Package ‘TouRnament’

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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.

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Suggests engsoccerdata
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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 criterion, 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.
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

**TouRnament**

**Examples**

```r
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)
```

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**Description**

Tools for Sports Competitions

**Author(s)**

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