

Package ‘bivariateLeaflet’

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Title Create Bivariate Choropleth Maps with 'Leaflet'

Version 0.1.0

Description Creates bivariate choropleth maps using 'Leaflet'. This package provides tools for visualizing the relationship between two variables through a color matrix representation on an interactive map.

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Encoding UTF-8

RoxygenNote 7.3.2

Imports leaflet, dplyr, htmltools, rlang, sf

Suggests testthat (>= 3.0.0), knitr, rmarkdown, tidycensus, tidyr

Config/testthat/edition 3

VignetteBuilder knitr

Depends R (>= 3.50)

NeedsCompilation no

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assign_colors	<i>Assign Colors Based on Tertiles</i>
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Description

Assign Colors Based on Tertiles

Usage

```
assign_colors(data, color_matrix)
```

Arguments

data	A data frame containing tertile columns
color_matrix	A 3x3 matrix of colors

Value

A data frame with added color column

calculate_tertiles	<i>Calculate Tertiles for Bivariate Variables</i>
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Description

Calculate Tertiles for Bivariate Variables

Usage

```
calculate_tertiles(data, var_1, var_2)
```

Arguments

data	A data frame containing the variables to analyze
var_1	Character string naming the first variable
var_2	Character string naming the second variable

Value

A data frame with added tertile columns

calculate_tertile_breaks
Calculate Tertile Breaks

Description

Calculate Tertile Breaks

Usage

```
calculate_tertile_breaks(data, variable)
```

Arguments

data	A data frame
variable	Character string naming the variable

Value

A numeric vector of break points

create_bivariate_map *Create Bivariate Choropleth Map*

Description

Create Bivariate Choropleth Map

Usage

```
create_bivariate_map(  
  data,  
  var_1,  
  var_2,  
  color_matrix = NULL,  
  custom_labels = NULL  
)
```

Arguments

data	A spatial data frame
var_1	Character string naming first variable
var_2	Character string naming second variable
color_matrix	Optional custom color matrix
custom_labels	Optional vector of custom HTML labels for tooltips

Value

A leaflet map object

```
create_default_color_matrix
```

Create Default Color Matrix for Bivariate Choropleth

Description

Creates a 3x3 color matrix with default colors for bivariate choropleth maps

Usage

```
create_default_color_matrix()
```

Value

A matrix of color hex codes

```
dc_data
```

Washington DC Census Tract Data

Description

A dataset containing population and median household income for DC census tracts from ACS 2020. This dataset includes spatial information for creating choropleth maps.

Usage

```
dc_data()
```

Format

An sf object with the following variables:

GEOID Census tract identifier

NAME Census tract name

B01003_001 Total population estimate from ACS

B19013_001 Median household income estimate from ACS

geometry sf geometry column containing tract boundaries

Source

U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, retrieved using tidycensus package

Examples

```
data(dc_data)
# View the first few rows of non-geometric columns
print(dc_data[1:5, c("GEOID", "B01003_001", "B19013_001")])

# Create a basic map
if (interactive()) {
  map <- create_bivariate_map(
    data = dc_data,
    var_1 = "B01003_001", # Total population
    var_2 = "B19013_001" # Median household income
  )
}
```

generate_legend_html *Generate Legend HTML*

Description

Generate Legend HTML

Usage

```
generate_legend_html(var_1, var_2, var_1_breaks, var_2_breaks, color_matrix)
```

Arguments

var_1	Character string naming first variable
var_2	Character string naming second variable
var_1_breaks	Numeric vector of breaks for first variable
var_2_breaks	Numeric vector of breaks for second variable
color_matrix	Matrix of colors

Value

HTML string for legend

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