Package ‘jgrid’

Type Package

Title Functions for the Grid Square Codes in Japan

Version 0.4.0

Description Provides functions for grid square codes in Japan

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URL https://github.com/UchidaMizuki/jpgrid,
https://uchidamizuki.github.io/jpgrid/

BugReports https://github.com/UchidaMizuki/jpgrid/issues

Depends R (>= 4.1.0)

Imports dplyr (>= 0.8.0), purrr (>= 1.0.0), rlang (>= 0.3.0), stars, sf, stringr (>= 1.4.0), tibble, tidyr (>= 1.3.0), units, vctrs, lifecycle, pillar, cli, tidygraph

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bbox_to_grid  Converting bbox to grid square codes

Description

Converting bbox to grid square codes

Usage

bbox_to_grid(bbox, grid_size)

Arguments

bbox  A bbox.
grid_size  A grid size.

Value

A grid vector.
**coords**

*Conversion between grid square codes and coordinates (longitude and latitude)*

**Description**
Conversion between grid square codes and coordinates (longitude and latitude)

**Usage**
```
coords_to_grid(X, Y, grid_size)
grid_to_coords(grid, center = TRUE)
```

**Arguments**
- **X**: A numeric vector of longitude.
- **Y**: A numeric vector of latitude.
- **grid_size**: A grid size.
- **grid**: A grid class vector.
- **center**: Should the center point of the grid be returned? Otherwise the end points will be returned. TRUE by default.

**Value**
- `coords_to_grid()` returns a grid vector.
- `grid_to_coords()` returns a tbl_df.

---

**geometry_to_grid**

*Converting sfc geometries to grid square codes*

**Description**
Converting sfc geometries to grid square codes

**Usage**
```
geometry_to_grid(geometry, grid_size, options = "ALL_TOUCHED=TRUE", ...)
```

**Arguments**
- **geometry**: A sfc vector.
- **grid_size**: A grid size.
- **options**: Options vector for GDALRasterize passed on to `stars::st_rasterize()`.
- **...**: Passed on to `stars::st_rasterize()`.
grid_as_sf

Converting data frame containing grid square codes to sf

Description
Converting data frame containing grid square codes to sf

Usage
grid_as_sf(
  x,
  as_points = FALSE,
  crs = sf::NA_crs_,
  grid_column_name = NULL,
  ...
)

Arguments
x          A data frame or a grid.
as_points  Return the center points of the grids or not?
crs        Coordinate reference system.
grid_column_name
            A scalar character.
...        passed on to sf::st_as_sf().

Value
A sf object.

grid_as_stars

Converting data frame containing regional grids to stars

Description
Converting data frame containing regional grids to stars
Usage

grid_as_stars(
  x,
  coords = NULL,
  crs = sf::NA_crs_,
  grid_column_name = NULL,
  ...
)

Arguments

x A data frame or a grid.
coords The column names or indices that form the cube dimensions.
crs Coordinate reference system.
grid_column_name A scalar character.
... Passed on to stars::st_as_stars().

Value

A stars object.

grid_city_2020

List of grid square codes by Japanese municipalities

Description

List of grid square codes by Japanese municipalities

Usage

grid_city_2020

Format

An object of class tbl_df (inherits from tbl, data.frame) with 462915 rows and 6 columns.

Source

https://www.stat.go.jp/data/mesh/m_itiran.html
### grid_components

**Description**

Connected components of grid square codes

**Usage**

```r
grid_components(grid, n = 0:1, type = NULL)
```

**Arguments**

- `grid`: A grid vector.
- `n`: A numeric vector of degrees. By default, 0:1.
- `type`: A character vector of neighborhood types, "von_neumann" or "moore". By default, "von_neumann". (FALSE, default).

**Value**

A integer vector of group IDs.

### grid_convert

**Description**

Convert the grid size of grid objects

**Usage**

```r
grid_convert(grid, grid_size)
```

**Arguments**

- `grid`: A grid vector.
- `grid_size`: A grid size.

**Value**

A grid vector.

**Examples**

```r
grid_500m <- parse_grid(c("533945263", "533935863", "533945764"), "500m")
grid_convert(grid_500m, "10km")
```
**grid_distance**

**Description**

If `grid` and `grid_to` are both vectors, the distance between `grid` and `grid_to` is calculated. If `grid` is a list, the path distance of each element is calculated.

**Usage**

```r
grid_distance(
  grid, 
  grid_to = NULL, 
  close = FALSE, 
  type = c("keep_na", "ignore_na", "skip_na")
)
```

**Arguments**

- `grid` A grid vector or a list of grid vector.
- `grid_to` A grid vector.
- `close` Should the path of each element be closed when `grid` is a list?
- `type` How is the NA grid treated when `grid` is a list? "skip_na" skips the NA grid and connects the paths. "keep_na" by default.

**Value**

A double vector.

---

**grid_line**

**Description**

If `grid` and `grid_to` are both vectors, the line between `grid` and `grid_to` is drawn (using Bresenham's line algorithm). If `grid` is a list, the path lines for each element in the grid will be drawn.

**Usage**

```r
grid_line(grid, grid_to = NULL, close = FALSE, skip_na = FALSE)
```
Arguments

grid  A grid vector or a list of grid vector.
grid_to  A grid vector.
close  Should the path of each element be closed when grid is a list?
skip_na  Should skip the NA grid and connects the paths? FALSE by default.

Value

A list of grid vectors.

---

### grid_move

Moving on grid square codes

**Usage**

```r
grid_move(grid, n_X, n_Y)
```  

**Arguments**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>grid</td>
<td>A grid vector.</td>
</tr>
<tr>
<td>n_X</td>
<td>Number of moving cells in the longitude direction.</td>
</tr>
<tr>
<td>n_Y</td>
<td>Number of moving cells in the latitude direction.</td>
</tr>
</tbody>
</table>

**Value**

A grid vector.

---

### grid_neighbor

Neighborhood grid square codes (Deprecated)

**Description**

[Deprecated]

**Usage**

```r
grid_neighbor(grid, n = 1L, moore = TRUE, simplify = TRUE)
```
Arguments

grid A grid vector.
n A numeric vector of degrees. By default, 1L.
moore Moore neighborhood (TRUE, default) or Von Neumann neighborhood (FALSE).
simplify Should simplify the format of the return?

Value

A list of grid vectors.

Description

Neighborhood grid square codes

Usage

grid_neighborhood(grid, n = 1L, type = NULL, simplify = TRUE)

Arguments

grid A grid vector.
n A numeric vector of degrees. By default, 1L.
type A character vector of neighborhood types, "von_neumann" or "moore". By default, "von_neumann".
simplify Should simplify the format of the return?

Value

A list of grid vectors.
grid_subdivide  Subdivide grid square codes

Description

grid_subdivide() makes the grid square codes finer.

Usage

grid_subdivide(grid, grid_size)

Arguments

grid  A grid vector.
grid_size  A grid size.

Value

A list of grid vector.

is_grid  Test if the object is a grid

Description

Test if the object is a grid

Usage

is_grid(x, grid_size = NULL)

Arguments

x  An object.
grid_size  A grid size.

Value

TRUE if the object inherits from the grid class.
Functions for the Grid Square Codes in Japan

Description

Provides functions for grid square codes in Japan (https://www.stat.go.jp/english/data/mesh/index.html). Generates the grid square codes from longitude/latitude, geometries, and the grid square codes of different scales, and vice versa.

Author(s)

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See Also

https://www.stat.go.jp/english/data/mesh/index.html

parse_grid

Parse grid square codes

Description

Parse grid square codes

Usage

parse_grid(x, grid_size = NULL, strict = TRUE)

Arguments

x A character vector of grid square codes.
grid_size A grid size.
strict A scalar logical. Should the number of digits in the grid square code match a given number of digits? By default, TRUE.

Examples

parse_grid("53394526313")
parse_grid("53394526313", "80km")
parse_grid("53394526313", "80km", strict = FALSE)
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