------------|---|

Description

symheatmap_rjs creates an interactive symetric heatmap.

Usage

```
symheatmap_rjs(links, nodes = NULL, group = NULL, label = NULL, cex = 1,
plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| links | an edge list table stored in a data frame with three possible columns (source node id, target node id and a link value). |
| nodes | a node list stored in a data frame object with rownames as node id. |
| group | a vector giving the column of nodes to show as group. |
| label | a vector giving the column of nodes to show as label. |
| cex | number indicating the amount by which plotting text and symbols should be scaled relative to the default. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive symetric heatmap in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es

if(interactive()){
# prepare data
x <- 1-cor(t(mtcars))

source <- rep(rownames(x),nrow(x))
target <- rep(rownames(x),rep(ncol(x),nrow(x)))
links <- data.frame(source=source,target=target,value=as.vector(x))

# Create symetric heatmap
symheatmap_rjs(links, mtcars, group = "cyl")
}
```

tables_rjs

Produce interactive html tables.

Description

tables_rjs produce interactive html tables of the given values.

Usage

```
tables_rjs(data, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| data | a Data Frame or Matrix to display. |
| plot | open resulting table in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the table. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>
[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#),
[scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#),
[piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive html table in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
if(interactive()){
  tables_rjs(swiss)
}
```

wordcloud_rjs

Draw a wordcloud.

Description

wordcloud_rjs creates a wordcloud.

Usage

```
wordcloud_rjs(data, plot = TRUE, jupyter = FALSE, dir = tempdir())
```

Arguments

| | |
|---------|--|
| data | a two column data Frame with the words to display and their frequency. |
| plot | open resulting graph in your browser. |
| jupyter | embed the graph as an iframe into a Jupyter Notebook. |
| dir | a "character" string representing the directory where the graph will be saved. |

Value

The function creates a folder in your computer with an HTML document named index.html which contains the graph. This file can be directly opened with your browser.

Author(s)

David Barrios and Carlos Prieto. Bioinformatics Service of Nucleus, University of Salamanca. See <https://bioinfo.usal.es/>

See Also

The 'RJSplot' Website: <https://rjsplot.usal.es>

[dendrogram_rjs](#), [densityplot_rjs](#), [genomemap_rjs](#), [heatmap_rjs](#), [manhattan_rjs](#), [network_rjs](#), [scatterplot_rjs](#), [symheatmap_rjs](#), [wordcloud_rjs](#), [boxplot_rjs](#), [bubbles_rjs](#), [hiveplot_rjs](#), [piechart_rjs](#), [barplot_rjs](#), [tables_rjs](#), [surface3d_rjs](#), [scatter3d_rjs](#).

Examples

```
## Create an interactive heatmap in a temporal directory of your local machine
## Live examples on https://rjsplot.usal.es
```

```
## Format test data
words <- data.frame(word = rownames(USArrests), freq = USArrests[,4])
```

```
# Create WordCloud
if(interactive()){
wordcloud_rjs(words)
}
```

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