

# Package: ffsimulator (via r-universe)

September 5, 2024

**Title** Simulate Fantasy Football Seasons

**Version** 1.2.3.01

**Description** Uses bootstrap resampling to run fantasy football season simulations supported by historical rankings and 'nffastR' data, calculating optimal lineups, and returning aggregated results.

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**URL** <https://ffsimulator.ffverse.com>,  
<https://github.com/ffverse/ffsimulator>

**BugReports** <https://github.com/ffverse/ffsimulator/issues>

**Depends** R (>= 3.5.0)

**Imports** checkmate (>= 2.0.0), cli (>= 3.0.0), data.table (>= 1.14.0),  
ffscrapr (>= 1.4.6), glue (>= 1.3.0), magrittr (>= 1.0.0),  
nflreadr (>= 1.2.0), Rglpk (>= 0.6.0), rlang (>= 0.4.0)

**Suggests** ggplot2 (>= 3.4.0), ggridges (>= 0.5.4), scales (>= 1.0.0),  
progressr (>= 0.8.0), knitr (>= 1.0.0), rmarkdown (>= 2.6),  
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**Repository** <https://ffverse.r-universe.dev>

**RemoteUrl** <https://github.com/ffverse/ffsimulator>

**RemoteRef** main

**RemoteSha** 838897a9a6befe3990747aecba0e051a172b8961

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---

autoplot.ff\_simulation

*Automatically Plot ff\_simulation Object*

---

## Description

Creates automatic plots for wins, ranks, or points for an ff\_simulation object as created by ff\_simulate().

**Usage**

```
autoplot.ff_simulation(object, type = c("wins", "rank", "points"), ...)
```

```
## S3 method for class 'ff_simulation'
plot(x, ..., type = c("wins", "rank", "points"), y)
```

**Arguments**

object	a ff_simulation object as created by ff_simulate()
type	one of "wins", "rank", "points"
...	unused, required by autoplot generic
x	A ff_simulation object.
y	Ignored, required for compatibility with the plot() generic.

**Details**

Usage of this function/method requires the ggplot2 package and (for wins and points plots) the ggrridges package.

**Value**

a ggplot object

**See Also**

vignette("basic") for example usage

**Examples**

```
simulation <- .ffs_cache("foureight_sim.rds")

ggplot2::autoplot(simulation) # default is type = "wins"
ggplot2::autoplot(simulation, type = "rank")
ggplot2::autoplot(simulation, type = "points")
```

---

```
autoplot.ff_simulation_week
```

*Automatically Plot ff\_simulation Object*

---

**Description**

Creates automatic plots for wins, ranks, or points for an ff\_simulation object as created by ff\_simulate().

**Usage**

```
autoplot.ff_simulation_week(object, type = c("luck", "points"), ...)

## S3 method for class 'ff_simulation_week'
plot(x, ..., type = c("luck", "points"), y)
```

**Arguments**

object	a ff_simulation object as created by ff_simulate()
type	one of "luck" or "points"
...	unused, required by autoplot generic
x	A ff_simulation_week object.
y	Ignored, required for compatibility with the plot() generic.

**Details**

Usage of this function/method requires the ggplot2 package and (for wins and points plots) the ggridges package.

**Value**

a ggplot object

**See Also**

vignette("basic") for example usage

**Examples**

```
simulation <- .ffs_cache("foureight_sim_week.rds")

ggplot2::autoplot(simulation) # default is type = "luck"
ggplot2::autoplot(simulation, type = "points")
```

---

 espn\_connect

---

*Connect to a league*


---

**Description**

See ffscraper::espn\_connect() for details.

**Value**

a connection object to be used with ff\_\* functions

**See Also**

Other ffsrapr-imports: [ff\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [ff\\_starter\\_positions\(\)](#), [fleaflutter\\_connect\(\)](#), [mfl\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

ffs\_add\_replacement\_level

*Add replacement level players to each roster*

---

**Description**

Add replacement level players to each roster

**Usage**

```
ffs_add_replacement_level(
  rosters,
  latest_rankings,
  franchises,
  lineup_constraints,
  pos_filter = c("QB", "RB", "WR", "TE")
)
```

**Arguments**

rosters	a dataframe of rosters as created by ffs_rosters()
latest_rankings	a dataframe of latest rankings as created by ff_latest_rankings()
franchises	a dataframe of franchises as created by ffs_franchises()
lineup_constraints	a dataframe of lineup constraints as created by ffs_starter_positions
pos_filter	a character vector of positions to filter to, defaults to c("QB", "RB", "WR", "TE", "K")

**Value**

a dataframe of rosters with replacements

---

ffs_adp_outcomes	<i>Connects ff_scoringhistory to past ADP rankings</i>
------------------	--

---

### Description

The backbone of the ffsimulator resampling process is coming up with a population of weekly outcomes for every preseason positional rank. This function creates that dataframe by connecting historical FantasyPros.com rankings to nflfastR-based scoring data, as created by `ffscraper::ff_scoringhistory()`.

### Usage

```
ffs_adp_outcomes(
  scoring_history,
  gp_model = "simple",
  pos_filter = c("QB", "RB", "WR", "TE")
)
```

### Arguments

<code>scoring_history</code>	a scoring history table as created by <code>ffscraper::ff_scoringhistory()</code>
<code>gp_model</code>	either "simple" or "none" - simple uses the average games played per season for each position/adp combination, none assumes every game is played.
<code>pos_filter</code>	a character vector: filter the positions returned to these specific positions, default: <code>c("QB", "RB", "WR", "TE")</code>

### Value

a dataframe with position, rank, probability of games played, and a corresponding nested list per row of all week score outcomes.

### See Also

`fp_rankings_history` for the included historical rankings  
`fp_injury_table` for the historical injury table  
`vignette("custom")` for usage details.

### Examples

```
# cached data
scoring_history <- .ffs_cache("mfl_scoring_history.rds")

ffs_adp_outcomes(scoring_history, gp_model = "simple")
ffs_adp_outcomes(scoring_history, gp_model = "none")
```

---

ffs\_adp\_outcomes\_week *Connects ff\_scoringhistory to past ADP rankings*


---

### Description

The backbone of the ffsimulator resampling process is coming up with a population of weekly outcomes for every inseason weekly rank. This function creates that dataframe by connecting historical FantasyPros.com rankings to nflfastR-based scoring data, as created by `ffscraper::ff_scoringhistory()`.

### Usage

```
ffs_adp_outcomes_week(scoring_history, pos_filter = c("QB", "RB", "WR", "TE"))
```

### Arguments

`scoring_history` a scoring history table as created by `ffscraper::ff_scoringhistory()`

`pos_filter` a character vector: filter the positions returned to these specific positions, default: `c("QB", "RB", "WR", "TE")`

### Value

a dataframe with position, rank, probability of games played, and a corresponding nested list per row of all week score outcomes.

### See Also

`fp_rankings_history_week` for the included historical rankings

### Examples

```
# cached data
scoring_history <- .ffs_cache("mfl_scoring_history.rds")
ffs_adp_outcomes_week(scoring_history, pos_filter = c("QB", "RB", "WR", "TE"))
```

---

ffs\_build\_schedules *Generate fantasy schedules*


---

### Description

This function generates random head to head schedules for a given number of seasons, teams, and weeks.

## Usage

```
ffs_build_schedules(  
  n_teams = NULL,  
  n_seasons = 100,  
  n_weeks = 14,  
  franchises = NULL,  
  seed = NULL  
)
```

## Arguments

n_teams	number of teams in simulation
n_seasons	number of seasons to simulate, default = 100
n_weeks	number of weeks per season, default = 14
franchises	optional: a dataframe of franchises as created by <a href="#">ffs_franchises()</a> - overrides the n_teams argument and will attach actual franchise IDs to the schedule output.
seed	an integer to control reproducibility

## Details

It starts with the [circle method for round robin scheduling](#), grows or shrinks the schedule to match the required number of weeks, and then shuffles both the order that teams are assigned in and the order that weeks are generated. This doesn't "guarantee" unique schedules, but there are  $n\_teams! \times n\_weeks!$  permutations of the schedule so it's very very likely that the schedules are unique ( $3 \times 10^{18}$  possible schedules for a 12 team league playing 13 weeks).

## Value

a dataframe of schedules

## See Also

`vignette("custom")` for example usage

## Examples

```
ffs_build_schedules(n_teams = 12, n_seasons = 1, n_weeks = 14)
```



---

ffs_copy_template	<i>Copy simulation template to filename</i>
-------------------	---

---

**Description**

Creates a simulation template file with all of the components of ff\_simulate, ready for tinkering!

**Usage**

```
ffs_copy_template(  
  filename = "ff_simulation.R",  
  template = c("season", "week"),  
  overwrite = NULL  
)
```

**Arguments**

filename	New file name, defaults to putting "ff_simulation.R" into your current directory
template	choice of template: one of "season" or "week"
overwrite	a logical (or NULL) - overwrite if existing file found?

**Value**

a success message signalling success/failure.

**Examples**

```
tmp <- tempfile()  
ffs_copy_template(tmp)
```

---

ffs_franchises	<i>Get Franchises</i>
----------------	-----------------------

---

**Description**

This function lightly wraps ffscraper::ff\_franchises() and adds league\_id, which is a required column for ffsimulator.

**Usage**

```
ffs_franchises(conn)
```

**Arguments**

`conn` a connection object as created by `ffscraper::ff_connect()` and friends.

**Value**

a dataframe of franchises that includes the `league_id` column

**See Also**

`vignette("Custom Simulations")` for more detailed example usage

**Examples**

```
# cached examples
conn <- .ffs_cache("mfl_conn.rds")

try({ # prevents CRAN connectivity issues, not actually required in normal usage
  ffs_franchises(conn)
})
```

---

`ffs_generate_projections`

*Generate Projections*

---

**Description**

Runs the bootstrapped resampling of player week outcomes on the latest rankings and rosters for a given number of seasons and weeks per season.

**Usage**

```
ffs_generate_projections(
  adp_outcomes,
  latest_rankings,
  n_seasons = 100,
  weeks = 1:14,
  rosters = NULL
)
```

**Arguments**

`adp_outcomes` a dataframe of adp-based weekly outcomes, as created by `ffs_adp_outcomes()`

`latest_rankings` a dataframe of rankings, as created by `ffs_latest_rankings()`

`n_seasons` number of seasons, default is 100

weeks	a numeric vector of weeks to simulate, defaults to 1:14
rosters	a dataframe of rosters, as created by ffs_rosters() - optional, reduces computation to just rostered players

**Value**

a dataframe of weekly scores for each player in the simulation, approximately of length n\_seasons x n\_weeks x latest\_rankings

**See Also**

vignette("custom") for example usage

**Examples**

```
# cached examples
adp_outcomes <- .ffs_cache("adp_outcomes.rds")
latest_rankings <- .ffs_cache("latest_rankings.rds")

ffs_generate_projections(adp_outcomes, latest_rankings)
```

---

ffs\_generate\_projections\_week  
*Generate Projections*

---

**Description**

Runs the bootstrapped resampling of player week outcomes on the latest rankings and rosters for a given number of seasons and weeks per season.

**Usage**

```
ffs_generate_projections_week(
  adp_outcomes,
  latest_rankings,
  n = 1000,
  rosters = NULL
)
```

**Arguments**

adp_outcomes	a dataframe of adp-based weekly outcomes, as created by ffs_adp_outcomes()
latest_rankings	a dataframe of rankings, as created by ffs_latest_rankings()
n	number of weeks to simulate
rosters	a dataframe of rosters, as created by ffs_rosters() - optional, reduces computation to just rostered players

**Value**

a dataframe of weekly scores for each player in the simulation, approximately of length `n_seasons` x `n_weeks` x `latest_rankings`

**See Also**

`vignette("custom")` for example usage

**Examples**

```
# cached examples
adp_outcomes_week <- .ffs_cache("adp_outcomes_week.rds")
latest_rankings_week <- .ffs_cache("latest_rankings_week.rds")

ffs_generate_projections_week(adp_outcomes_week, latest_rankings_week)
```

---

`ffs_latest_rankings`      *Download latest rankings from DynastyProcess GitHub*

---

**Description**

Fetches a copy of the latest FantasyPros redraft positional rankings data from DynastyProcess.com's data repository.

**Usage**

```
ffs_latest_rankings(type = c("draft", "week"))
```

**Arguments**

`type`                      one of "draft" or "week" - controls whether to pull preseason or inseason rankings.

**Details**

If you have any issues with the output of this data, please open an issue in the DynastyProcess data repository.

**Value**

a dataframe with a copy of the latest FP rankings from DynastyProcess's data repository

**See Also**

<https://github.com/dynastyprocess/data>  
`vignette("custom")` for example usage

**Examples**

```
try({ # try block to prevent CRAN-related issues
  ffs_latest_rankings()
})
```

---

ffs\_optimise\_lineups    *Optimise Lineups*


---

**Description**

Calculates optimal lineups for all franchises in the dataframe based on a table of lineup constraints.

**Usage**

```
ffs_optimise_lineups(
  roster_scores,
  lineup_constraints,
  lineup_efficiency_mean = 0.775,
  lineup_efficiency_sd = 0.05,
  best_ball = FALSE,
  pos_filter = c("QB", "RB", "WR", "TE")
)

ffs_optimize_lineups(
  roster_scores,
  lineup_constraints,
  lineup_efficiency_mean = 0.775,
  lineup_efficiency_sd = 0.05,
  best_ball = FALSE,
  pos_filter = c("QB", "RB", "WR", "TE")
)
```

**Arguments**

roster_scores	a dataframe as generated by ffs_score_rosters() - should contain columns like: projected_score, pos, and player_id
lineup_constraints	a dataframe as generated by ffscraper::ff_starter_positions() - should contain columns pos, min, max, and offense_starters
lineup_efficiency_mean	the average lineup efficiency to use, defaults to 0.775
lineup_efficiency_sd	the standard deviation of lineup efficiency, defaults to 0.05
best_ball	a logical: FALSE will apply a lineup efficiency factor and TRUE uses optimal scores as actual scores, default = FALSE
pos_filter	a character vector specifying which positions are eligible - defaults to c("QB", "RB", "WR", "TE")

**Details**

Lineup efficiency is the percentage of optimal/best-ball score that is used as the actual score - by default, the lineup efficiency for a team in non-best-ball settings is normally distributed around a mean of 77.5% and a standard deviation of 5%.

**Value**

a dataframe of what each team scored for each week

**See Also**

`vignette("custom")` for example usage

**Examples**

```
# cached examples
roster_scores <- .ffs_cache("roster_scores.rds")
lineup_constraints <- .ffs_cache("mfl_lineup_constraints.rds")

ffs_optimise_lineups(roster_scores, lineup_constraints)
```

---

ffs\_repeat\_schedules    *Repeat fantasy schedules*

---

**Description**

This function repeats an actual `ffs_schedule()` by the appropriate number of seasons.

**Usage**

```
ffs_repeat_schedules(actual_schedule, n_seasons)
```

**Arguments**

<code>actual_schedule</code>	a schedule retrieved by <code>ffs_schedule()</code>
<code>n_seasons</code>	number of seasons to simulate, default = 100

**Value**

a dataframe of schedules for the simulation

**See Also**

`vignette("Custom Simulations")` for example usage

**Examples**

```
try({ # try block to prevent CRAN-related issues
  conn <- .ffs_cache("mfl_conn.rds") # cached connection
  actual_schedule <- ffs_schedule(conn)

  ffs_repeat_schedules(actual_schedule = actual_schedule, n_seasons = 10)
})
```

ffs\_rosters

*Get Rosters***Description**

This function lightly wraps `ffscrapr::ff_rosters()` and adds `fantasypros_id`, which is a required column for `ffsimulator`.

**Usage**

```
ffs_rosters(conn)

## S3 method for class 'mfl_conn'
ffs_rosters(conn)

## S3 method for class 'sleeper_conn'
ffs_rosters(conn)

## S3 method for class 'flea_conn'
ffs_rosters(conn)

## S3 method for class 'espn_conn'
ffs_rosters(conn)
```

**Arguments**

`conn` a connection object as created by `ffscrapr::ff_connect()` and friends.

**Value**

a dataframe of rosters that includes a `fantasypros_id` column

**See Also**

`vignette("custom")` for more detailed example usage

**Examples**

```
# cached examples
conn <- .ffs_cache("mfl_conn.rds")

try({ # prevents CRAN connectivity issues, not actually required in normal usage
  ffs_rosters(conn)
})
```

---

ffs\_schedule

*Get Schedule*

---

**Description**

This function lightly wraps `ffscraper::ff_schedule()` and adds `league_id`, which is a required column for `ffsimulator`, casts IDs to character, and drops actual games played so as to only simulate unplayed games.

**Usage**

```
ffs_schedule(conn)
```

**Arguments**

`conn` a connection object as created by `ffscraper::ff_connect()` and friends.

**Value**

a dataframe of schedule that includes the `league_id` column

**See Also**

`vignette("Custom Simulations")` for more detailed example usage

**Examples**

```
# cached examples
try({ # try block to prevent CRAN-related issues
  conn <- .ffs_cache("mfl_conn.rds")
  ffs_schedule(conn)
})
```



---

ffs\_score\_rosters      *Join Rosters to Projected Scores*


---

**Description**

Attaches projected scores to rosters (via an inner-join) and creates a positional ranking column.

**Usage**

```
ffs_score_rosters(projected_scores, rosters)
```

**Arguments**

projected\_scores      a dataframe of projected scores, as created by ffs\_generate\_projections()  
 rosters      a dataframe of rosters, as created by ffs\_rosters()

**Value**

A dataframe of roster-level projected scores

**See Also**

vignette("custom") for example usage

**Examples**

```
# cached examples
projected_scores <- .ffs_cache("projected_scores.rds")
rosters <- .ffs_cache("mfl_rosters.rds")

ffs_score_rosters(projected_scores, rosters)
```

---

ffs\_starter\_positions      *Get league starter positions*


---

**Description**

This function lightly wraps ffscraper::ff\_starter\_positions() and cleans up some abbreviations (PK -> K)

**Usage**

```
ffs_starter_positions(conn)
```

**Arguments**

`conn` a connection object as created by `ffscraper::ff_connect()` and friends.

**Value**

A tidy dataframe of positional lineup rules, one row per position with minimum and maximum starters as well as total starter calculations.

**Examples**

```
# cached examples
try({ # try block to prevent CRAN-related issues
  conn <- .ffs_cache("mfl_conn.rds")
  ffs_starter_positions(conn)
})
```

---

<code>ffs_summarise_week</code>	<i>Summarise simulation outputs</i>
---------------------------------	-------------------------------------

---

**Description**

These functions are used to summarise the simulation outputs, typically by joining the optimal scores with a matching schedule.

**Usage**

```
ffs_summarise_week(optimal_scores, schedules)

ffs_summarise_season(summary_week)

ffs_summarise_simulation(summary_season)

ffs_summarise_inseason(summary_week, n)

ffs_summarize_week(optimal_scores, schedules)

ffs_summarize_season(summary_week)

ffs_summarize_simulation(summary_season)
```

**Arguments**

`optimal_scores` a dataframe of optimized lineups as created by `ffs_optimize_lineups()`  
`schedules` a dataframe of schedules as created by `ffs_build_schedules()` or `ffs_actual_schedules()`  
`summary_week` a dataframe as created by `ffs_summarise_week()`

summary\_season a dataframe as created by ffs\_summarise\_season()  
 n number of weeks

### Value

ffs\_summarise\_week: a dataframe summarising team results by simulation week  
 ffs\_summarise\_season: a dataframe summarising franchise results across each simulation season  
 ffs\_summarise\_simulation: a dataframe summarising franchise results across the simulation  
 ffs\_summarise\_inseason: a dataframe summarising franchise results for the inseason simulation

### See Also

vignette("custom") for example usage

### Examples

```
# cached examples
optimal_scores <- .ffs_cache("optimal_scores.rds")
schedules <- .ffs_cache("schedules.rds")

summary_week <- ffs_summarise_week(optimal_scores, schedules)
summary_week
summary_season <- ffs_summarise_season(summary_week)
summary_season
summary_simulation <- ffs_summarise_simulation(summary_season)
summary_simulation
```

---

ff\_connect

---

*Connect to a league*


---

### Description

See `ffscraper::ff_connect()` for details.

### Value

a connection object to be used with `ff_*` functions

### See Also

Other `ffscraper`-imports: [espn\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [ff\\_starter\\_positions\(\)](#), [fleaflipper\\_connect\(\)](#), [mfl\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

ff_scoringhistory	<i>Get league scoring history</i>
-------------------	-----------------------------------

---

### Description

See `ffscraper::ff_scoringhistory` for details.

### Value

A tidy dataframe of weekly fantasy scoring data, one row per player per week

### See Also

Other `ffscraper`-imports: [espn\\_connect\(\)](#), [ff\\_connect\(\)](#), [ff\\_starter\\_positions\(\)](#), [fleaflicker\\_connect\(\)](#), [mfl\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

ff_simulate	<i>Simulate Fantasy Seasons</i>
-------------	---------------------------------

---

### Description

The main function of the package - uses bootstrap resampling to run fantasy football season simulations supported by historical rankings and `nflfastR` data, calculating optimal lineups, and returns aggregated results.

### Usage

```
ff_simulate(
  conn,
  n_seasons = 100,
  n_weeks = 14,
  best_ball = FALSE,
  seed = NULL,
  gp_model = c("simple", "none"),
  base_seasons = 2012:2022,
  actual_schedule = FALSE,
  replacement_level = TRUE,
  pos_filter = c("QB", "RB", "WR", "TE", "K"),
  verbose = NULL,
  return = c("default", "all")
)
```

**Arguments**

<code>conn</code>	an connection to a league made with <code>ff_connect()</code> and friends (required)
<code>n_seasons</code>	number of seasons to simulate, default = 100
<code>n_weeks</code>	number of weeks per season, default = 14
<code>best_ball</code>	a logical: are weekly wins based on optimal lineups?
<code>seed</code>	an integer to control reproducibility
<code>gp_model</code>	select between "simple", "none" to apply a model for whether a player played in a given game, defaults to "simple"
<code>base_seasons</code>	a numeric vector that selects seasons as base data, earliest available is 2012
<code>actual_schedule</code>	a logical: use actual <code>ff_schedule</code> ? default is FALSE
<code>replacement_level</code>	a logical: use best available on waiver as replacement level? defaults to TRUE
<code>pos_filter</code>	a character vector of positions to filter/run, default is <code>c("QB", "RB", "WR", "TE", "K")</code>
<code>verbose</code>	a logical: print status messages? default is TRUE, configure with <code>options(ffsimulator.verbose)</code>
<code>return</code>	one of <code>c("default", "all")</code> - what objects to return in the output list

**Value**

an `ff_simulation` object which can be passed to `plot()` and contains the output data from the simulation.

**See Also**

`vignette("basic")` for example usage

`vignette("custom")` for examples on using the subfunctions for your own processes.

**Examples**

```
try({ # try block to prevent CRAN-related issues
  conn <- mfl_connect(2021, 22627)
  ff_simulate(conn, n_seasons = 25)
})
```

---

ff_simulate_week	<i>Simulate Fantasy Week</i>
------------------	------------------------------

---

## Description

This function simulates a single upcoming week using the same methodology as in the season-long simulation, `ff_simulate()`.

## Usage

```
ff_simulate_week(
  conn,
  n = 1000,
  best_ball = FALSE,
  seed = NULL,
  base_seasons = 2012:2022,
  actual_schedule = TRUE,
  replacement_level = FALSE,
  pos_filter = c("QB", "RB", "WR", "TE", "K"),
  verbose = NULL,
  return = c("default", "all")
)
```

## Arguments

<code>conn</code>	an connection to a league made with <code>ff_connect()</code> and friends (required)
<code>n</code>	number of times to simulate the upcoming week, default is 1000
<code>best_ball</code>	a logical: are weekly wins based on optimal lineups?
<code>seed</code>	an integer to control reproducibility
<code>base_seasons</code>	a numeric vector that selects seasons as base data, earliest available is 2012
<code>actual_schedule</code>	a logical: use actual <code>ff_schedule</code> ? default is TRUE
<code>replacement_level</code>	a logical: use best available on waiver as replacement level? defaults to FALSE for upcoming week simulations
<code>pos_filter</code>	a character vector of positions to filter/run, default is <code>c("QB", "RB", "WR", "TE", "K")</code>
<code>verbose</code>	a logical: print status messages? default is TRUE, configure with <code>options(ffsimulator.verbose)</code>
<code>return</code>	one of <code>c("default", "all")</code> - what objects to return in the output list

## Value

an `ff_simulation` object which can be passed to `plot()` and contains the output data from the simulation.

See Also

vignette("basic") for example usage  
vignette("custom") for examples on using the subfunctions for your own processes.

Examples

```
try({ # try block to prevent CRAN-related issues
conn <- mfl_connect(2021, 22627)
ff_simulate_week(conn, n = 1000, actual_schedule = TRUE)
})
```

---

ff_starter_positions	<i>Get league starter positions</i>
----------------------	-------------------------------------

---

Description

See ffscrapr::ff\_starter\_positions for details.

Value

A tidy dataframe of positional lineup rules, one row per position with minimum and maximum starters as well as total starter calculations.

See Also

Other ffscrapr-imports: [espn\\_connect\(\)](#), [ff\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [fleaflipper\\_connect\(\)](#), [mfl\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

ff_wins_added	<i>Wins Added</i>
---------------	-------------------

---

Description

(EXPERIMENTAL) This function adds a basic wins-added calculation for each player on every team, presenting the change in wins if that player was removed from the team as the net wins-over-replacement for that player. This can be a bit of a time/compute-expensive calculation.

Usage

```
ff_wins_added(conn, ...)
```

**Arguments**

conn an connection to a league made with `ff_connect()` and friends (required)  
 ... Arguments passed on to `ff_simulate`  
 n\_seasons number of seasons to simulate, default = 100  
 n\_weeks number of weeks per season, default = 14  
 best\_ball a logical: are weekly wins based on optimal lineups?  
 seed an integer to control reproducibility  
 gp\_model select between "simple", "none" to apply a model for whether a player played in a given game, defaults to "simple"  
 base\_seasons a numeric vector that selects seasons as base data, earliest available is 2012  
 actual\_schedule a logical: use actual `ff_schedule`? default is FALSE  
 replacement\_level a logical: use best available on waiver as replacement level? defaults to TRUE  
 pos\_filter a character vector of positions to filter/run, default is `c("QB", "RB", "WR", "TE", "K")`  
 verbose a logical: print status messages? default is TRUE, configure with `options(ffsimulator.verbose)`  
 return one of `c("default", "all")` - what objects to return in the output list

**Details**

Runs base simulation once (with the usual parameters available for `ff_simulate`), then for every player on every team (except replacement level players):

- remove them from that specific roster
- reoptimize the lineups just for that roster without the player to calculate what the score ends up being without the player
- summarise the new simulation
- return the delta in wins and points

Summarise wins added as the difference between the sim with the player and the sim without them

**Value**

a dataframe summarising the net effect of each player on their team's wins

**Examples**

```

try({ # try block to prevent CRAN-related issues
# n_seasons set so that the example runs more quickly
ff_wins_added(mfl_connect(2021,54040), n_seasons = 5)
})

```



---

fleaflutter_connect	<i>Connect to a league</i>
---------------------	----------------------------

---

### Description

See `ffscraper::fleaflutter_connect()` for details.

### Value

a connection object to be used with `ff_*` functions

### See Also

Other `ffscraper`-imports: [espn\\_connect\(\)](#), [ff\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [ff\\_starter\\_positions\(\)](#), [mfl\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

fp_injury_table	<i>FP injury table</i>
-----------------	------------------------

---

### Description

This dataframe contains a column (`prob_gp`) for each positional ranking that describes the probability of a player with that preseason ADP playing in a given game. It is modelled from historical rankings data and the number of games played per season for a given positional rank.

### Usage

```
fp_injury_table
```

### Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 692 rows and 3 columns.

---

fp_rankings_history	<i>Historical draft position ranks</i>
---------------------	--

---

### Description

This dataframe has historical positional draft rankings for 2012-2020 QB/RB/WR/TE/PK and 2015-2020 DL/LB/DB, as gathered by the ffpros package.

### Usage

```
fp_rankings_history
```

### Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 11336 rows and 10 columns.

---

fp_rankings_history_week	<i>Historical position ranks</i>
--------------------------	----------------------------------

---

### Description

This dataframe has historical positional in-season rankings for 2012-2020 QB/RB/WR/TE/PK and 2015-2020 DL/LB/DB, as gathered by the ffpros package.

### Usage

```
fp_rankings_history_week
```

### Format

An object of class `tbl_df` (inherits from `tbl`, `data.frame`) with 94257 rows and 11 columns.

---

mfl_connect	<i>Connect to a league</i>
-------------	----------------------------

---

**Description**

See `ffscraper::mfl_connect()` for details.

**Value**

a connection object to be used with `ff_*` functions

**See Also**

Other `ffscraper`-imports: [espn\\_connect\(\)](#), [ff\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [ff\\_starter\\_positions\(\)](#), [flea\\_flicker\\_connect\(\)](#), [sleeper\\_connect\(\)](#)

---

sleeper_connect	<i>Connect to a league</i>
-----------------	----------------------------

---

**Description**

See `ffscraper::sleeper_connect()` for details.

**Value**

a connection object to be used with `ff_*` functions

**See Also**

Other `ffscraper`-imports: [espn\\_connect\(\)](#), [ff\\_connect\(\)](#), [ff\\_scoringhistory\(\)](#), [ff\\_starter\\_positions\(\)](#), [flea\\_flicker\\_connect\(\)](#), [mfl\\_connect\(\)](#)

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