

Package ‘SwimmeR’

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Title Data Import, Cleaning, and Conversions for Swimming Results

Version 0.14.2

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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Imports purrr, dplyr, stringr, utils, rvest, pdftools, magrittr, xml2, readr

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Contents

add_event_dummy_row	4
add_row_numbers	4
age_format	5
age_format_helper	6
clean_events	6
coalesce_many	7
coalesce_many_helper	7
collect_relay_swimmers	8
collect_relay_swimmers_old	8
collect_relay_swimmers_omega	9
collect_relay_swimmers_splash	10
correct_split_distance	10
correct_split_distance_helper	11
course_convert	12
course_convert_DF	13
course_convert_helper	14
discard_errors	15
dive_place	16
draw_bracket	17
event_parse	18
event_parse_ISL	19
fill_down	19
fill_left	20
fold	20
format_results	21
generate_row_to_add	21
get_mode	22
heat_parse_omega	23
hy3_parse	23
hy3_places	24
hy3_times	25
hytek_clean_strings	25
hytek_length_3_DQ_sort	26
hytek_length_3_sort	26
hytek_length_4_DQ_sort	27
hytek_length_4_sort	27
hytek_length_5_sort	28
hytek_length_6_sort	28
hytek_length_7_sort	29
hytek_length_8_sort	30
hytek_length_9_sort	30
interleave_results	31
is_link_broken	32
King200Breast	32
lines_sort	33
list_breaker	33

list_to_list_names	34
list_transform	34
make_lineup	35
make_lineup_helper	36
make_lineup_helper_2	37
mmss_format	38
name_reorder	39
na_pad	40
place	40
reaction_times_parse	42
read_htm	42
read_hy3	43
read_pdf	43
Read_Results	44
read_results_flag	45
replacement_entries	45
results_score	46
sec_format	47
sec_format_helper	48
splash_clean_strings	49
splash_collect_splits	50
splash_determine_indent_length	50
splash_length_10_sort	51
splash_length_11_sort	51
splash_length_12_sort	52
splash_length_4_sort	52
splash_length_5_sort	53
splash_length_6_sort	54
splash_length_7_sort	54
splash_length_8_sort	55
splash_length_9_sort	56
splits_parse	56
splits_parse_ISL	57
splits_parse_omega_relays	58
splits_parse_splash	58
splits_parse_splash_helper_1	59
splits_parse_splash_helper_2	59
splits_parse_splash_relays	60
splits_reform	61
splits_rename_omega	61
splits_to_cumulative	62
splits_to_cumulative_helper_recalc	63
splits_to_lap	64
splits_to_lap_helper_recalc	65
SwimmeR-defunct	66
SwimmeR-deprecated	66
Swim_Parse	66
swim_parse_hytek	68

swim_parse_ISL	69
swim_parse_old	70
swim_parse_omega	72
swim_parse_samms	73
swim_parse_splash	74
swim_place	75
tie_rescore	77
toptimes_parse_hytek	77
undo_interleave	78
update_rank_helper	79
%notin%	80

Index 81

add_event_dummy_row *Add dummy entry rows*

Description

If a team does not have a full compliment, defined by `max_entries`, of athletes in a given event then dummy rows containing blank entries need to be added to that event

Usage

```
add_event_dummy_row(x)
```

Arguments

`x` a list of data frames containing event results that need dummy entries added

Value

returns a list of data frames each with a dummy entry row added

add_row_numbers *Add row numbers to raw results*

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	<i>Formatting yyy-mm ages as years</i>
------------	--

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

```
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

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

age_format_helper	<i>Helper function for formatting yyy-mm ages as years, enables vectorization of age_format</i>
-------------------	---

Description

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

Usage

```
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)
---	---

clean_events	<i>Regularizes event names</i>
--------------	--------------------------------

Description

XXX

Usage

```
clean_events(x)
```

Arguments

x	a character vector of event names
---	-----------------------------------

Value

a character vector of event names with naming conventions enforced to regularize event names

coalesce_many	<i>Combined paired sets of columns following a join operation</i>
---------------	---

Description

Combined paired sets of columns following a join operation

Usage

```
coalesce_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

coalesce_many runs inside [swim_parse_splash](#)

coalesce_many_helper	<i>Combined paired sets of columns following a join operation</i>
----------------------	---

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`

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

Deprecated version associated with deprecated 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

```
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

```
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

```
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's, and all columns containing only 'NA's have been removed

See Also

correct_split_distance_helper is a helper function inside correct_split_distance

course_convert *Swimming Course Converter*

Description

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

Usage

```
course_convert(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 <ul style="list-style-type: none"> • 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.gomotionapp.com/en/articles/6457476-how-to-perform-course-conversion-factoring-of-times>

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.gomotionapp.com/en/articles/6457476-how-to-perform-course-conversion-factoring-of-times>

course_convert_helper *Swimming Course Converter Helper*

Description

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

Usage

```
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 <ul style="list-style-type: none"> • 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](#)

discard_errors	<i>Discards elements of list that have an error value from purrr::safely.</i>
----------------	---

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)
```

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	<i>Adds places to diving results</i>
------------	--------------------------------------

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,
  score_col = Finals,
  max_place = NULL,
  keep_nonscoring = TRUE,
  verbose = TRUE
)
```

Arguments

df	a data frame with results from swim_parse, including only diving results (not swimming)
score_col	the name of a column in df containing scores on which to place (order) performances
max_place	highest place value that scores #' @param score_col the name of a column in df containing scores on which to place (order) performances
keep_nonscoring	are athletes in places greater than max_place be retained in the data frame. Either TRUE or FALSE
verbose	should warning messages be posted. Default is TRUE and should rarely be changed.

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	<i>Creates a bracket for tournaments involving 5 to 64 teams, single elimination</i>
--------------	--

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 fourth 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

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

```
## 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	<i>Pulls out event labels from text</i>
-------------	---

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	<i>Pulls out event labels from text</i>
-----------------	---

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 recombined with swimming results inside `swim_parse_ISL`

See Also

`event_parse_ISL` is a helper function inside [swim_parse_ISL](#)

fill_down	<i>Fills NA values with previous non-NA value</i>
-----------	---

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`

<code>fill_left</code>	<i>Shifts non-NA values to left in data frame</i>
------------------------	---

Description

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

Usage

```
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`

<code>fold</code>	<i>Fold a vector onto itself</i>
-------------------	----------------------------------

Description

Fold a vector onto itself

Usage

```
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	<i>Formats data for analysis within swim_parse</i>
----------------	--

Description

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

Usage

```
format_results(df)
```

Arguments

`df` a data frame of results at the end of `swim_parse`

Value

returns a formatted data frame

See Also

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

generate_row_to_add	<i>Create a one-line data frame containing an entry to be appended to an in-progress data frame of all entries</i>
---------------------	--

Description

Create a one-line data frame containing an entry to be appended to an in-progress data frame of all entries

Usage

```
generate_row_to_add(df_helper_2, e_rank_helper_2, k, e_helper)
```

Arguments

`df_helper_2` a master data frame of athlete ranks by event

`e_rank_helper_2` a data frame of candidate athlete entries to add to a given event

`k` an integer denoting which element of `e_rank_helper` is under evaluation for addition. Should be 1, 2, 3 or 4 depending on the minimum number of entries

`e_helper` the event for which entries are being evaluated

Value

a one row data frame containing an improved entry

get_mode	<i>Find the mode (most commonly occurring) element of a list</i>
----------	--

Description

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

Usage

```
get_mode(x, type = "first")
```

Arguments

x	A list. NA elements will be ignored.
type	a character string of either "first" or "all" which determines behavior for ties. Setting type = "first" (the default) will return the element that appears most often and appears first in list x. Setting type = "all" will return all elements that appear most frequently.

Value

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

Examples

```
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	<i>Pulls out heat labels from text</i>
------------------	--

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 <code>read_results</code> followed by <code>add_row_numbers</code>
------	--

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](#)

hy3_parse	<i>Parses Hy-Tek .hy3 files</i>
-----------	---------------------------------

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

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

Arguments

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

Value

returns a data frame with columns Name, Place, Age, Team, Prelims, Finals, & Event. May also contain Seed_Time, USA_ID, and/or Birthdate. Note all swims will have a Finals, 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](#)

hy3_places

Helper for reading prelims and finals places from Hy-Tek .hy3 files

Description

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

Usage

```
hy3_places(
  file,
  type = c("prelims", "relay_prelims", "finals", "relay_finals")
)
```

Arguments

file	an output of <code>read_results</code> , from an .hy3 file
type	type of times, either "prelims", "relay_prelims", "finals" or "relay_finals"

Value

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

See Also

hy3_places is run inside of [hy3_parse](#)

hy3_times

Helper for reading prelims and finals times from Hy-Tek .hy3 files

Description

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

Usage

```
hy3_times(file, type = c("prelims", "relay_prelims", "finals", "relay_finals"))
```

Arguments

file an output of read_results, from an .hy3 file
type type of times, either "prelims", "relay_prelims", "finals" or "relay_finals"

Value

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

See Also

hy3_times is run inside of [hy3_parse](#)

hytek_clean_strings

Cleans input strings

Description

Cleans input from read_results is passed to hytek_swim_parse to remove unneeded characters and otherwise set it up for sorting. Input is in the form of character strings

Usage

```
hytek_clean_strings(x, time_score_string = Time_Score_String)
```

Arguments

x a list of character strings
time_score_string a regex string for matching results (times and scores) but not special strings like DQ

Value

returns a list of character strings that have been cleaned in preparation for parsing/sorting
#’ @seealso hytek_clean_strings runs inside of hytek_parse_splash

hytek_length_3_DQ_sort

Sort data in DQ lists of length 3 within hytek_swim_parse

Description

Sort data in DQ lists of length 3 within hytek_swim_parse

Usage

```
hytek_length_3_DQ_sort(x)
```

Arguments

x a list of lists containing DQ results with all sub-lists having length 3 strings

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_3_sort *Sort data in lists of length 3 within hytek_swim_parse*

Description

Sort data in lists of length 3 within hytek_swim_parse

Usage

```
hytek_length_3_sort(x)
```

Arguments

x a list of lists with all sub-lists having length 3 strings

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_4_DQ_sort

Sort data in DQ lists of length 4 within hytek_swim_parse

Description

Sort data in DQ lists of length 4 within hytek_swim_parse

Usage

hytek_length_4_DQ_sort(x)

Arguments

x a list of lists containing DQ results with all sub-lists having length 4 strings

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_4_sort *Sort data in lists of length 4 within hytek_swim_parse*

Description

Sort data in lists of length 4 within hytek_swim_parse

Usage

hytek_length_4_sort(x, time_score_specials_string = Time_Score_Specials_String)

Arguments

x a list of lists with all sub-lists having length 4 strings

time_score_specials_string

a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_5_sort *Sort data in lists of length 5 within hytek_swim_parse*

Description

Sort data in lists of length 5 within hytek_swim_parse

Usage

```
hytek_length_5_sort(
  x,
  name_string = Name_String,
  age_string = Age_String,
  para_string = Para_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x	a list of lists with all sub-lists having length 5 strings
name_string	a regex string for matching athlete names
age_string	a regex string for matching athlete ages
para_string	a regex string for matching Paralympics classification strings
time_score_specials_string	a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_6_sort *Sort data in lists of length 6 within hytek_swim_parse*

Description

Sort data in lists of length 6 within hytek_swim_parse

Usage

```
hytek_length_6_sort(
  x,
  name_string = Name_String,
  age_string = Age_String,
  para_string = Para_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x	a list of lists with all sub-lists having length 6 strings
name_string	a regex string for matching athlete names
age_string	a regex string for matching athlete ages
para_string	a regex string for matching Paralympics classification strings
time_score_specials_string	a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_7_sort *Sort data in lists of length 7 within hytek_swim_parse*

Description

Sort data in lists of length 7 within hytek_swim_parse

Usage

```
hytek_length_7_sort(
  x,
  brit_id_string = Brit_ID_String,
  para_string = Para_String,
  age_string = Age_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x	a list of lists with all sub-lists having length 7
brit_id_string	a regex string for matching British swimming IDs
para_string	a regex string for matching Paralympics classification strings
age_string	a regex string for matching athlete ages
time_score_specials_string	a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_8_sort *Sort data in lists of length 8 within hytek_swim_parse*

Description

Sort data in lists of length 8 within hytek_swim_parse

Usage

```
hytek_length_8_sort(
  x,
  brit_id_string = Brit_ID_String,
  para_string = Para_String,
  age_string = Age_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x a list of lists with all sub-lists having length 8
 brit_id_string a regex string for matching British swimming IDs
 para_string a regex string for matching Paralympics classification strings
 age_string a regex string for matching athlete ages
 time_score_specials_string
 a regex string for matching results - i.e. times, diving scores and 'specials' like
 DQ

Value

returns a formatted data frame to be combined with others to make the output of hytek_swim_parse

hytek_length_9_sort *Sort data in lists of length 9 within hytek_swim_parse*

Description

Sort data in lists of length 9 within hytek_swim_parse

Usage

```
hytek_length_9_sort(
  x,
  brit_id_string = Brit_ID_String,
  para_string = Para_String,
  age_string = Age_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x	a list of lists with all sub-lists having length 9
brit_id_string	a regex string for matching British swimming IDs
para_string	a regex string for matching Paralympics classification strings
age_string	a regex string for matching athlete ages
time_score_specials_string	a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of `hytek_swim_parse`

`interleave_results` *Helper for reading interleaving prelims and finals results*

Description

Interleaves times or places based on row number ranges.

Usage

```
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	<i>Determines if a link is valid</i>
----------------	--------------------------------------

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

```
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	<i>Results for Lilly King's 200 Breaststrokes</i>
---------------	---

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	<i>Sorts and collects lines by performance and row number</i>
------------	---

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 tow 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_breaker	<i>Breaks out lists of lists by sub-list length</i>
--------------	---

Description

XXXXXX

Usage

```
list_breaker(x, len)
```

Arguments

x	a list of lists, with at least some sub-lists having length len
len	an numeric value for the length of sub-lists that list_breaker should break out. Must be a whole number.

Value

returns a list of lists, with all sub-lists having length len

list_to_list_names *Initialize a named list of lists*

Description

Convert a single list to a list of lists, with the names of the lists taken from the original list, list_of_names. The new lists will all have a single value, initialized as value.

Usage

```
list_to_list_names(list_of_names, value = 0)
```

Arguments

list_of_names a list of values, likely strings, to be the names of sub-lists in a new list of lists
value a value to initialize elements of all sub-lists to. Defaults to 0. If value has multiple elements those elements will become sub-list elements

Value

returns a list of lists with sub-list names from list_of_names and first elements from value. Used inside determine_entries

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

```
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

make_lineup

Determine optimal entries against a given opponent lineup

Description

Determine optimal entries against a given opponent lineup

Usage

```
make_lineup(
  df,
  op_df,
  point_values,
  result_col,
  events = NULL,
  max_entries = NULL,
  max_ind_entries = NULL
)
```

Arguments

df	a data frame of times for the team to be entered. Must contain column Event with the same event naming convention as op_df, a column with name matching result_col containing times or diving scores, and a column called Name containing athlete names
op_df	a data frame containing the opponent lineup. Must contain column Event with the same event naming convention as df, a column with name matching result_col containing times or diving scores, and a column called Name containing athlete names
point_values	either a recognized string or a list of numeric values containing the points awarded by place. Recognized strings are "hs_four_lane", "hs_six_lane", "naaa_six_lane"
result_col	the name of a column, present in both df and op_df that contains times and/or diving scores
events	a list of events. If no list is entered then events will be taken from unique(op_df\$Event)
max_entries	the number of entries a team is permitted per race. usually half the number of lanes in the competition pool
max_ind_entries	the number of individual events a given athlete may enter

Value

a data frame of optimal entries based on df and op_df

make_lineup_helper *Determine optimal entries against a given opponent lineup*

Description

Matches athletes into events. Each event is filled by the least capable (slowest) swimmer who can win or place in that event. For example if Team A has six breaststrokes at 57.00, 58.00, 59.00 and three 1:00.00s and Team B has three breaststrokes, all 1:01.00 then Team A's entries will be the three 1:00.00s because they're sufficient to win.

Usage

```
make_lineup_helper(
  i,
  df_helper,
  op_df_helper,
  end_seq,
  max_ind_entries_helper = 2,
  result_col_helper = result_col
)
```

Arguments

i	a sequential list of numbers incremented by 1. Used to index function.
df_helper	a data frame of times for the team to be entered. Must contain column Event with the same event naming convention as op_df, a column with name matching result_col containing times or diving scores, and a column called Name containing athlete names
op_df_helper	a data frame containing the opponent lineup. Must contain column Event with the same event naming convention as df, a column with name matching result_col containing times or diving scores, and a column called Name containing athlete names
end_seq	how many events score
max_ind_entries_helper	a numeric value denoting the maximum number of individual events that may be entered by a single athlete
result_col_helper	name of column with results in it

Value

a data frame containing athletes entered into events

make_lineup_helper_2 *Assign overpowered entries*

Description

Matches athletes into events again, this time vs. the output of `make_lineup_helper`. For example if Team A has six breaststrokes at 57.00, 58.00, 59.00 and three 1:00.00s and Team B has three breaststrokes, all 1:01.00 then following `make_lineup_helper` Team A's entries will be the three 1:00.00s because they're sufficient to win.

Usage

```
make_lineup_helper_2(
    i,
    df_helper,
    in_progress_entries_df,
    events_competed_helper = Events_Competed,
    max_entries_helper = max_entries,
    max_ind_entries_helper = max_ind_entries
)
```

Arguments

`i` a sequential list of numbers incremented by 1. Used to index function.

`df_helper` a data frame of all times to be entered for a given team. Must contain column Event with the same event naming convention as `op_df`, a column with name matching `result_col` containing times or diving scores, and a column called Name containing athlete names

`in_progress_entries_df` a data frame containing the output of `make_lineup_helper`, which is the minimum power set of entries

`events_competed_helper` a list of lists containing all the events a given athlete is competing in. Sub-lists are named with the athlete name.

`max_entries_helper` a numeric value denoting the maximum number of athletes a team may enter in a given event

`max_ind_entries_helper` a numeric value denoting the maximum number of individual events that may be entered by a single athlete

Details

Here though Team A's three 1:00.00s will be replaced by their 57.00, 58.00 and 59.00 breaststrokes. These entries are "overpowered" but better reflect an actual set of entries. Not using `make_lineup_helper_2` often results in a team's best athletes not competing

Value

a data frame containing entries updated to be as powerful as possible

mmss_format	<i>Formatting seconds as mm:ss.hh</i>
-------------	---------------------------------------

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

```
mmss_format(x)
```

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

[sec_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	<i>Orders all names as "Firstname Lastname"</i>
--------------	---

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

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

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

```
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	<i>Pads shorter lists in a list-of-lists with NAs such that all lists are the same length</i>
--------	---

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

```
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

place	<i>Add places to results</i>
-------	------------------------------

Description

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

Usage

```
place(
  df,
  result_col = Finals,
  max_place = NULL,
  event_type = "ind",
  max_relays_per_team = 1,
  keep_nonscoring = TRUE,
  verbose = TRUE
)
```

Arguments

df	a data frame with results from swim_parse, including swimming and/or diving results. df must contain a column called Event
result_col	the name of a column in df containing times and/or scores on which to place (order) performances. Default is Finals
max_place	highest place value that scores
event_type	either "ind" for individual or "relay" for relays
max_relays_per_team	an integer value denoting the number of relays a team may score (usually 1)
keep_nonscoring	are athletes in places greater than max_place be retained in the data frame. Either TRUE or FALSE
verbose	should warning messages be posted. Default is TRUE and should rarely be changed.

Value

a data frame modified so that places have been appended based on swimming time and/or diving score

See Also

swim_place is a helper function used inside of results_score

Examples

```
df <- data.frame( Place = c(1, 1, 1, 1, 1, 1), Name = c("Sally Swimfast",
"Bonnie Bubbles", "Kylie Kicker", "Riley Ripit", "Nathan Nosplash", "Tim
Tuck"), Team = c("KVAC", "UBAM", "MERC", "Upstate Diving", "Nickel City
Splash", "Finger Lakes Diving"), Event = c(rep("Women 200 Freestyle", 3),
rep("Boys 1 mtr Diving", 3)), Prelims = c("2:00.00", "1:59.99", "2:01.50",
"300.00", "305.00", "200.00"), Finals = c("1:58.00", "1:59.50", "2:00.50",
"310.00", "307.00", "220.00"), Meet = c("Summer 2021", "Fall 2020", "Champs
2020", "Regional Champs 2021", "Other Regional Champs 2021", "City Champs
2021" ))

df %>%
  place() %>%
  dplyr::arrange(Event)

df %>%
  place(result_col = Prelims) %>%
  dplyr::arrange(Event)

df %>%
  place(result_col = "Prelims") %>%
  dplyr::arrange(Event)
```

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

```
reaction_times_parse(text)
```

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](#)

read_htm *Read in html files of swimming results*

Description

Read in html files of swimming results

Usage

```
read_htm(x, node_helper)
```

Arguments

x an .html, .htm or .aspx location containing swimming results. Must be formatted in a "normal" fashion - see vignette

node_helper receives node from `read_results`

Value

returns a list of results, with "read_results_flag" added as the first element of the list

read_hy3	<i>Read in hy3 files of swimming results</i>
----------	--

Description

Read in hy3 files of swimming results

Usage

read_hy3(x)

Arguments

x an unzipped hy3 file containing swimming results. Must be formatted in a "normal" fashion - see vignette

Value

returns a list of results, with "read_results_flag" added as the first element of the list

read_pdf	<i>Read in pdf files of swimming results</i>
----------	--

Description

Based on pdftools, this function can be temperamental

Usage

read_pdf(x)

Arguments

x a .pdf or .aspx location containing swimming results. Must be formatted in a "normal" fashion - see vignette

Value

returns a list of results, with "read_results_flag" added as the first element of the list

Read_Results	<i>Reads swimming and diving results into a list of strings in preparation for parsing with swim_parse</i>
--------------	--

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, url or Hytek .hy3 file 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:  
link <-  
  "http://www.nyhsswim.com/Results/Boys/2008/NYS/Single.htm", node = "pre"  
read_results(link)  
## End(Not run)
```

read_results_flag *used to indicate that results have been read in with read_results prior to being parsed by swim_parse*

Description

Used to insure that read_results has been run on a data source prior to running swim_parse

Usage

```
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

replacement_entries *Replaces superseded rows*

Description

Replaces superseded rows

Usage

```
replacement_entries(x, j_helper, row_to_add_replacement, e_df_replacement)
```

Arguments

x a data frame of entries, either df_helper_2 or Entries
j_helper an integer denoting which element of e_df_replacement is under test for removal. Should be 1, 2, 3 or 4 depending on the minimum number of entries
row_to_add_replacement a row containing an improved entry that should be added to x
e_df_replacement a data frame of entries that may be replaced

Value

a data frame containing entries updated to include new rows from row_to_add_replacement and to not contain rows from e_df_replacement, based on j_helper

results_score	<i>Scores a swim meet</i>
---------------	---------------------------

Description

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

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

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 to 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	Either a list of point values for each scoring place or one of the following recognized strings: "hs_four_lane", "hs_six_lane", "ncaa_six_lane", "championship_8_lane_2_heat" or "championship_8_lane_3_heat"
max_relays_per_team	the number of relays a team is allowed to score (usually 1)

Value

results with point values in a column called Points

Examples

```
## 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*",
    "\\s{1,}(\\d{1,2})\\s{2,}",
    "\\s{1,}University\\s{1,}of",
    "University\\s{1,}of\\s{1,}",
    "\\s{1,}University",
    "SR\\s{2,}",
    "JR\\s{2,}",
    "SO\\s{2,}",
    "FR\\s{2,}"
  ),
  replacement = c(" ",
    "\\1 ",
    "", "", "",
    "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, 27, 26, 25, 24, 23, 22, 20, 17, 16, 15, 14, 13, 12, 11, 9, 7,
      6, 5, 4, 3, 2, 1)
  )

## End(Not run)

```

Description

Takes a character string (or list) representing time in swimming format (e.g. 1:35.37) and converts it to a numeric value (95.37) or a list of values representing seconds.

Usage

```
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

```
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	<i>Helper function for formatting mm:ss.hh times as seconds, used to enable vectorized operation of sec_format</i>
-------------------	--

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_clean_strings *Cleans input strings*

Description

Cleans input from `read_results` is passed to `splash_swim_parse` to remove unneeded characters and otherwise set it up for sorting. Input is in the form of character strings

Usage

```
splash_clean_strings(
  x,
  indent_length = Indent_Length,
  time_score_string = Time_Score_String,
  record_string = Record_String,
  header_string = Header_String,
  sponsorship_string = Sponsorship_String,
  reaction_string = Reaction_String,
  rule_string = Rule_String
)
```

Arguments

<code>x</code>	a list of character strings
<code>indent_length</code>	a numeric value denoting the number of spaces some results are indented by. <code>indent_length</code> is determined by <code>splash_determine_indent_length</code> . Must be a whole number.
<code>time_score_string</code>	a regex string for matching results (times and scores) but not special strings like DQ
<code>record_string</code>	a regex string for matching denoted records, rather than results
<code>header_string</code>	a regex string from matching splash headers/footers included in result documents
<code>sponsorship_string</code>	a regex string for matching sponsorship text within result documents
<code>reaction_string</code>	a regex string for matching reaction times
<code>rule_string</code>	a regex string for matching rule text e.g. 'Rule 4.24' that sometimes accompanies DQs

Value

returns a list of character strings that have been cleaned in preparation for parsing/sorting
 #' @seealso `splash_clean_strings` runs inside of `swim_parse_splash`

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

splash_determine_indent_length

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

```
splash_determine_indent_length(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

splash_determine_indent_length runs inside of swim_parse_splash

splash_length_10_sort *Sort data in lists of length 10 within splash_swim_parse*

Description

Sort data in lists of length 10 within splash_swim_parse

Usage

```
splash_length_10_sort(  
  x,  
  time_score_string = Time_Score_String,  
  time_score_specials_string = Time_Score_Specials_String  
)
```

Arguments

x a list of lists with all sub-lists having length 10
time_score_string a regex string for matching results (times and scores) but not special strings like DQ
time_score_specials_string a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_11_sort *Sort data in lists of length 11 within splash_swim_parse*

Description

Sort data in lists of length 11 within splash_swim_parse

Usage

```
splash_length_11_sort(  
  x,  
  time_score_specials_string = Time_Score_Specials_String  
)
```

Arguments

x a list of lists with all sub-lists having length 11
time_score_specials_string
 a regex string for matching results - i.e. times, diving scores and 'specials' like
DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_12_sort *Sort data in lists of length 12 within splash_swim_parse*

Description

Sort data in lists of length 12 within splash_swim_parse

Usage

```
splash_length_12_sort(x)
```

Arguments

x a list of lists with all sub-lists having length 12

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_4_sort *Sort data in lists of length 4 within splash_swim_parse*

Description

Sort data in lists of length 4 within splash_swim_parse

Usage

```
splash_length_4_sort(  
  x,  
  name_string = Name_String,  
  time_score_specials_string = Time_Score_Specials_String  
)
```

Arguments

x a list of lists with all sub-lists having length 4

name_string a regex string for matching athlete names

time_score_specials_string
 a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_5_sort *Sort data in lists of length 5 within splash_swim_parse*

Description

Sort data in lists of length 5 within splash_swim_parse

Usage

```
splash_length_5_sort(
  x,
  name_string = Name_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x a list of lists with all sub-lists having length 5

name_string a regex string for matching athlete names

time_score_specials_string
 a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_6_sort *Sort data in lists of length 6 within spash_swim_parse*

Description

Sort data in lists of length 6 within spash_swim_parse

Usage

```
splash_length_6_sort(  
  x,  
  time_score_specials_string = Time_Score_Specials_String  
)
```

Arguments

x a list of lists with all sub-lists having length 6
time_score_specials_string
 a regex string for matching results - i.e. times, diving scores and 'specials' like
 DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_7_sort *Sort data in lists of length 7 within spash_swim_parse*

Description

Sort data in lists of length 7 within spash_swim_parse

Usage

```
splash_length_7_sort(  
  x,  
  time_score_string = Time_Score_String,  
  time_score_specials_string = Time_Score_Specials_String  
)
```

Arguments

x a list of lists with all sub-lists having length 7

time_score_string a regex string for matching results (times and scores) but not special strings like DQ

time_score_specials_string a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_8_sort *Sort data in lists of length 8 within splash_swim_parse*

Description

Sort data in lists of length 8 within splash_swim_parse

Usage

```
splash_length_8_sort(
  x,
  time_score_string = Time_Score_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x a list of lists with all sub-lists having length 8

time_score_string a regex string for matching results (times and scores) but not special strings like DQ

time_score_specials_string a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

splash_length_9_sort *Sort data in lists of length 9 within splash_swim_parse*

Description

Sort data in lists of length 9 within splash_swim_parse

Usage

```
splash_length_9_sort(
  x,
  heat_lane_string = Heat_Lane_String,
  time_score_string = Time_Score_String,
  time_score_specials_string = Time_Score_Specials_String
)
```

Arguments

x a list of lists with all sub-lists having length 9

heat_lane_string a regex string for matching heat-lane pairs

time_score_string a regex string for matching results (times and scores) but not special strings like DQ

time_score_specials_string a regex string for matching results - i.e. times, diving scores and 'specials' like DQ

Value

returns a formatted data frame to be combined with others to make the output of splash_swim_parse

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	<i>Collects splits within swim_parse_ISL</i>
------------------	--

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

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 data frame 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`

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

Produces data frames of splits within swim_parse_splash for Splash results

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

Produces data frames of splits within swim_parse_splash for Splash results

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)
```

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	<i>Adds together splits and compares to listed finals time to see if they match.</i>
---------------	--

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

```
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

splits_rename_omega	<i>Advances split names by one split_length</i>
---------------------	---

Description

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

Usage

```
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

Value

returns string iterated up by `split_length`

See Also

`splits_rename_omega` runs inside `swim_parse_omega` on the output of `splits_parse`

splits_to_cumulative *Converts 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 = 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")
                )

# since one entry is in lap time and the other is cumulative, need to
# set threshold value

# not setting threshold will produce bad results by attempting to convert
# Casey Cumulative's splits, which are already in cumulative
# format, into cumulative format again
```

```
df %>%
  splits_to_cumulative()

df %>%
  splits_to_cumulative(threshold = 20)

## End(Not run)
```

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),
```

```

    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")
  )

# since one entry is in lap time and the other is cumulative, need to
# set threshold value

# not setting threshold will produce bad results by attempting to convert
# Lenore Lap's splits, which are already in lap format, into lap format
# again

df %>%
  splits_to_lap()

df %>%
  splits_to_lap(threshold = 35)

## End(Not run)

```

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

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

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	<i>Defunct functions in SwimmeR</i>
-----------------	-------------------------------------

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	<i>Deprecated functions in SwimmeR</i>
--------------------	--

Description

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

Swim_Parse	<i>Formats swimming and diving data read with read_results into a data frame</i>
------------	--

Description

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

Usage

```
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 <code>read_results</code>
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</code> , which contains many strings similar to "Pool:", such as "STATE:" and "Qual:". Users can supply their own lists to avoid. avoid is handled before <code>typo</code> and <code>replacement</code> .
typo	a list of strings that are typos in the original results. <code>swim_parse</code> 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 <code>typo</code> . Unexpected commas as also an issue, for example "Texas, University of" should be fixed using <code>typo</code> and <code>replacement</code>
replacement	a list of fixes for the strings in <code>typo</code> . Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to <code>replacement</code> fix the issues described in <code>typo</code>
format_results	should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals as definitive column)? Default is TRUE
splits	either TRUE or the default, FALSE - should <code>swim_parse</code> 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 <code>Relay_Swimmer_1</code> etc.

Value

returns a data frame with columns Name, Place, Age, Team, Prelims, Finals, Points, Event & DQ. Note all swims will have a Finals, 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

```
## 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)
## 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	<i>Formats Hytek style swimming and diving data read with read_results into a data frame</i>
------------------	--

Description

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

Usage

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

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 fix the issues described in typo_hytek
format_results	should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals 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, Finals, Points, Event & DQ. Note all swims will have a Finals, 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	<i>Formats swimming results from the International Swim League ('ISL') read with read_results into a data frame</i>
----------------	---

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

```
## Not run:  
swim_parse_ISL(  
  read_results(  
    "https://isl.global/wp-content/uploads/2019/11/isl_college_park_results_day_2.pdf"),  
    splits = TRUE,  
    relay_swimmers = TRUE)  
  
## End(Not run)
```

swim_parse_old	<i>Formats swimming and diving data read with read_results into a data frame</i>
----------------	--

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

```
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 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.
typo	a list of strings that are typos in the original results. 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 TRUE or the default, FALSE - should 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 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_old must be run on the output of [read_results](#)

Examples

```
## Not run:
swim_parse_old(
  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)
## Not run:
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)
```

```
## 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

```
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

<code>file_omega</code>	output from <code>read_results</code>
<code>avoid_omega</code>	a list of strings. Rows in <code>file_omega</code> containing these strings will not be included. For example "Pool:", often used to label pool records, could be passed to <code>avoid_omega</code> . The default is <code>avoid_default</code> , which contains many strings similar to "Pool:", such as "STATE:" and "Qual:". Users can supply their own lists to <code>avoid_omega</code> . <code>avoid_omega</code> is handled before <code>typo_omega</code> and <code>replacement_omega</code> .
<code>typo_omega</code>	a list of strings that are typos in the original results. <code>swim_parse</code> 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 <code>typo_omega</code> . Unexpected commas as also an issue, for example "Texas, University of" should be fixed using <code>typo_omega</code> and <code>replacement_omega</code>
<code>replacement_omega</code>	a list of fixes for the strings in <code>typo_omega</code> . Here one could pass "Central High School" (one space between "Central" and "High") and "Texas" to <code>replacement_omega</code> fix the issues described in <code>typo_omega</code>
<code>format_results</code>	should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals as definitive column)? Default is TRUE
<code>splits</code>	either TRUE or the default, FALSE - should <code>swim_parse</code> 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, Finals, Points, Event & DQ. Note all swims will have a Finals, 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](#)

swim_parse_samms	<i>Formats swimming and diving data read with read_results into a dataframe</i>
------------------	---

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.

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 fix the issues described in typo
format_samms	should the data be formatted for analysis (special strings like "DQ" replaced with NA, Finals as definitive column)? Default is TRUE

Value

returns a data frame with columns Name, Place, Age, Team, Prelims, Finals, Event & DQ. Note all swims will have a Finals, 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](#)

swim_parse_splash	<i>Formats Splash style swimming and diving data read with read_results into a data frame</i>
-------------------	---

Description

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

Usage

```
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 fix the issues described in typo_splash
format_results	should the results be formatted for analysis (special strings like "DQ" replaced with NA, Finals 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, Finals, Points, Event & DQ. Note all swims will have a Finals, 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

Add 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.)

Usage

```
swim_place(
  df,
  time_col = Finals,
  max_place = NULL,
  event_type = "ind",
  max_relays_per_team = 1,
  keep_nonscoring = TRUE,
  verbose = TRUE
)
```

Arguments

df	a data frame with results from swim_parse, including only swimming results (not diving)
time_col	the name of a column in df containing times on which to place (order) performances. Default is Finals
max_place	highest place value that scores
event_type	either "ind" for individual or "relay" for relays
max_relays_per_team	an integer value denoting the number of relays a team may score (usually 1)
keep_nonscoring	are athletes in places greater than max_place be retained in the data frame. Either TRUE or FALSE
verbose	should warning messages be posted. Default is TRUE and should rarely be changed.

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

Examples

```
df <- data.frame(Place = c(1, 1, 1),
  Name = c("Sally Swimfast", "Bonnie Bubbles", "Kylie Kicker"),
  Team = c("KVAC", "UBAM", "MERC"),
  Event = rep("Women 200 Freestyle", 3),
  Prelims = c("2:00.00", "1:59.99", "2:01.50"),
  Finals = c("1:58.00", "1:59.50", "2:00.50"),
  Meet = c("Summer 2021", "Fall 2020", "Champs 2020"))

df %>%
  swim_place()
```

```
df %>%
  swim_place(time_col = Prelims)

df %>%
  swim_place(time_col = "Prelims")
```

tie_rescore	<i>Rescore to account for ties</i>
-------------	------------------------------------

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

toptimes_parse_hytek	<i>Formats Hytek style swimming and diving Top Times reports read with read_results into a data frame</i>
----------------------	---

Description

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

Usage

```

toptimes_parse_hytek(
  file_hytek_toptimes,
  avoid_hytek_toptimes = avoid,
  typo_hytek_toptimes = typo,
  replacement_hytek_toptimes = replacement
)

```

Arguments

`file_hytek_toptimes`
output from `read_results`

`avoid_hytek_toptimes`
a list of strings. Rows in `file_hytek_toptimes` containing these strings will not be included. For example "Pool:", often used to label pool records, could be passed to `avoid_hytek_toptimes`. 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_hytek_toptimes`. `avoid_hytek_toptimes` is handled before `typo_hytek_toptimes` and `replacement_hytek_toptimes`.

`typo_hytek_toptimes`
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_toptimes`. Unexpected commas as also an issue, for example "Texas, University of" should be fixed using `typo_hytek_toptimes` and `replacement_hytek_toptimes`

`replacement_hytek_toptimes`
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_toptimes` fix the issues described in `typo_hytek_toptimes`

Value

returns a data frame with columns Rank, Result, Name, Age, Date Meet & Event. Top Times reports do not designate Team.

See Also

`toptimes_parse_hytek` must be run on the output of [read_results](#)

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)
```

update_rank_helper	<i>Create a one-line data frame containing an entry to be appended to an in-progress data frame of all entries</i>
--------------------	--

Description

Create a one-line data frame containing an entry to be appended to an in-progress data frame of all entries

Usage

```
update_rank_helper(
  rank_helper_2,
  e_rank_helper_2,
  k,
  e_helper,
  events_remaining_helper
)
```

Arguments

rank_helper_2 a master data frame of athlete ranks by event

e_rank_helper_2 a data frame of candidate athlete entries to add to a given event

k an integer denoting which element of e_rank_helper is under evaluation for addition. Should be 1, 2, 3 or 4 depending on the minimum number of entries

e_helper the event for which entries are being evaluated

events_remaining_helper a data frame with two columns, Name and Events_Remaining

Value

a one row data frame containing an improved entry

<code>%notin%</code>	<i>"Not in" function</i>
----------------------	--------------------------

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")
```

Index

* datasets

King200Breast, 32
%!in% (%notin%), 80
%notin%, 80

add_event_dummy_row, 4
add_row_numbers, 4, 21, 57–60
age_format, 5
age_format_helper, 5, 6

clean_events, 6
coalesce_many, 7, 7, 8
coalesce_many_helper, 7
collect_relay_swimmers, 8
collect_relay_swimmers_old, 8
collect_relay_swimmers_omega, 9
collect_relay_swimmers_splash, 10
correct_split_distance, 10
correct_split_distance_helper, 11
correct_split_length
 (correct_split_distance), 10
course_convert, 12, 15
course_convert_DF, 13, 66
course_convert_df (course_convert_DF),
 13
course_convert_helper, 14

discard_errors, 15
dive_place, 16
draw_bracket, 17

event_parse, 18
event_parse_ISL, 19

fill_down, 19
fill_left, 20
fold, 20
format_results, 21

generate_row_to_add, 21
get_mode, 22

heat_parse_omega, 23
hy3_parse, 23, 25, 31
hy3_places, 24
hy3_times, 25
hytek_clean_strings, 25
hytek_length_3_DQ_sort, 26
hytek_length_3_sort, 26
hytek_length_4_DQ_sort, 27
hytek_length_4_sort, 27
hytek_length_5_sort, 28
hytek_length_6_sort, 28
hytek_length_7_sort, 29
hytek_length_8_sort, 30
hytek_length_9_sort, 30

interleave_results, 31
is_link_broken, 32

King200Breast, 32

lines_sort, 33
list_breaker, 33
list_to_list_names, 34
list_transform, 34

make_lineup, 35
make_lineup_helper, 36
make_lineup_helper_2, 37
mmss_format, 38, 48

na_pad, 40
name_reorder, 39

place, 40

reaction_times_parse, 42
read_htm, 42
read_hy3, 43
read_pdf, 43
Read_Results, 44

- read_results, [21](#), [24](#), [57–60](#), [67](#), [69–71](#),
[73–75](#), [78](#)
- read_results (Read_Results), [44](#)
- read_results_flag, [45](#)
- replacement_entries, [45](#)
- results_score, [46](#)

- sec_format, [38](#), [47](#)
- sec_format_helper, [48](#)
- splash_clean_strings, [49](#)
- splash_collect_splits, [50](#)
- splash_determine_indent_length, [50](#)
- splash_length_10_sort, [51](#)
- splash_length_11_sort, [51](#)
- splash_length_12_sort, [52](#)
- splash_length_4_sort, [52](#)
- splash_length_5_sort, [53](#)
- splash_length_6_sort, [54](#)
- splash_length_7_sort, [54](#)
- splash_length_8_sort, [55](#)
- splash_length_9_sort, [56](#)
- splits_parse, [56](#), [61](#)
- splits_parse_ISL, [57](#)
- splits_parse_omega_relays, [58](#)
- splits_parse_splash, [58](#), [59](#), [60](#)
- splits_parse_splash_helper_1, [59](#)
- splits_parse_splash_helper_2, [59](#)
- splits_parse_splash_relays, [60](#)
- splits_reform, [61](#)
- splits_rename_omega, [61](#)
- splits_to_cumulative, [62](#), [64](#)
- splits_to_cumulative_helper_recalc, [63](#)
- splits_to_lap, [62](#), [64](#)
- splits_to_lap_helper_recalc, [65](#)
- Swim_Parse, [66](#)
- swim_parse, [5](#), [18](#), [21](#), [24](#), [42](#), [44](#), [57](#)
- swim_parse (Swim_Parse), [66](#)
- swim_parse_hytek, [68](#)
- Swim_Parse_ISL (swim_parse_ISL), [69](#)
- swim_parse_ISL, [19](#), [57](#), [69](#)
- swim_parse_old, [70](#)
- swim_parse_omega, [23](#), [58](#), [61](#), [72](#)
- swim_parse_samms, [73](#)
- swim_parse_splash, [7](#), [59](#), [60](#), [74](#)
- swim_place, [75](#)
- Swimmer-defunct, [66](#)
- Swimmer-deprecated, [66](#)

- tie_rescore, [77](#)

- toptimes_parse_hytek, [77](#)
- undo_interleave, [78](#)
- update_rank_helper, [79](#)