Package: shikakusphere (via r-universe)

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Title Miscellaneous Functions for Japanese Mahjong

Version 0.0.3.9003

Description A collection of miscellaneous functions for Japanese Mahjong that wraps C++ sources of 'cmajiang' <https://github.com/TadaoYamaoka/cmajiang>.

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BugReports https://github.com/paithiov909/shikakusphere/issues

Depends R (>= 2.10)

Imports generics, magick, methods, purrr, Rcpp, rlang, stringi, vctrs

Suggests rsvg, testthat (>= 3.0.0)

LinkingTo Rcpp

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Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.3.2

Repository https://paithiov909.r-universe.dev

RemoteUrl https://github.com/paithiov909/shikakusphere

RemoteRef HEAD

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Contents

`calc_defen` *Calculate score of hand*

Description

Calculate score of hand

Usage

```
calc_defen(
  pai,
  baopai,
  libaopai = "",
  rongpai = "",
  rule = default_rule(),
  zhuangfeng = c("z1", "z2", "z3", "z4"),
  menfeng = c("z2", "z3", "z4", "z1"),
  lizhi = c("none", "lizhi", "double-lizhi"),
  yifa = FALSE,
  qianggang = FALSE,
  lingshang = FALSE,
  haidi = c("none", "haidimoyue", "hedilaoyu"),
  tianhe = c("none", "tianhe", "dihe"),
  changbang = 0L,
  lizhibang = 0L
)
```

Arguments

`pai`	A string scalar. This param is not vectorized.
`baopai`	A character vector. "Dora" indicators.
`libaopai`	A character vector. "Ura-dora" indicators. Leave empty if there is no libaopai.
`rongpai`	A string scalar such as `"m1="`. Leave empty if there is no rongpai.
`rule`	A list; a rule set. Defaults to `default_rule()`.
`zhuangfeng`	A string scalar; "ba-kaze" tile.
`menfeng`	A string scalar; "ji-kaze" tile.
`lizhi`	A string scalar. Either "none", "lizhi", or "double-lizhi".

yifa	A logical scalar; flag for "ippatsu".
qianggang	A logical scalar; flag for "chankan".
lingshang	A logical scalar; flag for "rinshan-kaihou".
haidi	A string scalar. Either "none", "haidimoyue", or "hedilaoyu".
tianhe	A string scalar; Either "none", "tianhe", or "dihe".
changbang	An integer scalar; the number of counter sticks that indicates "honba".
lizhibang	An integer scalar; the number of 1,000-point sticks on the table.

Value

A data frame.

Examples

```
calc_defen("m345567p234s3378", baopai = "z1", rongpai = "s9=")
```

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calc_xiangting *Calculate xiangting number of hands*

Description

Calculate xiangting number of hands

Usage

```
calc_xiangting(pai)
```

Arguments

pai	A character vector.

Value

An integer vector.

Examples

```
calc_xiangting(c("m345567p234s3378", "p222345z1234567"))
```

collect_tingpai *Collect tingpais for hands*

Description

Collect tiles that can decrease the xiangting number of hands if they are drawn. In case of already winning hands, corresponding vectors will be NA.

Usage

```
collect_tingpai(pai)
```

Arguments

pai	A character vector.

Value

A list of character vectors.

Examples

```
collect_tingpai(c("m345567p234s3378", "p222345z1234567"))
```

default_rule *Create default rule set*

Description

Create default rule set

Usage

```
default_rule()
```

Value

A list.

See Also

https://github.com/kobalab/majiang-core/wiki/%E3%83%AB%E3%83%BC%E3%83%AB

hand2img *Plot a player's hand as an image*

Description

This function is a short hand for `paistr(pai) |> plot()`

Usage

```
hand2img(pai, ...)
```

Arguments

`pai`	A character vector.
`...`	Other arguments passed to `plot()`.

See Also

`paistr`

hupai *List of hupai*

Description

List of hupai

Usage

```
hupai
```

Format

An object of class `data.frame` with 54 rows and 3 columns.

Details

A data frame that contains the list of hupai.

The list includes the following columns:

- `id`: The id of the hupai.
- `en`: The English name of the hupai.
- `jp`: The Japanese name of the hupai.

int2tile *Convert integers to tiles*

Description

Convert integers to tiles

Usage

```
int2tile(x = seq_len(38) - 1, origin = c("zero", "one"))
```

Arguments

x	An integer vector.
origin	A string scalar. Either "zero" or "one".

Value

A factor.

Examples

```
int2tile(c(0, 1, 25, 37))
```

lineup *Line up tiles*

Description

Arrange all tiles from a data frame.

Usage

```
lineup(x)
```

Arguments

x	A data frame with columns id, tile, and n.

Value

An object of x$tile class.

Examples

```
rand_hands()(3) |>
  paistr() |>
  tidy() |>
  lineup()
```

lipai *Compose hands from character vectors*

Description

Compose hands from character vectors while ignoring invalid tiles. This function can handle any number of tiles in each hand, but cannot more than 5 identical tiles. If there are more than 5 identical tiles, arises an error.

Usage

```
lipai(x)
```

Arguments

x	A list of character vectors or a character vector.

Value

A character vector.

Examples

```
lipai(list(c("m1", "m2", "m3"), c("p1", "p2", "p3")))
```

modify_rule *Modify the default rule set by patch*

Description

Modify the default rule set by patch

Usage

```
modify_rule(patch = list())
```

Arguments

patch	A list.

Value

A list.

paistr `paistr` *vector*

Description

Create a `paistr` vector from a character vector that represents player's hands.

Usage

```
paistr(x = character())

is_paistr(x)

## S3 method for class 'skksph_paistr'
plot(x, y, ...)

## S3 method for class 'skksph_paistr'
tidy(x, ...)
```

Arguments

`x`	• For `paistr()`: A character vector. • For `is_paistr()`: An object to test. • For `plot()`: An object to plot as an image. • For `tidy()`: An object to tidy up.
`y`	• For `plot()`: Not used.
`...`	Other arguments for `plot()` or `tidy()`.

Details

Note that the validation of this function is not so strict. For example, `paistr("z0")` still produces a valid `paistr` vector even though "z0" is not a tile that actually exists. These `paistr` are simply ignored by the 'cmajiang' function wrapper.

The number of tiles displayed when `print()` is not always accurate, so if you need to count the actual number of tiles, use `tidy()`.

Value

- For `paistr()`: An object of class `skksph_paistr`.
- For `is_paistr()`: A logical scalar.
- For `plot()`: A bitmap image that internally converted by `magick::image_read_svg()` is invisibly returned.
- For `tidy()`: A data frame (not a tibble).

Examples

```
pai <- paistr(c("m055z7z7,m78-9,z5555,z666=", "m123s789z1117*,p5550"))
print(pai)
is_paistr(pai)
tidy(pai)
```

`parse_hupai` *Parse chains of hupai ids*

Description

Parse comma separated chains of hupai ids into a list of factors.

Usage

```
parse_hupai(str, lang = c("en", "jp"))
```

Arguments

`str`	A character vector.
`lang`	A string scalar. Either "en" or "jp".

Value

A list of factors.

`rand_hands` *Create a function to randomly generate hands*

Description

Create a function to randomly generate hands

Usage

```
rand_hands(
 hupai = c("pinghe", "zhuangfeng", "menfeng", "fanpai", "duanyaojiu", "yibeikou",
    "sansetongshun", "yiqitongguan", "hunquandaiyaojiu", "qiduizi", "duiduihu",
   "sananke", "sangangzi", "sansetongke", "hunlaotou", "xiaosanyuan", "hunyise",
  "chunquandaiyaojiu", "erbeikou", "qingyise", "guoshiwushuang", "sianke", "dasanyuan",
  "xiaosixi", "dasixi", "ziyise", "lvyise", "qinglaotou", "sigangzi", "jiulianbaodeng"),
  zhuangfeng = c("z1", "z2", "z3", "z4"),
  menfeng = c("z2", "z3", "z4", "z1"),
  rule = default_rule(),
  seed = 1234
)
```

Arguments

hupai	A string scalar.
zhuangfeng	A string scalar; "ba-kaze" tile.
menfeng	A string scalar; "ji-kaze" tile.
rule	A list; a rule set. Defaults to `default_rule()`.
seed	An integer scalar. Used for initializing the random number generator.

Value

A function inheriting class `purrr_function_partial` that takes single arguments `n`: number of hands to be generated.

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