Package ‘SwimmeR’

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Title Data Import, Cleaning, and Conversions for Swimming Results

Version 0.13.0

Description The goal of the 'SwimmeR' package is to provide means of acquiring, and then analyzing, data from swimming (and diving) competitions. To that end 'SwimmeR' allows results to be read in from .html sources, like 'Hy-Tek' real time results pages, '.pdf' files, 'ISL' results, 'Omega' results, and (on a development basis) '.hy3' files. Once read in, 'SwimmeR' can convert swimming times (performances) between the computationally useful format of seconds reported to the '100ths' place (e.g. 95.37), and the conventional reporting format (1:35.37) used in the swimming community. 'SwimmeR' can also score meets in a variety of formats with user defined point values, convert times between courses ('LCM', 'SCM', 'SCY') and draw single elimination brackets, as well as providing a suite of tools for working cleaning swimming data. This is a developmental package, not yet mature.

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Author Greg Pilgrim [aut, cre] (<https://orcid.org/0000-0001-7831-442X>), Caitlin Baldwin [ctb]

Maintainer Greg Pilgrim <gpilgrim2670@gmail.com>

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add_row_numbers

Description

Takes the output of read_results and adds row numbers to it.

Usage

add_row_numbers(text)

Arguments

text output from read_results

Value

returns a data frame with event names and row numbers to eventually be recombined with swimming results inside swim_parse
See Also

add_row_numbers is a helper function inside swim_parse

---

**age_format**  
*Formatting yyy-mm ages as years*

**Description**

Takes a character string (or list) representing an age as years-months (e.g. 13-06 for 13 years, 6 months) and converts it to a character value (13.5) or a list of values representing ages in years.

**Usage**

```r
age_format(x)
```

**Arguments**

- `x`  
  A character vector of ages in yyy-mm format (e.g. 93-03) to be converted to years (93.25)

**Value**

returns the value of the string `x` which represents an age in yyy-mm format (93-03) and converts it to years (93.25)

**See Also**

age_format_helper age_format uses age_format_helper

**Examples**

```r
age_format("13-06")
age_format(c("13-06", "25-03", NA))
```
### age_format_helper

**Description**

Helper function for formatting yyy-mm ages as years, enables vectorization of `age_format`

**Usage**

```r
age_format_helper(x)
```

**Arguments**

- `x` A character vector of age(s) in yyyy-mm format (e.g. 13-06) to be converted to years (13.5)

### coalesce_many

**Description**

Combined paired sets of columns following a join operation

**Usage**

```r
coaalesce_many(df)
```

**Arguments**

- `df` A data frame following a join and thereby containing paired columns of the form `Col_1.x, Col_1.y`

**Value**

returns a data frame with all sets of paired columns combined into single columns and named as, for example, `Col_1, Col_2` etc.

**See Also**

coaalesce_many runs inside `swim_parse_splash`
coalesce_many_helper  Combined paired sets of columns following a join operation

Description
This function is intended to be mapped over a sequence i inside the function coalesce_many

Usage
coalesce_many_helper(df, new_split_names, i)

Arguments
- df: a data frame following a join and thereby containing paired columns of the form Col_1.x, Col_1.y
- new_split_names: a list of desired column names, e.g. Col_1, Col_2
- i: a number between 1 and the length of new_split_names

Value
returns a data frame with one set of paired columns combined into a single column and named based on new_split_names

See Also
coalesce_many_helper runs inside coalesce_many

collect_relay_swimmers  Collects relay swimmers as a data frame within swim_parse

Description
Collects relay swimmers as a data frame within swim_parse

Usage
collect_relay_swimmers(x)

Arguments
- x: output from read_results followed by add_row_numbers
**collect_relay_swimmers_old**

**Value**

returns a data frame of relay swimmers and the associated performance row number

**See Also**

collect_relay_swimmers_data runs inside of swim_parse

---

**collect_relay_swimmers_old**

*Collects relay swimmers as a data frame within swim_parse_old*

**Description**

Depreciated version associated with depreciated version of swim_parse_old

**Usage**

collect_relay_swimmers_old(x, typo_2 = typo, replacement_2 = replacement)

**Arguments**

- **x**  
  output from read_results followed by add_row_numbers
- **typo_2**  
  list of typos from swim_parse
- **replacement_2**  
  list of replacements for typos from swim_parse

**Value**

returns a data frame of relay swimmers and the associated performance row number

**See Also**

collect_relay_swimmers runs inside of swim_parse

---

**collect_relay_swimmers_omega**

*Collects relay swimmers as a data frame within swim_parse_omega*

**Description**

Collects relay swimmers as a data frame within swim_parse_omega

**Usage**

collect_relay_swimmers_omega(x)
Arguments

x          output from read_results followed by add_row_numbers

Value

returns a data frame of relay swimmers and the associated performance row number

See Also

collect_relay_swimmers_data runs inside of swim_parse_omega

collect_relay_swimmers_splash

Collects relay swimmers as a data frame within swim_parse_splash

Description

Collects relay swimmers as a data frame within swim_parse_splash

Usage

collect_relay_swimmers_splash(x, relay_indent = Indent_Length)

Arguments

x          output from read_results followed by add_row_numbers
relay_indent the number of spaces relay swimmer lines are indented compared to regular swimmer lines

Value

returns a data frame of relay swimmers and the associated performance row number

See Also

collect_relay_swimmers_data runs inside of swim_parse_splash
**correct_split_distance**

Changes lengths associated with splits to new values

**Description**

Useful for dealing with meets where some events are split by 50 and others by 25.

**Usage**

```r
correct_split_distance(df, new_split_length, events)
correct_split_length(df, new_split_length, events)
```

**Arguments**

- `df`: a data frame having some split columns (Split_50, Split_100 etc.)
- `new_split_length`: split length to rename split columns based on
- `events`: list of events to correct splits for

**Value**

A data frame where all events named in the `events` parameter have their split column labels adjusted to reflect `new_split_length`.

**Examples**

```r
df <- data.frame(Name = c("Lilly King", "Caeleb Dressel"),
                 Event = c("Women 100 Meter Breaststroke", "Men 50 Yard Freestyle"),
                 Split_50 = c("29.80", "8.48"),
                 Split_100 = c("34.33", "9.15"))

df %>% correct_split_distance(
    new_split_length = 25,
    events = c("Men 50 Yard Freestyle")
)  
```
correct_split_distance_helper

*Changes lengths associated with splits to new values*

**Description**

Useful for dealing with meets where some events are split by 50 and others by 25.

**Usage**

```r
correct_split_distance_helper(df_helper, new_split_length_helper)
```

**Arguments**

- `df_helper`: a data frame having some split columns (Split_50, Split_100 etc.)
- `new_split_length_helper`: split length to rename split columns based on

**Value**

A data frame where all values have been pushed left, replacing ‘NA’ values, and all columns containing only ‘NA’ values have been removed.

**See Also**

- `correct_split_distance_helper` is a helper function inside `correct_split_distance`

---

course_convert

*Swimming Course Convertor*

**Description**

Used to convert times between Long Course Meters, Short Course Meters and Short Course Yards.

**Usage**

```r
course_convert(time, event, course, course_to, verbose = FALSE)
```
course_convert

Arguments

time A time, or vector of times to convert. Can be in either seconds (numeric, 95.97) format or swim (character, "1:35.97") format

event The event swum as "100 Fly", "200 IM", "400 Free", "50 Back", "200 Breast" etc.
course The course in which the time was swum as "LCM", "SCM" or "SCY"
course_to The course to convert the time to as "LCM", "SCM" or "SCY"
verbose If TRUE will return a data frame containing columns
• Time
• Course
• Course_To
• Event
• Time_Converted_sec
• Time_Converted_mmss
. If FALSE (the default) will return only a converted time.

Value

returns the time for a specified event and course converted to a time for the specified course_to in swimming format OR a data frame containing columns

• Time
• Course
• Course_To
• Event
• Time_Converted_sec
• Time_Converted_mmss

depending on the value of verbose

Note

Relays are not presently supported.

References

Uses the USA swimming age group method described here: https://support.teamunify.com/en/articles/260

Examples

course_convert(time = "1:35.93", event = "200 Free", course = "SCY", course_to = "LCM")
course_convert(time = 95.93, event = "200 Free", course = "scy", course_to = "lcm")
course_convert(time = 53.89, event = "100 Fly", course = "scm", course_to = "scy")
course_convert_DF

Course converter, returns data frame - defunct

Description

Used to convert times between Long Course Meters, Short Course Meters and Short Course Yards, returns data frame

Usage

course_convert_DF(time, event, course, course_to)
course_convert_df(time, event, course, course_to)

Arguments

time
A time, or vector of times to convert. Can be in either seconds (numeric, 95.97) format or swim (character, "1:35.97") format

event
The event swum as "100 Fly", "200 IM", "400 Free", "50 Back", "200 Breast" etc.

course
The course in which the time was swum as "LCM", "SCM" or "SCY"

course_to
The course to convert the time to as "LCM", "SCM" or "SCY"

Value

This function returns a data frame including columns:

- Time
- Course
- Course_To
- Event
- Time_Converted_sec
- Time_Converted_mmss

Note

Relays are not presently supported.

References

Uses the USA swimming age group method described here https://support.teamunify.com/en/articles/260
Description

Used to convert times between Long Course Meters, Short Course Meters and Short Course Yards.

Usage

```r
course_convert_helper(time, event, course, course_to, verbose = FALSE)
```

Arguments

time A time, or vector of times to convert. Can be in either seconds (numeric, 95.97) format or swim (character, "1:35.97") format.

event The event swum as "100 Fly", "200 IM", "400 Free", "50 Back", "200 Breast" etc.

course The course in which the time was swum as "LCM", "SCM" or "SCY"

course_to The course to convert the time to as "LCM", "SCM" or "SCY"

verbose If TRUE will return a data frame containing columns

- Time
- Course
- Course_To
- Event
- Time_Converted_sec
- Time_Converted_mmss

If FALSE (the default) will return only a converted time.

Value

returns the time for a specified event and course converted to a time for the specified course_to in swimming format OR a data frame containing columns

- Time
- Course
- Course_To
- Event
- Time_Converted_sec
- Time_Converted_mmss

depending on the value of verbose

See Also

course_convert_helper is a helper function inside course_convert
determine_indent_length_splash

_Determines indent length for data within swim_parse_splash_

**Description**

In Splash results there are two line types that are of interest and don’t begin with either a place or a special string (DNS, DSQ etc.). These are ties and relays swimmers. Relay swimmers are indented further than ties. This function determines the number of spaces, called indent length, prior to a tie row, plus a pad of four spaces.

**Usage**

determine_indent_length_splash(x, time_score_string)

**Arguments**

- **x**
  - output from read_results followed by add_row_numbers
- **time_score_string**
  - a regular expression as a string that describes swimming times and diving scores

**Value**

returns a number indicating the number of spaces preceding an athlete’s name in a tie row

**See Also**

determine_indent_length_splash runs inside of swim_parse_splash

discard_errors

_Discards elements of list that have an error value from purrr::safely._

**Description**

Used in scrapping, when swim_parse is applied over a list of results using purrr::map the result is a list of two element lists. The first element is the results, the second element is an error register. This function removes all elements where the error register is not NULL, and then returns the results (first element) of the remaining lists.

**Usage**

discard_errors(x)
dive_place

Arguments

x a list of lists from purrr::map and purrr:safely

Value

a list of lists where sub lists containing a non-NULL error have been discarded and error elements have been removed from all remaining sub lists

Examples

result_1 <- data.frame(result = c(1, 2, 3))
error <- NULL

list_1 <- list(result_1, error)
names(list_1) <- c("result", "error")

result_2 <- data.frame(result = c(4, 5, 6))
error <- "result is corrupt"

list_2 <- list(result_2, error)
names(list_2) <- c("result", "error")

list_of_lists <- list(list_1, list_2)
discard_errors(list_of_lists)


---

dive_place Adds places to diving results

Description

Places are awarded on the basis of score, with highest score winning. Ties are placed as ties (both athletes get 2nd etc.)

Usage

dive_place(df, max_place)

Arguments

df a data frame with results from swim_parse, including only diving results (not swimming)

max_place highest place value that scores

Value

data frame modified so that places have been appended based on diving score
See Also
dive_place is a helper function used inside of results_score

draw_bracket

Creates a bracket for tournaments involving 5 to 64 teams, single elimination

Description
Will draw a single elimination bracket for the appropriate number of teams, inserting first round byes for higher seeds as needed

Usage
draw_bracket(
  teams,
  title = "Championship Bracket",
  text_size = 0.7,
  round_two = NULL,
  round_three = NULL,
  round_four = NULL,
  round_five = NULL,
  round_six = NULL,
  champion = NULL
)

Arguments
  teams  a list of teams, ordered by desired seed, to place in bracket. Must be between 5 and 64 inclusive. Teams must have unique names
  title  bracket title
  text_size  number passed to cex in plotting
  round_two  a list of teams advancing to the second round (need not be in order)
  round_three  a list of teams advancing to the third round (need not be in order)
  round_four  a list of teams advancing to the forth round (need not be in order)
  round_five  a list of teams advancing to the fifth round (need not be in order)
  round_six  a list of teams advancing to the fifth round (need not be in order)
  champion  the name of the overall champion team (there can be only one)

Value
a plot of a bracket for the teams, with results and titles as specified
event_parse

References

based on draw.bracket from the seemingly now defunct mRchmadness package by Eli Shayer and Saber Powers and used per the terms of that package’s GPL-2 license

Examples

```r
## Not run:
teams <- c("red", "orange", "yellow", "green", "blue", "indigo", "violet")
round_two <- c("red", "yellow", "blue", "indigo")
round_three <- c("red", "blue")
champion <- "red"
draw_bracket(teams = teams,
round_two = round_two,
round_three = round_three,
champion = champion)

## End(Not run)
```

---

**event_parse**

*Pulls out event labels from text*

Description

Locates event labels in text of results output from `read_results` and their associated row numbers. The resulting data frame is joined back into results to include event names.

Usage

```
event_parse(text)
```

Arguments

- `text` output from `read_results` followed by `add_row_numbers`

Value

returns a data frame with event names and row numbers to eventually be recombined with swimming results inside `swim_parse`

See Also

- `event_parse` is a helper function inside `swim_parse`
event_parse_ISL  
Pulls out event labels from text

Description
Locates event labels in text of 'ISL' results output from read_results and their associated row numbers. The resulting data frame is joined back into results to include event names.

Usage
```
event_parse_ISL(text)
```

Arguments
- `text` output from read_results followed by add_row_numbers

Value
returns a data frame with event names and row numbers to eventually be recombinde with swimming results inside swim_parse_ISL.

See Also
event_parse_ISL is a helper function inside swim_parse_ISL

fill_down  
Fills NA values with previous non-NA value

Description
This is a base approximation of tidyr::fill()

Usage
```
fill_down(x)
```

Arguments
- `x` a list having some number of non-NA values

Value
a list where NA values have been replaced with the closest previous non-NA value

See Also
fill_down is a helper function inside lines_sort
**fill_left**

*Shifts non-NA values to left in data frame*

**Description**
Moves non-NA data left into NA spaces, then removes all columns that contain only NA values

**Usage**

```r
fill_left(df)
```

**Arguments**

- `df`: a data frame having some ‘NA’ values

**Value**

A data frame where all values have been pushed left, replacing ‘NA’s, and all columns containing only ‘NA’s have been removed

**See Also**

`fill_left` is a helper function inside `lines_sort` and `splits_parse`

---

**fold**

*Fold a vector onto itself*

**Description**
Fold a vector onto itself

**Usage**

```r
fold(x, block.size = 1)
```

**Arguments**

- `x`: a vector
- `block.size`: the size of groups in which to block the data

**Value**

A new vector in the following order: first block, last block, second block, second-to-last block, ...

**References**

From the seemingly now defunct `mRchmadness` package by Eli Shayer and Saber Powers and used per the terms of that package’s GPL-2 license
format_results  \hspace{2em} \textit{Formats data for analysis within swim_parse}

\textbf{Description}

Takes the output of \texttt{read_results} and, inside of \texttt{swim_parse}, removes "special" strings like DQ and SCR from results, replacing them with NA. Also ensures that all athletes have a Finals_Time, by moving over Prelims_Time. This makes later analysis much easier.

\textbf{Usage}

\begin{verbatim}
format_results(df)
\end{verbatim}

\textbf{Arguments}

\begin{itemize}
  \item \texttt{df} \hspace{2em} a data frame of results at the end of \texttt{swim_parse}
\end{itemize}

\textbf{Value}

returns a formatted data frame

\textbf{See Also}

\begin{verbatim}
splits_parse runs inside \texttt{swim_parse} on the output of \texttt{read_results} with row numbers from \texttt{add_row_numbers}
\end{verbatim}

get_mode  \hspace{2em} \textit{Find the mode (most commonly occurring) element of a list}

\textbf{Description}

Determines which element of list appears most frequently. Based on \texttt{base::which.max()}, so if multiple values appear with the same frequency will return the first one. Ignores \texttt{NA} values. In the context of swimming data is often used to clean team names, as in the Lilly King example below.

\textbf{Usage}

\begin{verbatim}
get_mode(x, type = "first")
\end{verbatim}

\textbf{Arguments}

\begin{itemize}
  \item \texttt{x} \hspace{2em} A list. \texttt{NA} elements will be ignored.
  \item \texttt{type} \hspace{2em} a character string of either "first" or "all" which determines behavior for ties. Setting \texttt{type = "first"} (the default) will return the element that appears most often and appears first in list \texttt{x}. Setting \texttt{type = "all"} will return all elements that appear most frequently.
\end{itemize}
**Value**

the element of x which appears most frequently. Ties go to the lowest index, so the element which appears first.

**Examples**

```r
a <- c("a", "a", "b", "c")
get_mode(a)
ab <- c("a", "a", "b", "b", "c") # returns "a", not "b"
get_mode(ab)
# ab <- c("a", "a", "b", "b", "c") # returns "a" and "b"
get_mode(ab, type = "all")
a_na <- c("a", "a", NA, NA, "c")
get_mode(a_na)
numbs <- c(1, 1, 1, 2, 2, 2, 3, NA)
get_mode(numbs, type = "all")
Name <- c(rep("Lilly King", 5))
Team <- c(rep("IU", 2), "Indiana", "IUWSD", "Indiana University")
df <- data.frame(Name, Team, stringsAsFactors = FALSE)
df$Team <- get_mode(df$Team)
```

---

**heat_parse_omega**  
**Pulls out heat labels from text**

**Description**

Locates heat labels in text of results output from `read_results` and their associated row numbers. The resulting data frame is joined back into results to include heat numbers.

**Usage**

`heat_parse_omega(text)`

**Arguments**

- `text`  
  output from `read_results` followed by `add_row_numbers`

**Value**

returns a data frame with heat names and row numbers to eventually be recombined with swimming results inside `swim_parse_omega`

**See Also**

`heat_parse_omega` is a helper function inside `swim_parse_omega`
Description

Helper function used inside `swim_parse` for dealing with Hy-Tek .hy3 files. Can have more columns than other `swim_parse` outputs, because .hy3 files can contain more data.

Usage

```r
hy3_parse(
  file,
  avoid = avoid_minimal,
  typo = typo_default,
  replacement = replacement_default
)
```

Arguments

- **file**: output from `read_results`
- **avoid**: a list of strings. Rows in x containing these strings will not be included. For example "Pool:”, often used to label pool records, could be passed to avoid. The default is `avoid_default`, which contains many strings similar to "Pool:”, such as "STATE:" and "Qual:”. Users can supply their own lists to avoid.
- **typo**: a list of strings that are typos in the original results. `swim_parse` is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to typo. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using typo and replacement.
- **replacement**: a list of fixes for the strings in typo. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to replacement fix the issues described in typo.

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, & Event. May also contain Seed_Time, USA_ID, and/or Birthdate. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

- `parse_hy3` must be run on the output of `read_results`
- `parse_hy3` runs inside of `swim_parse`
\textit{hy3\_places} \hspace{1cm} \textit{Helper for reading prelims and finals places from Hy-Tek .hy3 files}

\textbf{Description}

Used to pull prelims and finals places from .hy3 files as part of parsing them.

\textbf{Usage}

\begin{verbatim}
hy3\_places(
    file,
    type = c("prelims", "relay\_prelims", "finals", "relay\_finals")
)
\end{verbatim}

\textbf{Arguments}

\begin{itemize}
  \item \texttt{file} \hspace{1cm} an output of read\_results, from an .hy3 file
  \item \texttt{type} \hspace{1cm} type of times, either "prelims", "relay\_prelims", "finals" or "relay\_finals"
\end{itemize}

\textbf{Value}

a data frame where column 1 is times and column 2 is row number

\textbf{See Also}

\texttt{hy3\_places} is run inside of \texttt{hy3\_parse}

\textit{hy3\_times} \hspace{1cm} \textit{Helper for reading prelims and finals times from Hy-Tek .hy3 files}

\textbf{Description}

Used to pull prelims and finals times from .hy3 files as part of parsing them.

\textbf{Usage}

\begin{verbatim}
hy3\_times(file, type = c("prelims", "relay\_prelims", "finals", "relay\_finals"))
\end{verbatim}

\textbf{Arguments}

\begin{itemize}
  \item \texttt{file} \hspace{1cm} an output of read\_results, from an .hy3 file
  \item \texttt{type} \hspace{1cm} type of times, either "prelims", "relay\_prelims", "finals" or "relay\_finals"
\end{itemize}

\textbf{Value}

a data frame where column 1 is times and column 2 is row number
interleave_results  
*Helper for reading interleaving prelims and finals results*

**Description**

Interleaves times or places based on row number ranges.

**Usage**

```r
interleave_results(entries, results, type = c("individual", "relay"))
```

**Arguments**

- `entries`: a data frame containing columns for minimum and maximum row number (usually `'Row_Min'` and `'Row_Max'`). Times or places will be interleaved into this data frame.
- `results`: a data frame containing times (or places) in column 1 (or other values to be interleaved) and row numbers in column 2 (usually `'Row_Numb'`).
- `type`: either "individual" or "relay"

**Value**

a modified version of `entries` with values from `results` interleaved on the basis of row number

**See Also**

`interleave_results` is a helper function used in `hy3_parse`

---

is_link_broken  
*Determines if a link is valid*

**Description**

Used in testing links to external data, specifically inside of internal package tests. Attempts to connect to link for the length of duration (in s). If it fails it returns FALSE

**Usage**

```r
is_link_broken(link_to_test, duration = 1)
```
Arguments

- **link_to_test**: a link
- **duration**: the lowest row number

Value

TRUE if the link works, FALSE if it fails

---

**King200Breast**

*Results for Lilly King’s 200 Breaststrokes*

Description

Lilly King’s 200 Breaststroke swims from her NCAA career

Usage

data(King200Breast)

Format

An object of class "data.frame"

Source

NCAA Times Database

---

**lines_sort**

*Sorts and collects lines by performance and row number*

Description

Collects all lines, (for example containing splits or relay swimmers) associated with a particular performance (a swim) into a data frame with the appropriate row number for that performance

Usage

lines_sort(x, min_row = minimum_row, to_wide = TRUE)

Arguments

- **x**: a list of character strings including performances, with row numbers added by `add_row_numbers`
- **min_row**: the lowest row number
- **to_wide**: should the data frame `x` be converted to wide format? Default is TRUE as used in Hytek and Omega results. Use FALSE in Splash results
Value

a data frame with Row_Numb as the first column. Other columns are performance elements, like splits or relay swimmers, both in order of occurrence left to right

See Also

lines_sort is a helper function inside splits_parse and swim_parse_ISL

---

list_transform  
*Transform list of lists into data frame*

Description

Converts list of lists, with all sub-lists having the same number of elements into a data frame where each sub-list is a row and each element a column

Usage

```r
list_transform(x)
```

Arguments

- `x`  
a list of lists, with all sub-lists having the same length

Value

a data frame where each sub-list is a row and each element of that sub-list is a column

See Also

list_transform is a helper function used inside of swim_parse, swim_parse_ISL, event_parse and event_parse_ISL

---

mmss_format  
*Formatting seconds as mm:ss.hh*

Description

Takes a numeric item or list of numeric items representing seconds (e.g. 95.37) and converts to a character string or list of strings in swimming format ("1:35.37").

Usage

```r
mmss_format(x)
```
**name_reorder**

**Arguments**

- **x**
  A number of seconds to be converted to swimming format

**Value**

the number of seconds x converted to conventional swimming format mm:ss.hh

**See Also**

sect_format mmss_format is the reverse of sec_format

**Examples**

```
mmss_format(95.37)
mmss_format(200.95)
mmss_format(59.47)
mmss_format(c(95.37, 200.95, 59.47, NA))
```

---

**name_reorder**

*Orders all names as "Firstname Lastname"*

**Description**

Names are sometimes listed as Firstname Lastname, and sometimes as Lastname, Firstname. The names_reorder function converts all names to Firstname Lastname based on comma position. The reverse, going to Lastname, Firstname is not possible because some athletes have multiple first names or multiple last names and without the comma to differentiate between the two a distinction cannot be made.

**Usage**

```
name_reorder(x, verbose = FALSE)
```

**Arguments**

- **x**
  a data frame output from swim_parse containing a column called Name with some names as Lastname, Firstname
- **verbose**
  defaults to FALSE. If set to TRUE and if x is a data frame then returned data frame will include columns First_Name and Last_Name extracted as best as possible from Name

**Value**

a data frame with a column Name_Reorder, or a list, containing strings reordered as Firstname Lastname in addition to all other columns in input df. Can also contain columns First_Name and Last_Name depending on value of verbose argument
Examples

```r
name_reorder(
data.frame(
  Name = c("King, Lilly",
          "Lilly King",
          NA,
          "Richards Ross, Sanya",
          "Phelps, Michael F"),
  verbose = TRUE
)
name_reorder(c("King, Lilly", "Lilly King", NA, "Richards Ross, Sanya"))
```

---

**na_pad**  
*Pads shorter lists in a list-of-lists with NAs such that all lists are the same length*

---

### Description

Adds NA values to the end of each list in a list of lists such that they all become the length of the longest list. The longest list will not have any NAs added to it.

### Usage

```r
na_pad(x, y)
```

### Arguments

- **x**  
a list of lists, with sub-lists having different lengths
- **y**  
a list of the number of NA values to append to each sub-list

### Value

a list of lists with each sub-list the same length

---

**reaction_times_parse**  
*Pulls out reaction times from text*

---

### Description

Locates reaction times in text of results output from `read_results` and their associated row numbers. The resulting data frame is joined back into results to include reaction times.

### Usage

```r
reaction_times_parse(text)
```
Read_Results

Arguments

text output from read_results followed by add_row_numbers

Value

returns a data frame with reaction times and row numbers to eventually be recombined with swimming results inside swim_parse

See Also

reaction_times_parse is a helper function inside swim_parse

Description

Outputs list of strings to be processed by swim_parse

Usage

Read_Results(file, node = "pre")
read_results(file, node = "pre")

Arguments

file a .pdf or .html file (could be a url) where containing swimming results. Must be formatted in a "normal" fashion - see vignette
node a CSS node where html results are stored. Required for html results. Default is "pre", which nearly always works.

Value

returns a list of strings containing the information from file. Should then be parsed with swim_parse

See Also

read_results is meant to be followed by swim_parse

Examples

# Not run: read_results("http://www.nyhsswim.com/Results/Boys/2008/NYS/Single.htm", node = "pre")
### read_results_flag

#### Description

Used to indicate that results have been read in with `read_results` prior to being parsed by `swim_parse`.

#### Usage

```r
read_results_flag(x)
```

#### Arguments

- `x`: A list of results, line by line.

#### Value

Returns list `x`, with "read_results_flag" added as the first element of the list.

### results_score

#### Description

Scores a swim meet. Used to add a Points column with point values for each place. Can either score "timed finals" type meets where any athlete can get any place, or "prelims-finals", type meets, where placing is restricted by prelim performance.

#### Usage

```r
results_score(
    results,
    events,
    meet_type = c("timed_finals", "prelims_finals"),
    lanes = c(4, 6, 8, 10),
    scoring_heats = c(1, 2, 3),
    point_values
)
```
Arguments

results: an output from `swim_parse`

events: list of events

meet_type: how to score based on `timed_finals`, where any place is possible, or `prelims_finals` where athletes are locked into heats for scoring purposes

lanes: number of lanes in the pool, for purposes of heat

scoring_heats: number of heats which score (if 1 only A final scores, if 2 A and B final score etc.)

point_values: a list of point values for each scoring place

Value

results with point values in a column called Points

Examples

```r
## Not run:
file <- system.file("extdata", "BigTen_WSWIM_2018.pdf", package = "SwimmeR")
BigTenRaw <- read_results(file)

BigTen <- swim_parse(  
  BigTenRaw,
  typo = c(  
    "^\s{1,}\*",
    "^\s{1,}(\d{1,2})\s{2,}",
    ",\s{1,}University\s{1,}of\s{1,}",
    "University\s{1,}of\s{1,}\",
    "\s{1,}University",
    "SR\s{2,}",
    "JR\s{2,}",
    "SO\s{2,}",
    "FR\s{2,}"  
  ),
  replacement = c(" ",
    " \\
    "
    "
    "
    "SR",
    "JR",
    "SO",
    "FR")
  ),
  avoid = c("B1G", "Pool")
)

BigTen <- BigTen %>%
  dplyr::filter(  
    stringr::str_detect(Event, "Time Trial") == FALSE,
    stringr::str_detect(Event, "Swim-off") == FALSE  
  ) %>%
  dplyr::mutate(Team = dplyr::case_when(Team == "Wisconsin, Madi" ~ "Wisconsin",
```
TRUE ~ Team))

# begin results_score portion
df <- BigTen %>%
  results_score(
    events = unique(BigTen$Event),
    meet_type = "prelims_finals",
    lanes = 8,
    scoring_heats = 3,
    point_values = c(32, 28, 26, 24, 22, 20, 18, 16, 14, 12, 11, 9, 7, 5, 3, 2, 1)
  )

## End(Not run)

---

**sec_format**

*Formatting mm:ss.tt times as seconds*

**Description**

Takes a character string (or list) representing time in swimming format (e.g. 1:35.93) and converts it to a numeric value (95.93) or a list of values representing seconds.

**Usage**

```r
sec_format(x)
```

**Arguments**

- `x` A character vector of time(s) in swimming format (e.g. 1:35.93) to be converted to seconds (95.93)

**Value**

returns the value of the string `x` which represents a time in swimming format (mm:ss.hh) and converts it to seconds

**See Also**

- `sec_format` is the reverse of `mmss_format`

**Examples**

```r
sec_format("1:35.93")
sec_format("16:45.19")
sec_format("25.43")
sec_format(c("1:35.93", "16:45.19", "25.43"))
sec_format(c("1:35.93", "16:45.19", NA, "25.43", ":55.23"))
```
sec_format_helper

Helper function for formatting mm:ss.hh times as seconds, used to enable vectorized operation of sec_format

Description

Helper function for formatting mm:ss.hh times as seconds, used to enable vectorized operation of sec_format

Usage

sec_format_helper(x)

Arguments

x
A character vector of time(s) in swimming format (e.g. 1:35.93) to be converted to seconds (95.93)

splash_collect_splits

Collects Splash format splits

Description

Collects splits and breaks them into a distance and a time, with a corresponding row number

Usage

splash_collect_splits(df)

Arguments

df
a data frame containing two columns, V1 is row numbers and Dummy as a string combining split distance and split time

Value

a data frame with three columns, V1, Split_Distance and Split
splits_parse

Collects splits within swim_parse

Description
Takes the output of read_results and, inside of swim_parse, extracts split times and associated row numbers

Usage
splits_parse(text, split_len = split_length)

Arguments
text output of read_results with row numbers appended by add_row_numbers
split_len length of pool at which splits are measured - usually 25 or 50

Value
returns a data frame with split times and row numbers

See Also
splits_parse runs inside swim_parse on the output of read_results with row numbers from add_row_numbers

splits_parse_ISL

Collects splits within swim_parse_ISL

Description
Takes the output of read_results and, inside of swim_parse_ISL, extracts split times and associated row numbers

Usage
splits_parse_ISL(text)

Arguments
text output of read_results with row numbers appended by add_row_numbers

Value
returns a data frame with split times and row numbers
splits_parse_omega_relays

**See Also**

splits_parse_ISL runs inside swim_parse_ISL on the output of read_results with row numbers from add_row_numbers

---

**splits_parse_omega_relays**

_Collects splits for relays within swim_parse_omega_

**Description**

Takes the output of read_results and, inside of swim_parse_omega, extracts split times and associated row numbers

**Usage**

splits_parse_omega_relays(text, split_len = split_length_omega)

**Arguments**

- **text**
  - output of read_results with row numbers appended by add_row_numbers
- **split_len**
  - length of pool at which splits are measured - usually 25 or 50

**Value**

returns a dataframe with split times and row numbers

**See Also**

splits_parse runs inside swim_parse_omega on the output of read_results with row numbers from add_row_numbers

---

**splits_parse_splash**

_Collects splits within swim_parse_splash for Splash results_

**Description**

Takes the output of read_results and, inside of swim_parse_splash, extracts split times and associated row numbers

**Usage**

splits_parse_splash(raw_results)

**Arguments**

- **raw_results**
  - output of read_results with row numbers appended by add_row_numbers
splits_parse_splash_helper_2

Value

returns a data frame with split times and row numbers

See Also

splits_parse runs inside swim_parse_splash on the output of read_results with row numbers from add_row_numbers

splits_parse_splash_helper_1

Description

Converts strings of splits and row numbers into data frames with a row number column (V1) and a splits column (Split_XX)

Usage

splits_parse_splash_helper_1(data)

Arguments

data a list of lists containing splits and row numbers

Value

returns a data frame with split times and row numbers

See Also

splits_parse_splash_helper_1 runs inside splits_parse_splash

splits_parse_splash_helper_2

Description

Converts strings of splits and row numbers into data frames with a row number column (V1) and a splits column (Split_XX)

Usage

splits_parse_splash_helper_2(data, split_distances, i)
splits_parse_splash_relays

Arguments

- data: a list of lists containing splits and row numbers
- split_distances: a list of distances for splits, e.g. "50m", "100m"
- i: a number between 1 and the length of split_distances

Value

returns a data frame with split times and row numbers

See Also

- splits_parse_splash_helper_2 runs inside splits_parse_splash

splits_parse_splash_relays

Collects splits for relays within swim_parse_splash

Description

Takes the output of read_results and, inside of swim_parse_splash, extracts split times and associated row numbers

Usage

splits_parse_splash_relays(text, split_len = split_length_splash)

Arguments

- text: output of read_results with row numbers appended by add_row_numbers
- split_len: length of pool at which splits are measured - usually 25 or 50

Value

returns a dataframe with split times and row numbers

See Also

- splits_parse runs inside swim_parse_splash on the output of read_results with row numbers from add_row_numbers
**splits_reform**  
Adds together splits and compares to listed finals time to see if they match.

**Description**

Used in testing the workings for `split_parse` inside `test-splits.R`. Note that even properly handled splits may not match the finals time due to issues in the source material. Sometimes splits aren’t fully recorded in the source. Some relays also will not match due to the convention of reporting splits by swimmer (see vignette for more details).

**Usage**

```r
splits_reform(df)
```

**Arguments**

- `df` a data frame output from `swim_parse` created with `splits = TRUE`

**Value**

a data frame with a column `not_matching` containing `TRUE` if the splits for that swim match the finals time and `FALSE` if they do not

**Author(s)**

Greg Pilgrim <gpilgrim2670@gmail.com>

---

**splits_rename_omega**  
Advances split names by one `split_length`

**Description**

Used to adjust names of splits inside `swim_parse_omega` to account for 50 split not being correctly captured

**Usage**

```r
splits_rename_omega(x, split_len = split_length_omega)
```

**Arguments**

- `x` a string to rename, from columns output by `splits_parse`
- `split_len` distance for each split
Converting splits from lap to cumulative format

Description
Cumulative splits are when each split is the total elapsed time at a given distance. For example, if an athlete swims the first 50 of a 200 yard race in 25.00 seconds (lap and cumulative split), and the second 50 (i.e. the 100 lap split) in 30.00 seconds the cumulative 100 split is 25.00 + 30.00 = 55.00. Some swimming results are reported with lap splits (preferred), but others use cumulative splits. This function converts lap splits to cumulative splits.

Usage
splits_to_cumulative(df, threshold = Inf)

Arguments
- df: a data frame containing results with splits in lap format. Must be formatted in a "normal" SwimmeR fashion - see vignette
- threshold: a numeric value above which a split is taken to be cumulative. Default is Inf

Value
a data frame with all splits in lap form

See Also
splits_to_cumulative is the reverse of splits_to_lap

Examples
## Not run:
df <- data.frame(Place = rep(1, 2),
Name = c("Lenore Lap", "Casey Cumulative"),
Team = rep("KVAC", 2),
Event = rep("Womens 200 Freestyle", 2),
Finals_Time = rep("1:58.00", 2),
Split_50 = rep("28.00", 2),
Split_100 = c("31.00", "59.00"),
Split_150 = c("30.00", "1:29.00"),
Split_200 = c("29.00", "1:58.00")
splits_to_cumulative_helper_recalc

Helper function for converting lap splits to cumulative splits

Description

Helper function for converting lap splits to cumulative splits

Usage

splits_to_cumulative_helper_recalc(
  df,
  i,
  split_cols = split_cols,
  threshold = threshold
)

Arguments

  df             a data frame containing splits in lap format
  i              list of values to iterate along
  split_cols    list of columns containing splits
  threshold      a numeric value below which a split is taken to be lap

Value

  a list of data frames with all splits in cumulative format for a particular event, each with a single split column converted to cumulative format
splits_to_lap

Converts splits from cumulative to lap format

Description
Cumulative splits are when each split is the total elapsed time at a given distance. For example, if an athlete swims the first 50 of a 200 yard race in 25.00 seconds (lap and cumulative split), and the second 50 (i.e. the 100 lap split) in 30.00 seconds the cumulative 100 split is 25.00 + 30.00 = 55.00. Some swimming results are reported with lap splits (preferred), but others use cumulative splits. This function converts cumulative splits to lap splits.

Usage
splits_to_lap(df, threshold = -Inf)

Arguments
df a data frame containing results with splits in cumulative format. Must be formatted in a "normal" SwimmeR fashion - see vignette
threshold a numeric value below which a split is taken to be cumulative. Default is -Inf

Value
a data frame with all splits in lap form

See Also
splits_to_lap is the reverse of splits_to_cumulative

Examples
## Not run:
df <- data.frame(Place = 1,
   Name = "Sally Swimfast",
   Team = "KVAC",
   Event = "Womens 200 Freestyle",
   Finals_Time = "1:58.00",
   Split_50 = "28.00",
   Split_100 = "59.00",
   Split_150 = "1:31.00",
   Split_200 = "1:58.00")

df %>%
splits_to_lap

df <- data.frame(Place = rep(1, 2),
   Name = c("Lenore Lap", "Casey Cumulative"),
   Team = rep("KVAC", 2),
   Event = rep("Womens 200 Freestyle", 2),
   Split_50 = c("28.00", "28.00"),
   Split_100 = c("59.00", "59.00"),
   Split_150 = c("1:31.00", "1:31.00"),
   Split_200 = c("1:58.00", "1:58.00")]
splits_to_lap_helper_recalc

Helper function for converting cumulative splits to lap splits

Description
Helper function for converting cumulative splits to lap splits

Usage
splits_to_lap_helper_recalc(
  df, 
  i, 
  split_cols = split_cols, 
  threshold = threshold
)

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>df</td>
<td>a data frame containing splits in cumulative format</td>
</tr>
<tr>
<td>i</td>
<td>list of values to iterate along</td>
</tr>
<tr>
<td>split_cols</td>
<td>list of columns containing splits</td>
</tr>
<tr>
<td>threshold</td>
<td>a numeric value above which a split is taken to be cumulative</td>
</tr>
</tbody>
</table>
SwimmeR-defunct

Value

a list of data frames with all splits in lap format for a particular event, each with a single split column converted to lap format

---

SwimmeR-defunct  Defunct functions in SwimmeR

Description

These functions have been made defunct (removed) from SwimmeR.

Details

- `course_convert_DF`: This function is defunct, and has been removed from SwimmeR. Instead please use `course_convert(verbose = TRUE)`

---

SwimmeR-deprecated  Deprecated functions in SwimmeR

Description

These functions still work but will be removed (defunct) in upcoming versions.

---

Swim_Parse  Formats swimming and diving data read with read_results into a data frame

Description

Takes the output of `read_results` and cleans it, yielding a data frame of swimming (and diving) results.

Usage

```r
Swim_Parse(
  file,
  avoid = NULL,
  typo = typo_default,
  replacement = replacement_default,
  format_results = TRUE,
  splits = FALSE,
  split_length = 50,
  relay_swimmers = FALSE
)```
swim_parse(
    file,
    avoid = NULL,
    typo = typo_default,
    replacement = replacement_default,
    format_results = TRUE,
    splits = FALSE,
    split_length = 50,
    relay_swimmers = FALSE
)

Arguments

file output from read_results
avoid a list of strings. Rows in file containing these strings will not be included. For example "Pool:“, often used to label pool records, could be passed to avoid. The default is avoid_default, which contains many strings similar to "Pool:“, such as "STATE:" and "Qual:“. Users can supply their own lists to avoid. avoid is handled before typo and replacement.
typo a list of strings that are typos in the original results. swim_parse is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to typo. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using typo and replacement.
replacement a list of fixes for the strings in typo. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to replacement fix the issues described in typo
format_results should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals_Time as definitive column)? Default is TRUE
splits either TRUE or the default, FALSE - should swim_parse attempt to include splits.
split_length either 25 or the default, 50, the length of pool at which splits are recorded. Not all results are internally consistent on this issue - some have races with splits by 50 and other races with splits by 25.
relay_swimmers either TRUE or the default, FALSE - should relay swimmers be reported. Relay swimmers are reported in separate columns named Relay_Swimmer_1 etc.

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, Points, Event & DQ. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

swim_parse must be run on the output of read_results
**Examples**

```r
# Not run:
swim_parse(read_results("http://www.nyhsswim.com/Results/Boys/2008/NYS/Single.htm", node = "pre"),
typo = c("-1NORTH ROCKL"), replacement = c("1-NORTH ROCKL"),
splits = TRUE,
relay_swimmers = TRUE)

# End(Not run)
```

```r
# Not run:
swim_parse(read_results("inst/extdata/Texas-Florida-Indiana.pdf"),
typo = c("Indiana University", ", University of"), replacement = c("Indiana University", ""),
splits = TRUE,
relay_swimmers = TRUE)

# End(Not run)
```

---

**swim_parse_hytek**  
*Formats Hytek style swimming and diving data read with read_results into a data frame*

**Description**

Takes the output of `read_results` and cleans it, yielding a data frame of swimming (and diving) results.

**Usage**

```r
swim_parse_hytek(
  file_hytek,
  avoid_hytek = avoid,
  typo_hytek = typo,
  replacement_hytek = replacement,
  format_results = TRUE,
  splits = FALSE,
  split_length_hytek = split_length,
  relay_swimmers_hytek = relay_swimmers
)
```

**Arguments**

- `file_hytek`: output from `read_results`
- `avoid_hytek`: a list of strings. Rows in `file_hytek` containing these strings will not be included. For example "Pool:", often used to label pool records, could be passed to `avoid_hytek`. The default is `avoid_default`, which contains many strings similar to "Pool:". Users can supply their own lists to `avoid_hytek`. `avoid_hytek` is handled before `typo_hytek` and `replacement_hytek`. 
swim_parse_ISL

typo_hytek  a list of strings that are typos in the original results. swim_parse is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to typo_hytek. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using typo_hytek and replacement_hytek

replacement_hytek  a list of fixes for the strings in typo_hytek. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to replacement_hytek to fix the issues described in typo_hytek

format_results  should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals_Time as definitive column)? Default is TRUE

splits  either TRUE or the default, FALSE - should swim_parse attempt to include splits.

split_length_hytek  either 25 or the default, 50, the length of pool at which splits are recorded. Not all results are internally consistent on this issue - some have races with splits by 50 and other races with splits by 25.

relay_swimmers_hytek  should names of relay swimmers be captured? Default is FALSE

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, Points, Event & DQ. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

swim_parse_hytek must be run on the output of read_results

swim_parse_ISL

Formats swimming results from the International Swim League ('ISL') read with read_results into a data frame

Description

Takes the output of read_results and cleans it, yielding a data frame of 'ISL' swimming results

Usage

swim_parse_ISL(file, splits = FALSE, relay_swimmers = FALSE)

Swim_Parse_ISL(file, splits = FALSE, relay_swimmers = FALSE)
Arguments

- **file**: output from `read_results`
- **splits**: should splits be included, default is `FALSE`
- **relay_swimmers**: should relay swimmers be included as separate columns, default is `FALSE`

Value

returns a data frame of ISL results

Author(s)

Greg Pilgrim <gpilgrim2670@gmail.com>

See Also

- `swim_parse_ISL` must be run on the output of `read_results`

Examples

```r
## Not run:
swim_parse_ISL(
  read_results(
  splits = TRUE,
  relay_swimmers = TRUE)
## End(Not run)
```

---

**swim_parse_old**  
Formats swimming and diving data read with `read_results` into a data frame

Description

Takes the output of `read_results` and cleans it, yielding a data frame of swimming (and diving) results. Old version, retired in dev build on Dec 21, 2020 and release version 0.7.0

Usage

```r
swim_parse_old(
  file,
  avoid = avoid_default,
  typo = typo_default,
  replacement = replacement_default,
  splits = FALSE,
  split_length = 50,
  relay_swimmers = FALSE
)
```
Arguments

file
output from \code{read_results}

avoid
a list of strings. Rows in file containing these strings will not be included. For example "Pool:“, often used to label pool records, could be passed to avoid. The default is \code{avoid_default}, which contains many strings similar to "Pool:“, such as "STATE:" and "Qual:“. Users can supply their own lists to avoid.

typo
a list of strings that are typos in the original results. \code{swim_parse_old} is particularly sensitive to accidental double spaces, so "Central High School“, with two spaces between "Central“ and "High“ is a problem, which can be fixed. Pass "Central High School“ to typo. Unexpected commas as also an issue, for example "Texas, University of“ should be fixed using typo and replacement

replacement
a list of fixes for the strings in typo. Here one could pass "Central High School" (one space between "Central“ and "High“) and "Texas“ to replacement fix the issues described in typo

splits
either \code{TRUE} or the default, \code{FALSE} - should \code{swim_parse_old} attempt to include splits.

split_length
either 25 or the default, 50, the length of pool at which splits are recorded. Not all results are internally consistent on this issue - some have races with splits by 50 and other races with splits by 25.

relay_swimmers
either \code{TRUE} or the default, \code{FALSE} - should relay swimmers be reported. Relay swimmers are reported in separate columns named Relay_Swimmer_1 etc.

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, Points, Event & DQ. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

\code{swim_parse_old} must be run on the output of \code{read_results}

Examples

## Not run:
\dontrun{  
\code{swim_parse_old(read_results("http://www.nyhsswim.com/Results/Boys/2008/NYS/Single.htm", node = "pre"),  
  typo = c("-NORTH ROCKL"), replacement = c("1-NORTH ROCL"),  
  splits = TRUE,  
  relay_swimmers = TRUE)}

## End(Not run)

## Not run:
\dontrun{  
\code{swim_parse_old(read_results("inst/extdata/Texas-Florida-Indiana.pdf"),  
  typo = c("Indiana University", ", University of"), replacement = c("Indiana University", ","),  
  splits = TRUE,  
  relay_swimmers = TRUE)}
swim_parse_omega

## End(Not run)

### swim_parse_omega

Formats Omega style swimming and diving data read with read_results into a data frame

#### Description

Takes the output of read_results and cleans it, yielding a data frame of swimming (and diving) results

#### Usage

```r
swim_parse_omega(
  file_omega,
  avoid_omega = avoid,
  typo_omega = typo,
  replacement_omega = replacement,
  format_results = TRUE,
  splits = FALSE,
  split_length_omega = split_length,
  relay_swimmers_omega = relay_swimmers
)
```

#### Arguments

- **file_omega** output from read_results
- **avoid_omega** a list of strings. Rows in file_omega containing these strings will not be included. For example "Pool: " often used to label pool records, could be passed to avoid_omega. The default is avoid_default, which contains many strings similar to "Pool: " such as "STATE: " and "Qual: ". Users can supply their own lists to avoid_omega. avoid_omega is handled before typo_omega and replacement_omega.
- **typo_omega** a list of strings that are typos in the original results. swim_parse is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to typo_omega. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using typo_omega and replacement_omega.
- **replacement_omega** a list of fixes for the strings in typo_omega. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to replacement_omega fix the issues described in typo_omega.
- **format_results** should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals_Time as definitive column)? Default is TRUE.
- **splits** either TRUE or the default, FALSE - should swim_parse attempt to include splits.
split_length_omega
    either 25 or the default, 50, the length of pool at which splits are recorded. Not all results are internally consistent on this issue - some have races with splits by 50 and other races with splits by 25.

relay_swimmers_omega
    should names of relay swimmers be captured? Default is FALSE

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, Points, Event & DQ. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

swim_parse_omega must be run on the output of read_results

Description

Takes the output of read_results of S.A.M.M.S. results and cleans it, yielding a dataframe of swimming (and diving) results

Usage

swim_parse_samms(
    file_samms,
    avoid_samms = avoid,
    typo_samms = typo,
    replacement_samms = replacement,
    format_samms = format_results
)

Arguments

file_samms          output from read_results of S.A.M.M.S. style results
avoid_samms         a list of strings. Rows in file containing these strings will not be included. For example "Pool:", often used to label pool records, could be passed to avoid. The default is avoid_default, which contains many strings similar to "Pool:", such as "STATE:" and "Qual:". Users can supply their own lists to avoid.
swim_parse_splash

### Argument Description

- `typo_samms`: a list of strings that are typos in the original results. `swim_parse` is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to `typo`. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using `typo` and replacement

- `replacement_samms`: a list of fixes for the strings in `typo`. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to `replacement` to fix the issues described in `typo`

- `format_samms`: should the data be formatted for analysis (special strings like "DQ" replaced with `NA`, `Finals_Time` as definitive column)? Default is `TRUE`

### Value

returns a data frame with columns `Name`, `Place`, `Age`, `Team`, `Prelims_Time`, `Finals_Time`, `Event` & `DQ`. Note all swims will have a `Finals_Time`, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

### See Also

`swim_parse` must be run on the output of `read_results`

---

### Description

Takes the output of `read_results` and cleans it, yielding a data frame of swimming (and diving) results

### Usage

```r
swim_parse_splash(
  file_splash,
  avoid_splash = avoid,
  typo_splash = typo,
  replacement_splash = replacement,
  format_results = TRUE,
  splits = FALSE,
  split_length_splash = split_length,
  relay_swimmers_splash = relay_swimmers
)
```
Arguments

file_splash: output from read_results
avoid_splash: a list of strings. Rows in file_splash containing these strings will not be included. For example "Pool:", often used to label pool records, could be passed to avoid_splash. The default is avoid_default, which contains many strings similar to "Pool:", such as "STATE:" and "Qual:". Users can supply their own lists to avoid_splash. avoid_splash is handled before typo_splash and replacement_splash.

typo_splash: a list of strings that are typos in the original results. swim_parse is particularly sensitive to accidental double spaces, so "Central High School", with two spaces between "Central" and "High" is a problem, which can be fixed. Pass "Central High School" to typo_splash. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using typo_splash and replacement_splash.

replacement_splash: a list of fixes for the strings in typo_splash. Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to replacement_splash to fix the issues described in typo_splash.

format_results: should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals_Time as definitive column)? Default is TRUE

splits: either TRUE or the default, FALSE - should swim_parse attempt to include splits.

split_length_splash: either 25 or the default, 50, the length of pool at which splits are recorded. Not all results are internally consistent on this issue - some have races with splits by 50 and other races with splits by 25.

relay_swimmers_splash: should names of relay swimmers be captured? Default is FALSE

Value

returns a data frame with columns Name, Place, Age, Team, Prelims_Time, Finals_Time, Points, Event & DQ. Note all swims will have a Finals_Time, even if that time was actually swam in the prelims (i.e. a swimmer did not qualify for finals). This is so that final results for an event can be generated from just one column.

See Also

swim_parse_splash must be run on the output of read_results

---

swim_place

*Adds places to swimming results*

**Description**

Places are awarded on the basis of time, with fastest (lowest) time winning. Ties are placed as ties (both athletes get 2nd etc.)
tie_rescore

Usage

swim_place(df, max_place)

Arguments

df a data frame with results from swim_parse, including only swimming results (not diving)
max_place highest place value that scores

Value

a data frame modified so that places have been appended based on swimming time

See Also

swim_place is a helper function used inside of results_score

tie_rescore Rescore to account for ties

Description

Rescoring to average point values for ties. Ties are placed as ties (both athletes get 2nd etc.)

Usage

tie_rescore(df, point_values, lanes)

Arguments

df a data frame with results from swim_parse, with places from swim_place and/or dive_place
point_values a named list of point values for each scoring place
lanes number of scoring lanes in the pool

Value

df modified so that places have been appended based on swimming time

See Also

tie_rescore is a helper function used inside of results_score
undo_interleave  
*Undoes interleaving of lists*

**Description**

If two lists have been interleaved this function will return the lists separated and then concatenated.

**Usage**

`undo_interleave(x)`

**Arguments**

- `x`  
a list to be un-interleaved

**Value**

a list comprising the interleaved components of `x` joined into one list

**Examples**

```
l <- c("A", "D", "B", "E", "C", "F")
undo_interleave(l)
```

%notin%

"Not in" function

**Description**

The opposite of `FALSE` otherwise.

**Usage**

```
x %notin% y
x %!in% y
```

**Arguments**

- `x`  
a value
- `y`  
a list of values

**Value**

a `TRUE` or `FALSE`
Examples

"a" %!in% c("a", "b", "c")
"a" %notin% c("b", "c")
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