Package ‘chessR’

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Type Package
Title Functions to Extract, Clean and Analyse Online Chess Game Data
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Description A set of functions to enable users to extract chess game data from popular chess sites, including 'Lichess' <https://lichess.org/> and 'Chess.com' <https://www.chess.com/> and then perform analysis on that game data.
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chessdotcom_leaderboard

Get Top 50 on chess.com Leaderboards

Description
This function takes in one parameter, the game_type, and returns a data frame of the top 50 players on chess.com.

Usage
chessdotcom_leaderboard(game_type = "daily")

Arguments

game_type A valid chess.com game type to return the leaderboard for

Details
The leaderboard options (games) include:
"daily", "daily960", "live_rapid", "live_blitz", "live_bullet", "live_bughouse", "live_blitz960", "live_threeccheck"
, "live_crazyhouse", "live_kingofthehill", "lessons", "tactics"

Value
a dataframe of the chess.com top 50 players based on game_type selected

Examples
## Not run:
chessdotcom_leaderboard(game_type = "daily")

## End(Not run)
chessR: A package for extracting and analysing chess game data

Description

This package is designed to aid in the extraction and analysis of game data from the popular chess.com

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See Also

Useful links:

extract_moves

Extract moves from a game as a data.frame

Description

Extract moves from a game as a data.frame

Usage

extract_moves(moves_string)

Arguments

moves_string string containing moves built by ‘chessR’ (e.g. from https://www.chess.com/) or the filename of a PGN file

Value

cleaned moves as a data.frame
**extract_moves_as_game**  
*Extract moves and create ‘chess’ game*

**Description**  
Extract moves and create ‘chess’ game

**Usage**  
`extract_moves_as_game(game)`

**Arguments**

- **game**  
a single row of a ‘data.frame’ provided by ‘chessR’ containing move information or the filename of a PGN file

**Value**  
a `[chess::game()]` game object

---

**get_each_player**  
*Extract Single Player’s Game Data*

**Description**  
`get_each_player` returns a dataframe of all of the games played by one player

**Usage**  
`get_each_player(username)`

**Arguments**

- **username**  
A string value of a player’s name

**Details**  
This function will take in a single player’s username and return the data on all the games they have played on chess.com
get_each_player_chessdotcom

Get Single Player Raw chess.com Game Data

Description
This function returns the raw json data for a player's chess.com data as a data frame.

Usage
get_each_player_chessdotcom(username, year_month)

Arguments
username A valid username from chess.com
year_month An integer of YYYYMM

Value
a dataframe of chess.com data

get_game_data Extract Chess Game Data

Description
get_game_data returns a dataframe of game data for either a single user or a list of usernames.

Usage
get_game_data(usernames)

Arguments
usernames A character vector of player usernames from chess.com

Details
This function will take in a list of player usernames and return a dataframe of game metadata.

Value
a dataframe of chess.com data plus additional analysis columns
## Not run:
chess_analysis_single <- get_game_data(usernames = "JaseZiv")
chess_analysis_multiple <- get_game_data(usernames = c("JaseZiv", "Smudgy1"))

## End(Not run)

---

**get_game_ending**

Return the game ending

### Description

This function returns a character vector of how the game ended from chess.dom.

### Usage

```r
get_game_ending(termination_string, white, black)
```

### Arguments

- `termination_string`:
  A character vector in the chess.com extracted data frame called 'Termination'
- `white`:
  A character vector in the chess.com extracted data frame called 'White' for the player on white
- `black`:
  A character vector in the chess.com extracted data frame called 'Black' for the player on black

### Value

A character vector of the game ending for each game

### Examples

```r
## Not run:
get_game_ending(termination_string = df$Termination, df$White, df$Black)

## End(Not run)
```
get_raw_chessdotcom  

Get Raw chess.com Game Data

Description
This function returns the raw json data for a player’s or list of players’ chess.com data as a data frame, for all or select months played.

Usage
get_raw_chessdotcom(usernames, year_month = NA_integer_)

Arguments
usernames  A vector of a valid username or usernames from chess.com
year_month  An integer of YYYYMM

Value
A dataframe of chessdotcom data

Examples
## Not run:
get_raw_chessdotcom(usernames = "JaseZiv")
get_raw_chessdotcom(usernames = "JaseZiv", year_month = c(202112:202201))
get_raw_chessdotcom(usernames = c("JaseZiv", "Smudgy1"), year_month = 202201)
## End(Not run)

get_raw_lichess  

Get Raw Lichess Game Data

Description
This function returns the raw json data for a player’s or list of players’ Lichess data as a data frame.

Usage
get_raw_lichess(player_names)

Arguments
player_names  A vector of a valid username or usernames from Lichess
get_winner

Value

A dataframe of lichess data

Examples

## Not run:
georges_data <- get_raw_lichess(player_names = "Georges")

## End(Not run)

Description

This function returns a character vector of the usernames of the game winners

Usage

get_winner(result_column, white, black)

Arguments

result_column A character vector in the extracted data frame called 'Result'
white A character vector in the extracted data frame called 'White' for the player on white
black A character vector in the extracted data frame called 'Black' for the player on black

Value

A character vector of the game ending for each game

Examples

## Not run:
get_winner(df$Result, df$White, df$Black)

## End(Not run)
lichess_clock_move_time

*Get Time Information from Lichess Game Data*

**Description**
This function returns a data frame of Lichess data with clock and move times

**Usage**

```
lichess_clock_move_time(games_list)
```

**Arguments**

- `games_list`: A data frame of lichess data which can be generated from `chessR::get_raw_lichess("username")`

**Value**
A data frame of lichess data with move time, clock time, and move numbers

**Examples**
```
## Not run:
lordy_leroy_data <- get_raw_lichess(player_names = "LordyLeroy")
lordy_leroy_data_with_times <- lichess_clock_move_time(games_list = lordy_leroy_data)
## End(Not run)
```

lichess_leaderboard

*Get top players on Lichess leaderboards*

**Description**
This function takes in two parameters: how many players you want returned (max 200) and the speed variant. The result is a data frame for each game type

**Usage**

```
lichess_leaderboard(top_n_players, speed_variant)
```

**Arguments**

- `top_n_players`: The number of players (up to 200) you want returned
- `speed_variant`: A valid lichess speed variant to return the leaderboard for
Details

The leaderboard speed variant options include:

"ultraBullet", "bullet", "blitz", "rapid", "classical", "chess960", "crazyhouse", "antichess", "atomic", "horde", "kingOfTheHill", "racingKings", "threeCheck"

Value

A dataframe of the lichess top players based on speed_variant and top_n_players selected.

Examples

## Not run:
top10_blitz <- lichess_leaderboard(top_n_players = 10, speed_variant = "blitz")
leaderboards <- purrr::map2_df(top_n_players = 10, c("ultraBullet", "bullet"), lichess_leaderboard)
## End(Not run)

---

**plot_moves**

Plot a game

### Description

Plot a game

### Usage

plot_moves(game, interactive = TRUE, sleep = 1)

### Arguments

- **game**: a [chess::game()] object, likely with moves identified
- **interactive**: wait for 'Enter' after each move? Turn off to use in a gif
- **sleep**: how long to wait between moves

### Value

'NULL', (invisibly) - called for the side-effect of plotting

### Examples

## Not run:
hikaru <- get_each_player_chessdotcom("hikaru", "202112")
m <- extract_moves_as_game(hikaru[11, ])
plot_moves(m)
## End(Not run)
return_num_moves

---

return_num_moves  Return the number of moves in a game

Description

This function returns the number of moves played in each game. The function accepts a vector of chess Moves data in PGN notation, usually called 'Moves'.

Usage

return_num_moves(moves_string)

Arguments

- moves_string  A character vector of chess Moves data in PGN notation usually called 'Moves' in extracted data

Value

A numeric vector of the number of moves in each game

Examples

```r
## Not run:
return_num_moves(moves_string = df$Moves)

## End(Not run)
```
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