Package 'TouRnament'

October 5, 2019

Type Package

Title Tools for Sports Competitions

Version 0.2.5

Description Contains two functions related to sports competitions. One to create league tables and one to create a match schedule.

BugReports https://github.com/captaincaracho/TouRnament/issues

Suggests engsoccerdata

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 6.1.0

NeedsCompilation no

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R topics documented:

`leaguetable` *Create a league table*

Description

Create a table for sports (soccer) leagues by individually defined criteria from a results dataset.

Usage

```
leaguetable(dataset, home, away, score_home, score_away, date, date_start,
  date_end, matchday, matchday_start, matchday_end, points = c(3, 1, 0),
  rank_by = c("GD", "GF"), HA_display = FALSE, DC_display = FALSE)
```

Arguments

`dataset`	A dataset with the results.
`home`	Name of the home team variable in the dataset as a character string.
`away`	Name of the away team variable in the dataset as a character string.
`score_home`	Name of the home team goals variable in the dataset as a character string.
`score_away`	Name of the away team goals variable in the dataset as a character string.
`date`	Name of the date variable in the dataset as a character string (optional).
`date_start`	Earliest date to include if not the earliest date in the dataset as a character string in the format "YY-mm-dd" (optional).
`date_end`	Last date to include if not the last date in the dataset as character string in the format "YY-mm-dd" (optional).
`matchday`	Name of the matchday variable in the dataset as a character string (optional).
`matchday_start`	Earliest matchday to include if not the earliest in the dataset as an integer (optional).
`matchday_end`	Last matchday to include if not the last in the dataset as an integer (optional).
`points`	Vector of integers of length three containing the points awarded for wins, draws and losses. Defaults to c(3,1,0).
`rank_by`	Character vector with the order of arguments to sort the league table following "Pts". Defaults to c("GD","GF").
`HA_display`	Logical value to indicate whether home and away results should be displayed in the table. Defaults to FALSE.
`DC_display`	Logical value to indicate whether direct comparison variables from ranking vector should be displayed in the table. Defaults to FALSE.

Details

Mandatory input is a dataset with match results and the names of the variables for home and away team and their respective scored goals.

List of abbreviations:

- A = Away (used only as appendix "_A"),
- D = (Matches) Drawn,
- DC = Direct comparison (used only as appendix "_DC"),
- GA = Goals against,
- GD = Goal difference,
- GF = Goals for,
- H = Home (used only as appendix "_H"),
- L = (Matches) Lost,
- P = (Matches) Played,
- Pos = Position,
- Pts = Points,
- W = (Matches) Won.

Possible ranking criteria are:

- D = (Matches) Drawn,
- GA = Goals against,
- GD = Goal difference,
- GF = Goals for,
- L = (Matches) Lost,
- P = (Matches) Played,
- Pts = Points (Automatically set as most important ranking criterium, doesn't need to be set),
- W = (Matches) Won

as well as any of the above with the appendix "_DC", for example Pts_DC or GD_DC, which will applied as ranking criteria for teams with an equal number of points (Pts).

Please be aware that ranking for all criteria is done with descending order. So GA or L can technically be used for ranking, but will result in nonsensical results.

Further optional parameters are the point rewards for wins, draws and losses,the display of additional columns with separate home and away tables and the dates and matchdays to be used for calculation.

If a date range and a matchday range are set, the subset of matches that fit both selection criteria will be used for calculation.

Value

League table in the form of a data.frame.

Examples

```
#league table for La Liga 94/95 with three point rewards (instead of two) and home and away results
require(engsoccerdata)
leaguetable(dataset=engsoccerdata::spain[which(engsoccerdata::spain$Season==1994),],
home="home", away="visitor",score_home="hgoal", score_away="vgoal", date="Date",
points = c(3,1,0), rank_by = c("Pts_DC","GD_DC","GF_DC","GD","GF"), DC_display = TRUE)
```

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roundrobin *Create a match schedule*

Description

Create a match schedule according to the DFB's (German Soccer Association) 'harmonischer Schlüssel-Plan 1-L' which is used as a blueprint for german football leagues.

Usage

```
roundrobin(teamvector, second_round = TRUE, match_free = TRUE,
  randomize = TRUE, seed)
```

Arguments

teamvector	A character vector of teams.
second_round	A logical value, indicating whether a second round with changed home and away team should be planned. Defaults to TRUE.
match_free	A logical value, indicating whether match free teams should be deleted from the schedule. Defaults to TRUE.
randomize	A logical value, indicating whether the team vector should be ordered randomly. Defaults to TRUE.
seed	A user defined integer to replicate the randomization process if randomize = TRUE.

Details

The applicability is currently restricted to a minimum of five teams.

Value

A data frame containing a match schedule including variables for matchday, home and away team.

References

https://portal.dfbnet.org/fileadmin/content/downloads/faq/211111_SZ_DFBnet_extern_mit_Gegenueberstellung4.pdf

Examples

```
require("engsoccerdata")
#get german Bundesliga teams from 1986
germany_1986 <- unique(engsoccerdata::germany[engsoccerdata::germany$Season==1986,"home"])
#replicable schedule
roundrobin(teamvector=germany_1986,second_round=TRUE,match_free=TRUE,randomize=TRUE,seed=1234)
#non replicable schedule
roundrobin(teamvector=germany_1986,second_round=TRUE,match_free=TRUE,randomize=TRUE)
```

TouRnament *TouRnament Package*

Description

Tools for Sports Competitions

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