Document and share

April 2019

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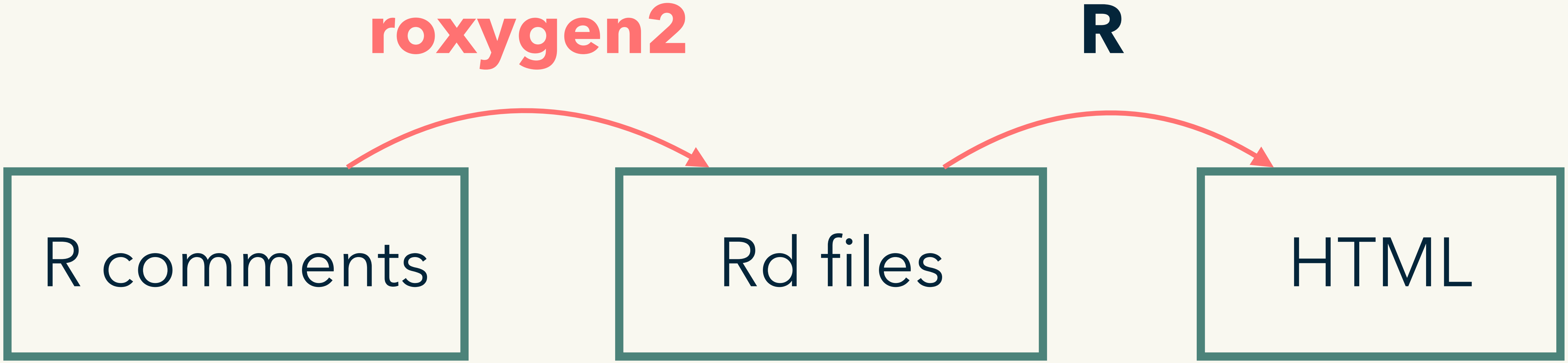
Overview

1. Function docs
2. Other docs
3. R CMD check
4. CRAN submission

Function docs with roxygen2

Roxygen2



http://r-pkgs.had.co.nz/man.html

You write specially formatted comments in .R

In R/add_col.R

```
#' Add a column to a data frame
#'
#' Allows you to specify the position. Will replace existing variable
#' with the same name if present.
#'
#' @param x A data frame
#' @param name Name of variable to create. If a variable of that name
#'   already exists it will be replaced
#' @param value Values to insert.
#' @param where Position to insert. Use 1 to insert on LHS, or -1 to insert on
#'   RHS.
#' @examples
#' df <- data.frame(x = 1:5)
#' add_col(df, "y", runif(5))
#' add_col(df, "y", runif(5), where = 1)
#'
#' add_col(df, "x", 5:1)
```

You write specially formatted comments in .R

Roxygen comment

Roxygen tag

```
#' Add a column to a data frame
#'
#' Allow                   the position. Will replace existing variable
#' with                    present.
#'
#' @param x A data frame
#' @param name Name of variable to create. If a variable of that name
#'   already exists it will be replaced
#' @param value Values to insert.
#' @param where Position to insert. Use 1 to insert on LHS.
#' @examples
#' df <- data.frame(x = 1:5)
#' add_col(df, "y", runif(5))
#' add_col(df, "y", runif(5), where = 1)
#'
#' add_col(df, "x", 5:1)
```

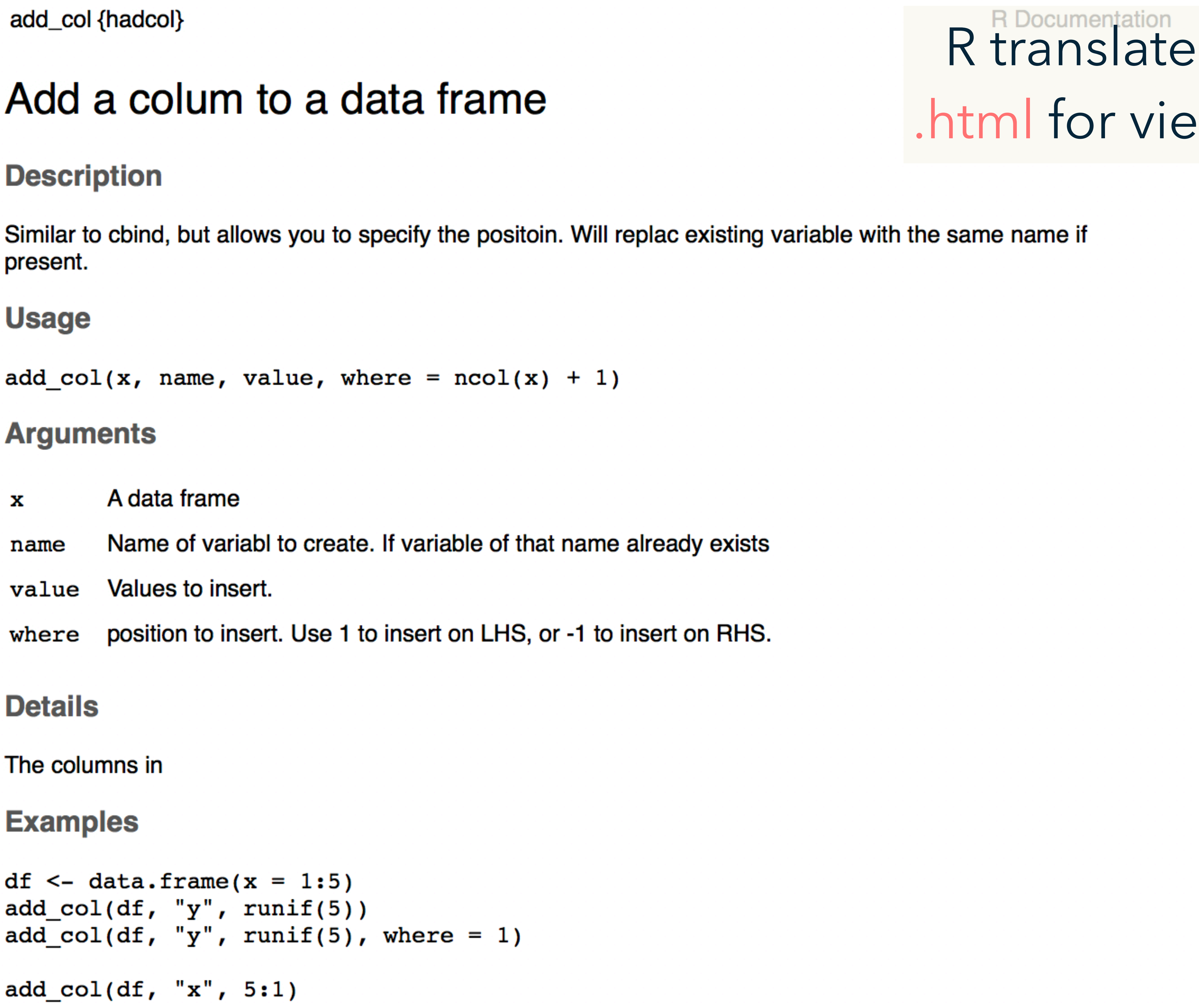
Roxygen translates to .Rd

In man/add_col.Rd

```
% Generated by roxygen2: do not edit by hand
% Please edit documentation in R/add_col.R
\name{add_col}
\alias{add_col}
\title{Add a column to a data frame}
\usage{
add_col(x, name, value, ncol(x) + 1)
}
\arguments{
\item{x}{A data frame}

\item{name}{Name of variable to create. If a variable of that name
already exists it will be replaced}

\item{value}{Values to insert.}

\item{where}{Position to insert. Use 1 to insert on LHS.}
}
\description{
Allows you to specify the position. Will replace existing variable
with the same name if present.
}
```

In almost all cases
you can ignore
these files

R translates to .html for viewing



add_col {hadcol}

R Documentation

Add a colum to a data frame

Description

Similar to cbind, but allows you to specify the positoin. Will replac existing variable with the same name if present.

Usage

```
add_col(x, name, value, where = ncol(x) + 1)
```

Arguments

`x`	A data frame
`name`	Name of variabl to create. If variable of that name already exists
`value`	Values to insert.
`where`	position to insert. Use 1 to insert on LHS, or -1 to insert on RHS.

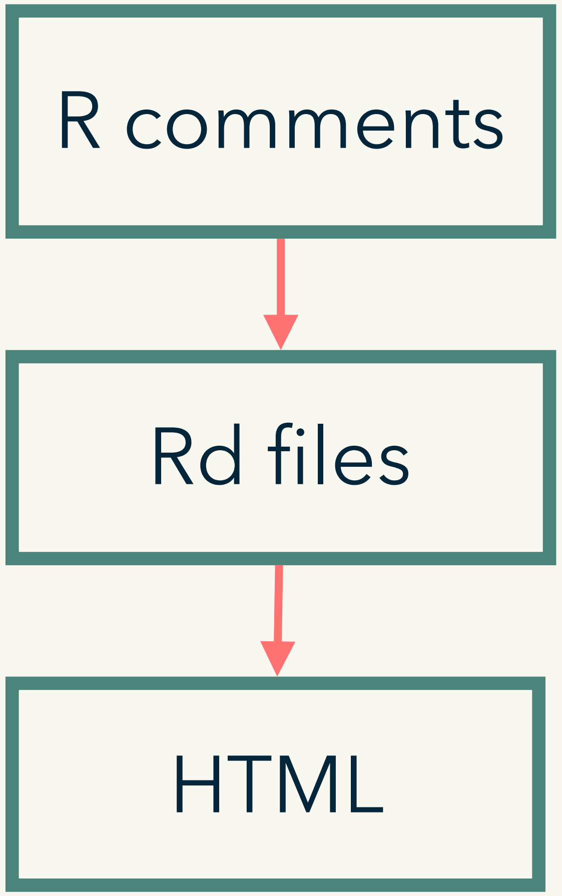
Details

The columns in

Examples

```
df <- data.frame(x = 1:5)
add_col(df, "y", runif(5))
add_col(df, "y", runif(5), where = 1)

add_col(df, "x", 5:1)
```

Easy(er)


R comments

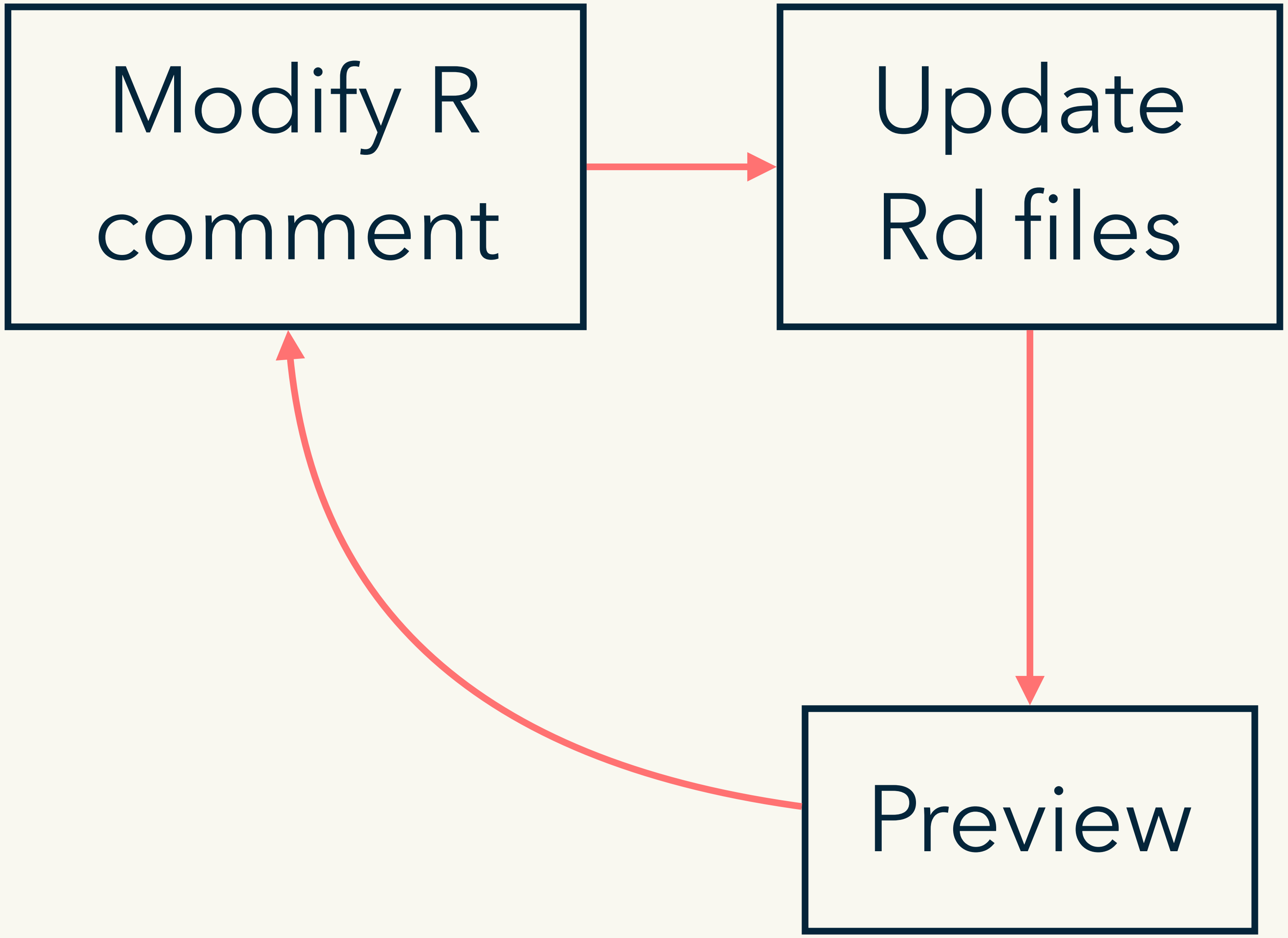
Rd files

HTML

Hard

Writing text that other humans can understand

Documentation workflow



Modify R comment

Update Rd files

```
Cmd/Ctrl + Shift + D
devtools::document()
```

Preview

```
?topicname
```

Two caveats

1. You must have loaded the package with load_all() at least once.

   Check for message "Using development documentation..."

2. This technique only builds individual files so links do not work.

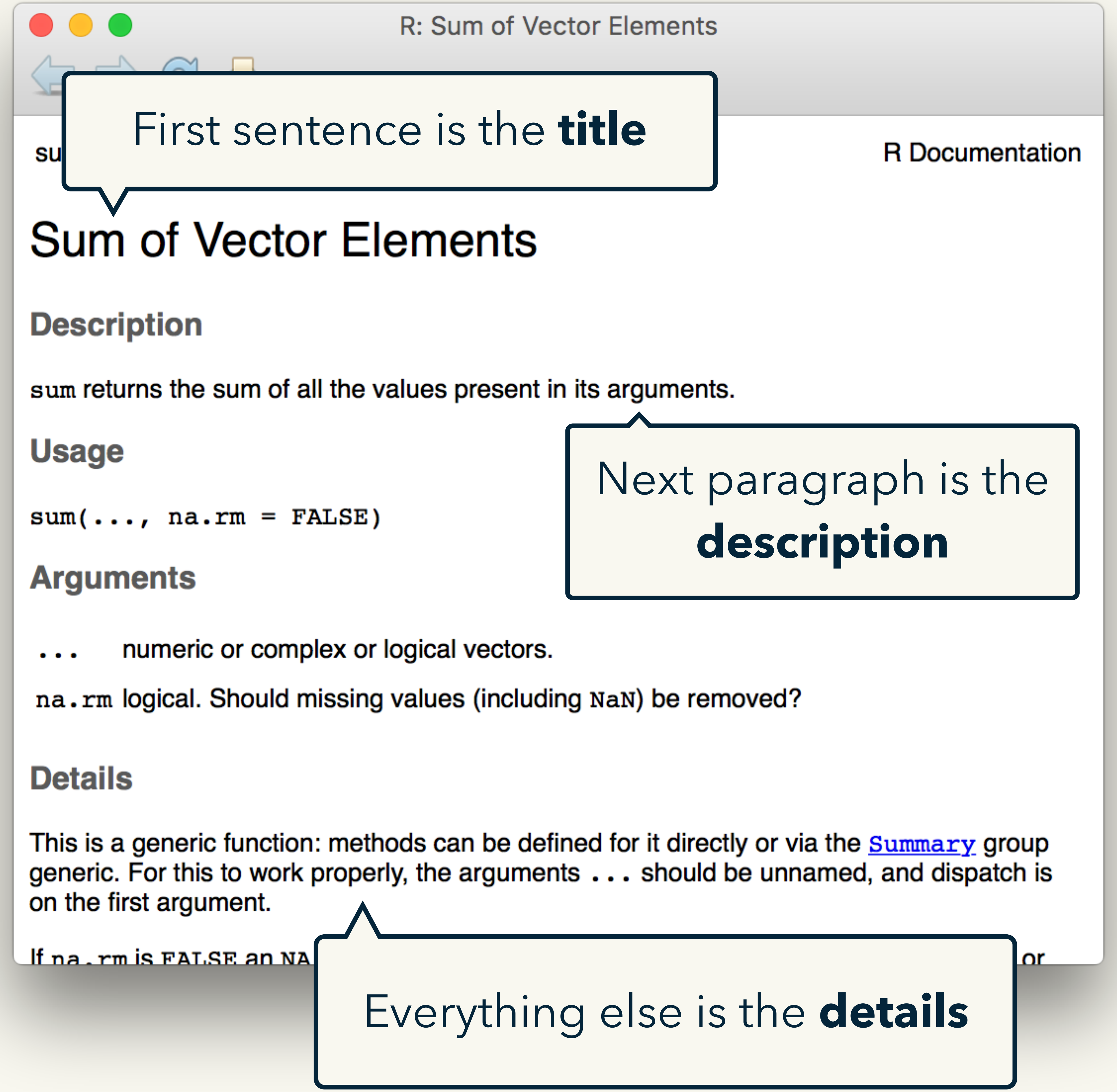
Change project to:

[fordogs]

Your turn

Fix the typos in the documentation for fbind().

Run the documentation workflow to check your work.



R: Sum of Vector Elements

su | R Documentation

Sum of Vector Elements

Description

`sum` returns the sum of all the values present in its arguments.

Usage

```
sum(..., na.rm = FALSE)
```

Arguments

`...`	numeric or complex or logical vectors.
`na.rm`	logical. Should missing values (including `NaN`) be removed?

Details

This is a generic function: methods can be defined for it directly or via the `Summary` group generic. For this to work properly, the arguments `...` should be unnamed, and dispatch is on the first argument.

If `na.rm` is `FALSE` an `NA` or

First sentence is the **title**

Next paragraph is the **description**

Everything else is the **details**

The description block

First sentence is the **title**

```
#' Sum of vector elements
#'
#' \code{sum} returns the sum of all the values present in its arguments.
#'
#' This is a generic function: methods can be defined for it
#' \code{\link{Summary}} group generic. For this to work prope
#' \code{...} should be unnamed, and dispatch is on the first
```

Next paragraph is the **description**

Everything else is the **details**

There are five tags you'll use for most functions

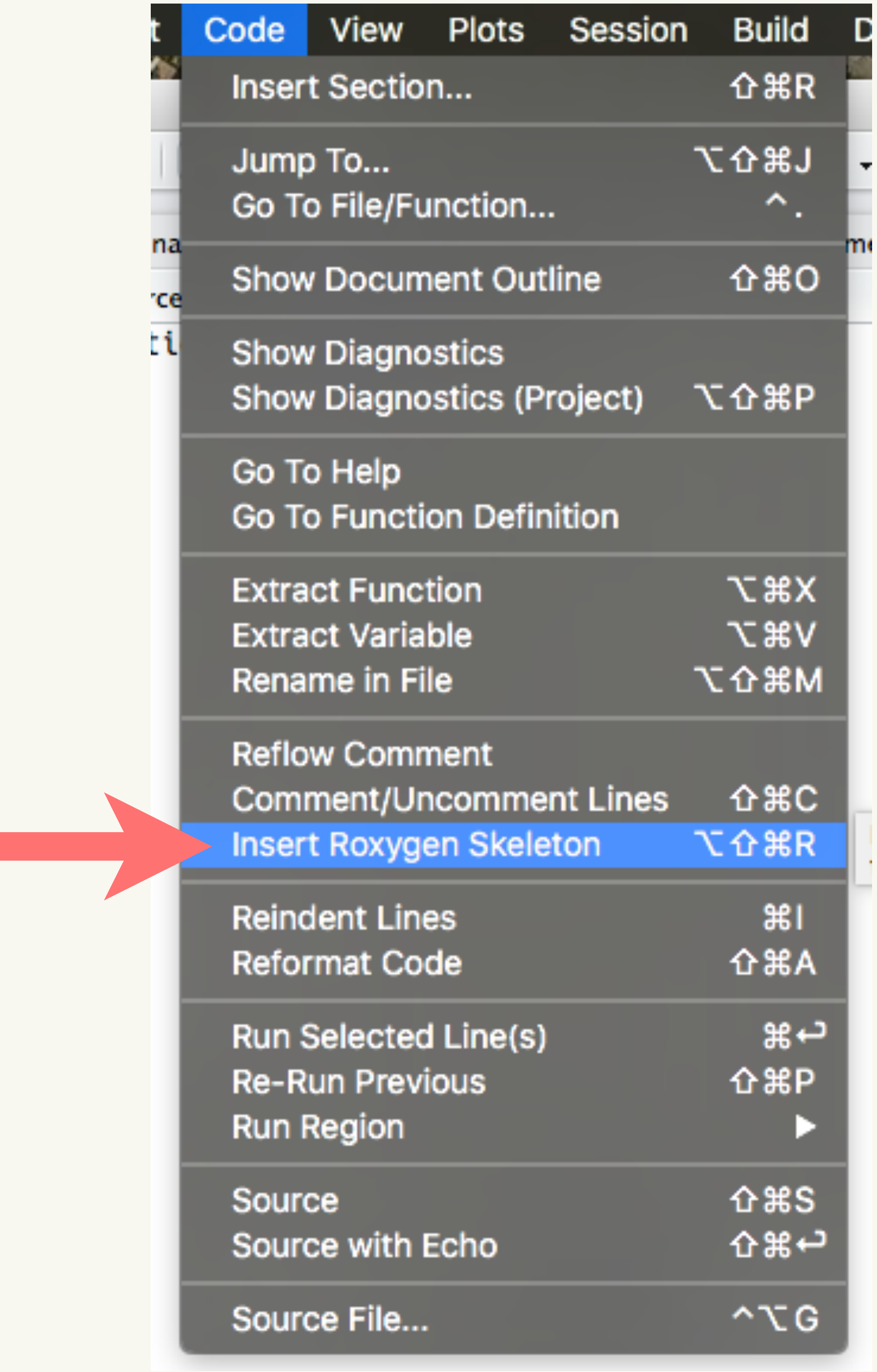
Tag	Purpose
`@param arg`	Describe inputs
`@examples`	Show how the function works. (Usual RStudio shortcuts work)
`@seealso`	Pointers to related functions
`@return`	Describe outputs (value)
`@export`	Is this a user-visible function?

Your turn

Complete the documentation for fbind().

A good minimum is to describe the types of the input and output.

RStudio helps you remember



```
#' Title
#'
#' @param x
#' @param y
#' @param z
#'
#' @return
#' @export
#'
#' @examples
fun <- function(x, y, z) {

}
```

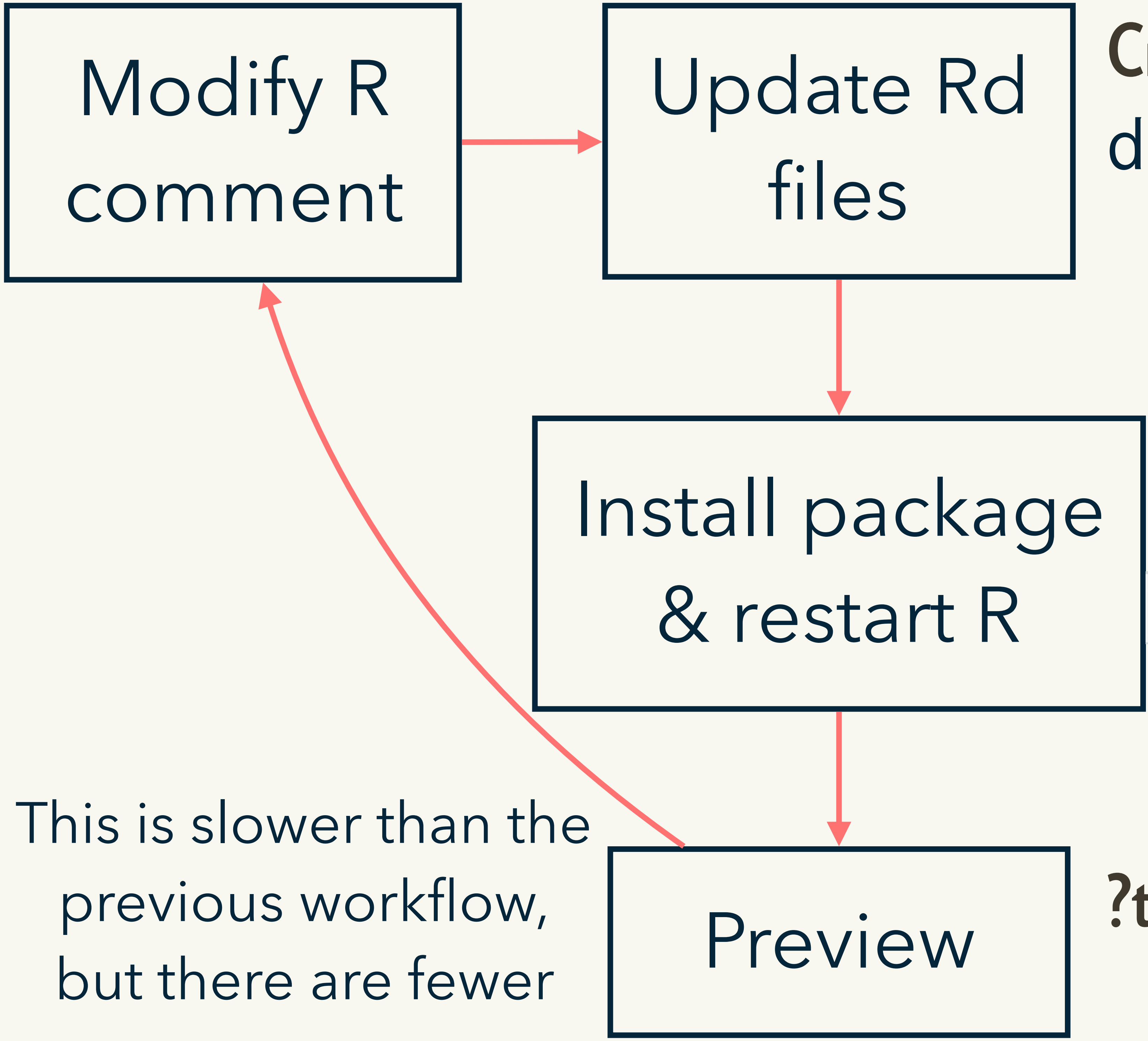
Your turn

Document fdist().

Use markdown for formatting

```
# In new package, activate by running
# usethis::use_roxygen_md()

**bold**, _italic_, `code`

* [func()]
* [pkg::func()]
* [link text][func()]
* [link text][pkg::func()]
```

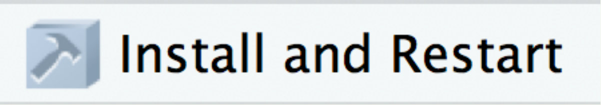
Documentation workflow 2



Cmd/Ctrl + Shift + D

`devtools::document()`

Cmd/Ctrl + Shift + B



?topicname

This is slower than the previous workflow, but there are fewer caveats

More details online

Data

http://r-pkgs.org/data.html#documenting-data

Classes & methods

http://r-pkgs.org/man.html#man-classes

Packages

http://r-pkgs.org/man.html#man-packages

Package documentation with rmarkdown

Big picture in README

```
usethis::use_readme_rmd()

# * 2-3 paragraph overview
# * Installation instructions
# * Usage example, with pointer to vignettes
```

Use vignettes for broader topics

```
usethis::use_vignette(”name”)

# Adds to DESCRIPTION
Suggests: knitr
VignetteBuilder: knitr

# Creates vignettes/
# Drafts vignettes/name.Rmd
```

Vignette = Rmarkdown + special metadata

```
---
title: ”Vignette Title”
author: ”Vignette author”
date: ”`r Sys.Date()`”
output: rmarkdown::html_vignette
vignette: >
  %\VignetteIndexEntry{Vignette Title}
  %\VignetteEngine{knitr::rmarkdown}
  %\VignetteEncoding{UTF-8}
---

Vignettes are long form documentation commonly included in packages.
Because they are part of the distribution of the package, they need to
be as compact as possible. The `html_vignette` output type provides a
custom style sheet (and tweaks some options) to ensure that the
resulting html is as small as possible. The `html_vignette` format:


...
```

Special output format for vignettes

Special metadata needed by R

If evolving over time, note changes to API

```
usethis::use_news_md()

# * what's new
# * what's changed
# * what's gone away
#
# More info at
# http://style.tidyverse.org/news.html
```

Turn into a website with pkgdown

```
use_pkgdown()
use_pkgdown_travis()
```

R CMD check

Automated checking

Runs automated checks for common problems in R packages.

Useful for local packages, even with some false positives.

If you want to submit to CRAN, you must pass R CMD check cleanly.

http://r-pkgs.had.co.nz/check.html

To avoid frustration run
early and run often

“If it hurts,
do it more often”
— Martin Fowler

https://martinfowler.com/bliki/FrequencyReducesDifficulty.html

```
==> R CMD build rv2

* checking for file ‘rv2/DESCRIPTION’ ... OK
* preparing ‘rv2’:
* checking DESCRIPTION meta-information ... OK
* installing the package to build vignettes
* creating vignettes ... OK
* checking for LF line-endings in source and make files
* checking for empty or unneeded directories
* building ‘rv2_0.1.tar.gz’

==> R CMD check rv2_0.1.tar.gz

* using log directory ‘/Users/hadley/Documents/courses/13-devtools/rv2.Rcheck’
* using R version 3.0.2 (2013-09-25)
* using platform: x86_64-apple-darwin10.8.0 (64-bit)
* using session charset: UTF-8
* checking for file ‘rv2/DESCRIPTION’ ... OK
* this is package ‘rv2’ version ‘0.1’
* checking package namespace information ... OK
* checking package dependencies ... OK
* checking if this is a source package ... OK
* checking if there is a namespace ... OK
* checking for executable files ... OK
* checking for hidden files and directories ... OK
* checking for portable file names ... OK
* checking for sufficient/correct file permissions ... OK
* checking whether package ‘rv2’ can be installed ... OK* checking installed package size ... OK
* checking package directory ... OK
* checking DESCRIPTION meta-information ... OK
* checking top-level files ... OK
* checking for left-over files ... OK
* checking index information ... OK
* checking package subdirectories ... OK
* checking R files for non-ASCII characters ... OK
* checking R files for syntax errors ... OK
* checking whether the package can be loaded ... OK
* checking whether the package can be loaded with stated dependencies ... OK
* checking whether the package can be unloaded cleanly ... OK
* checking whether the namespace can be loaded with stated dependencies ... OK
* checking whether the namespace can be unloaded cleanly ... OK
* checking loading without being on the library search path ... OK
* checking dependencies in R code ... OK
* checking S3 generic/method consistency ... OK
* checking replacement functions ... OK
* checking foreign function calls ... OK
* checking R code for possible problems ... OK
* checking Rd files ... OK
* checking Rd metadata ... OK
* checking Rd cross-references ... OK
* checking for missing documentation entries ... OK
* checking for code/documentation mismatches ... OK
* checking Rd \usage sections ... OK
* checking Rd contents ... OK
* checking for unstated dependencies in examples ... OK
* checking installed files from ‘inst/doc’ ... OK
* checking files in ‘vignettes’ ... OK
* checking examples ... OK
* checking for unstated dependencies in tests ... OK
* checking tests ...
  Running ‘testthat.R’ OK
* checking for unstated dependencies in vignettes ...
 OK
* checking package vignettes in ‘inst/doc’ ... OK
* checking running R code from vignettes ...
   ‘clt.Rmd’ ... OK
 OK
* checking re-building of vignette outputs ... OK
* checking PDF version of manual ... OK

R CMD check succeeded
```

Types of problem

	Local	CRAN
ERROR	✓	✓
WARNING		✓
NOTE		✓

ERROR

Must fix!

WARNING

Fix if submitting to CRAN

NOTE

Fix if submitting to CRAN

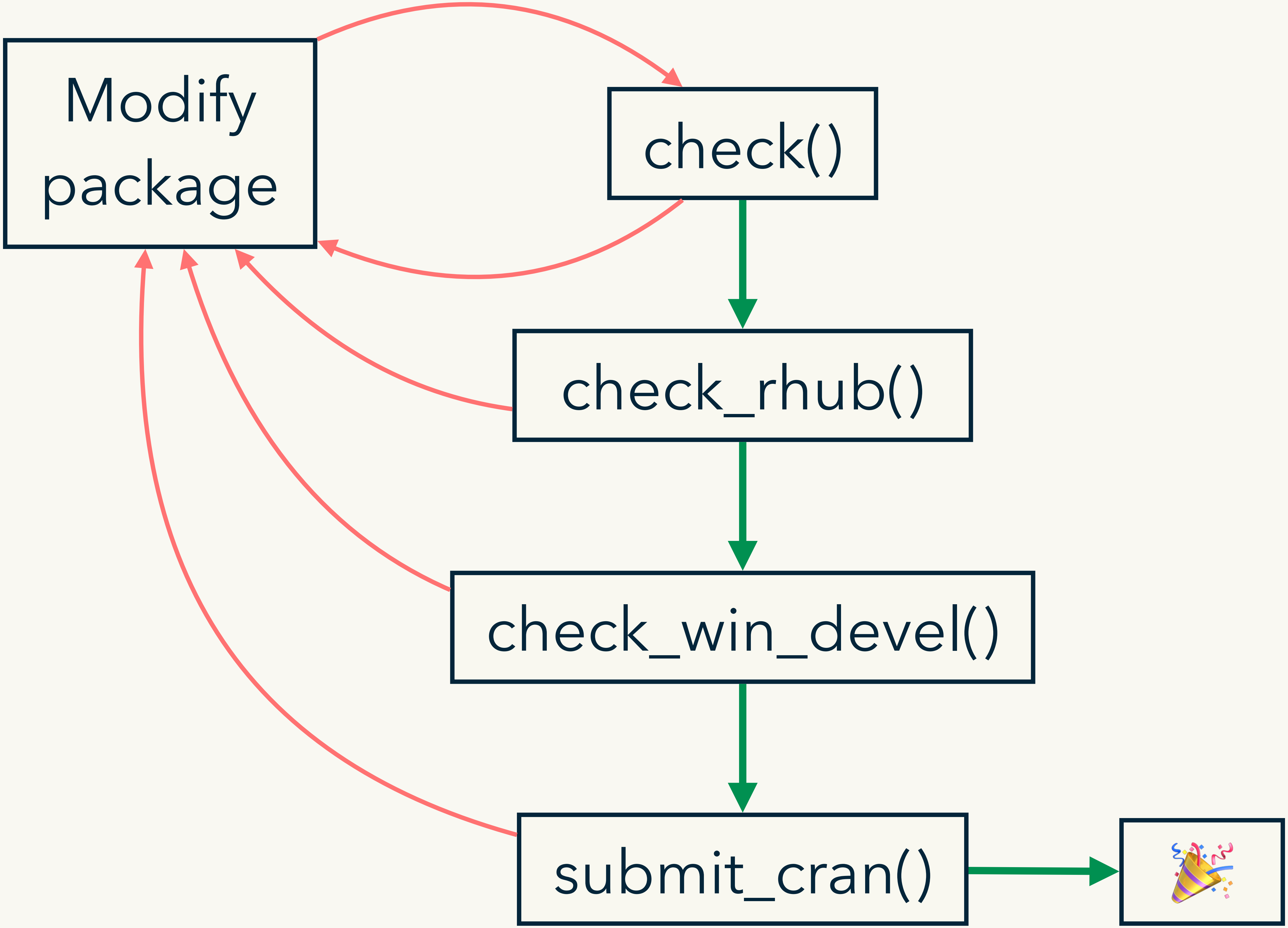
It is possible to submit with a NOTE, but it’s best avoided

```
# Cmd/Ctrl + Shift + E
devtools::check()

# If you don’t understand an error,
# google it!
```

CRAN

Submission to CRAN

```r
usethis::use_release_issue()

# Particularly important for larger packages
# where release process might take weeks.
# But also useful for smaller packages,
# and you should feel free to tweak for your
# needs
```



Modify package

check()

check_rhub()

check_win_devel()

submit_cran()

🎉

cran-comments.md

Goal is to document your process

```
## Test environments
* local OS X install (R-release)
* win-builder (R-release, R-devel)

## R CMD check results

0 errors | 0 warnings | 1 note

* This is a new release.
```

There's always one note for a new submission

If your submission fails

Do not despair! It happens to everyone, even R-core and tidyverse developers.

If it's from the CRAN robot, just fix the problem & resubmit.

If it's from a human, **do not respond** to the email and **do not argue**. Instead update cran-comments.md & resubmit.

For resubmission:

```
This is a resubmission. Compared to the last submission, I
have:

* First change.
* Second change.
* Third change

---
## Test environments
* local OS X install, R 3.2.2
* win-builder (devel and release)

## R CMD check results

...
```