



ANYONE CAN PLAY GIT/R

Tips for First-Time Contributions
to R Packages

KARA WOO | @KARA_WOO

RESEARCH SCIENTIST, SAGE BIONETWORKS

CASCADIA R CONFERENCE

THE STRUGGLE IS REAL



Photo: Asa Rodger



Photo: Elaine Casap



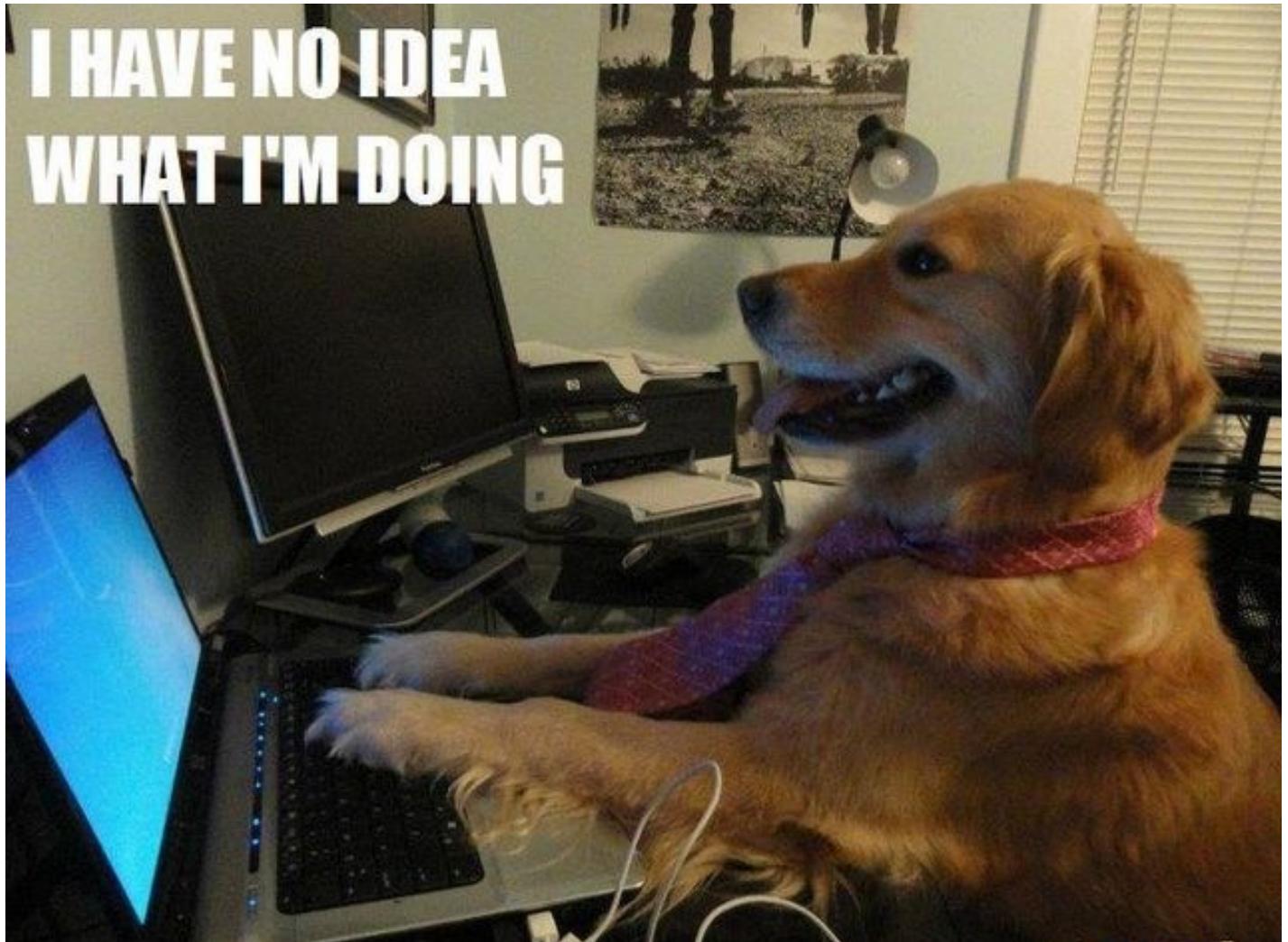
Photo: Asa Rodger



Photo: Andrew Seaman



DAY 1



TODAY



Memeification: David Ho

R package landscape

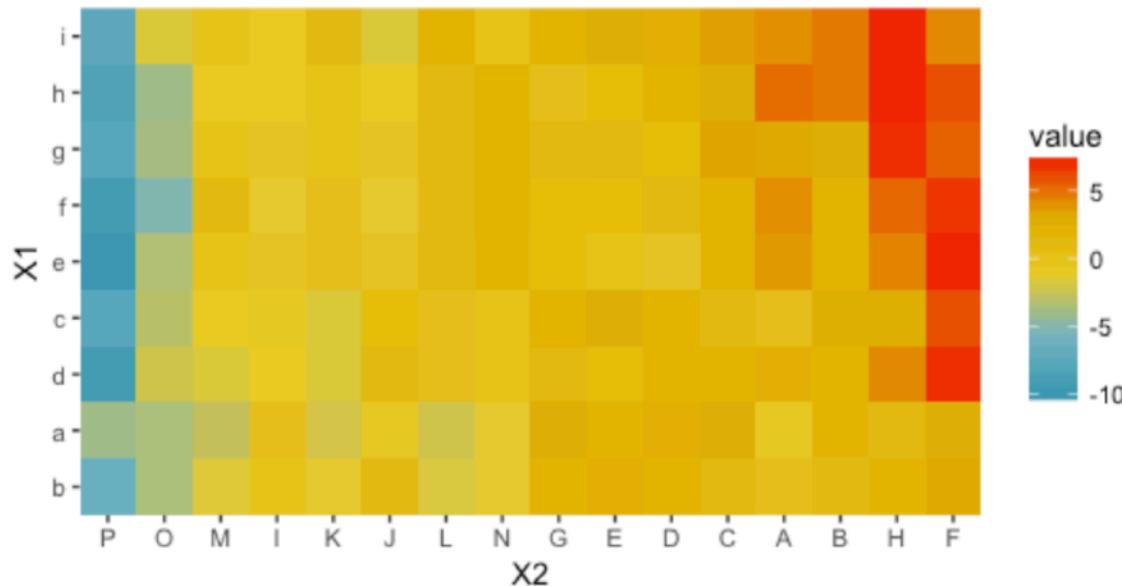
- Over 12,000 packages on CRAN
- Plus Bioconductor, GitHub, etc.

[Code](#)[Issues 6](#)[Pull requests 2](#)[Projects 0](#)[Wiki](#)[Insights](#)

A Wes Anderson color palette for R

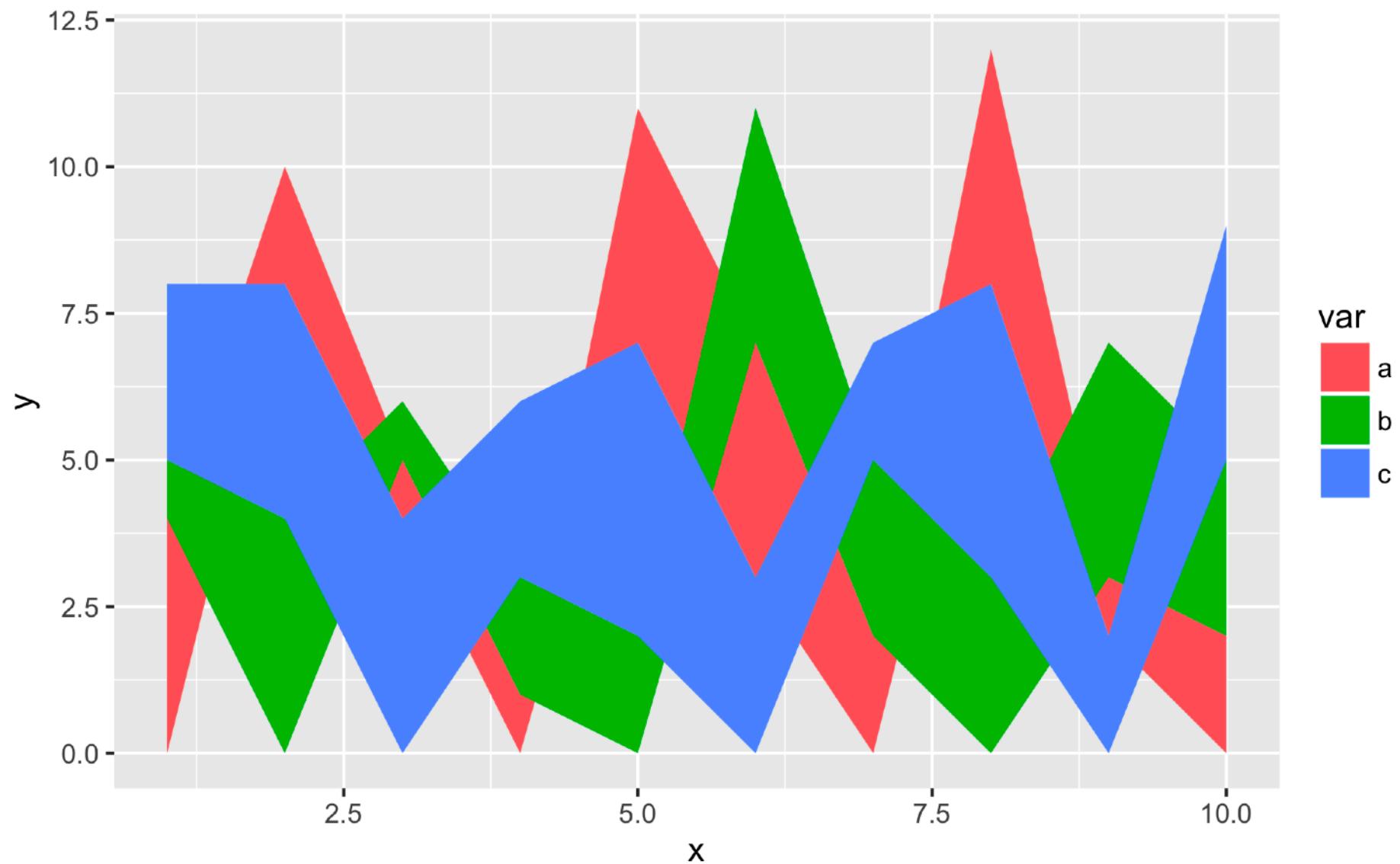
[plot](#) [wes-anderson-palettes](#) [r](#) [data-visualization](#) [color-palette](#)

```
pal <- wes_palette("Zissou1", 100, type = "continuous")
# heatmap is a local dataset
ggplot(heatmap, aes(x = X2, y = X1, fill = value)) +
  geom_tile() +
  scale_fill_gradientn(colours = pal) +
  scale_x_discrete(expand = c(0, 0)) +
  scale_y_discrete(expand = c(0, 0)) +
  coord_equal()
```



ggplot2

downloads 439K/month



WHY SHOULD I CONTRIBUTE TO R PACKAGES?



Why contribute?

- Make things work the way you want

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- Make things work the way you want
- Opportunities, jobs, collaborations

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- Teach

Why contribute?

- Make things work the way you want
- Opportunities, jobs, collaborations
- Teach
- Learn



Photo: Ciprian Lipenschi



Photo: Paul Frenzel



Photo: Delaney Dawson



Open issues
on GitHub

A screenshot of a GitHub repository page for `tidyverse/ggplot2`. A green arrow points to the `Pull requests` tab.

An implementation of the Grammar of Graphics in R <http://ggplot2.tidyverse.org>

Branch: master ▾ New pull request Create new file Upload files Find file Clone or download ▾

Author	Commit Message	Time Ago
clauswilke and hadley	fix geom_smooth() and add regression tests. Closes #2621. (#2626)	Latest commit 54de616 12 hours ago
R	fix geom_smooth() and add regression tests. Closes #2621. (#2626)	12 hours ago
data-raw	Add new txhousing dataset	3 years ago
data	Add new txhousing dataset	3 years ago
icons	Tweak icons	9 days ago
inst	Update CITATION (#1984)	a year ago
man	geom/stat docs tweaks (#2625)	a day ago
revdep	revdeps for 2.2.1 vs 2.2.1.9000 (#2580)	5 days ago
tests	fix geom_smooth() and add regression tests. Closes #2621. (#2626)	12 hours ago
vignettes	Rename calc() to stat() (#2620)	2 days ago
.Rbuildignore	More issue template tweaking	a year ago
.gitattributes	Avoid merge conflicts in NEWS file	4 years ago
.gitignore	Update revdep template	6 months ago

karawoo commented on Feb 20, 2016

Member

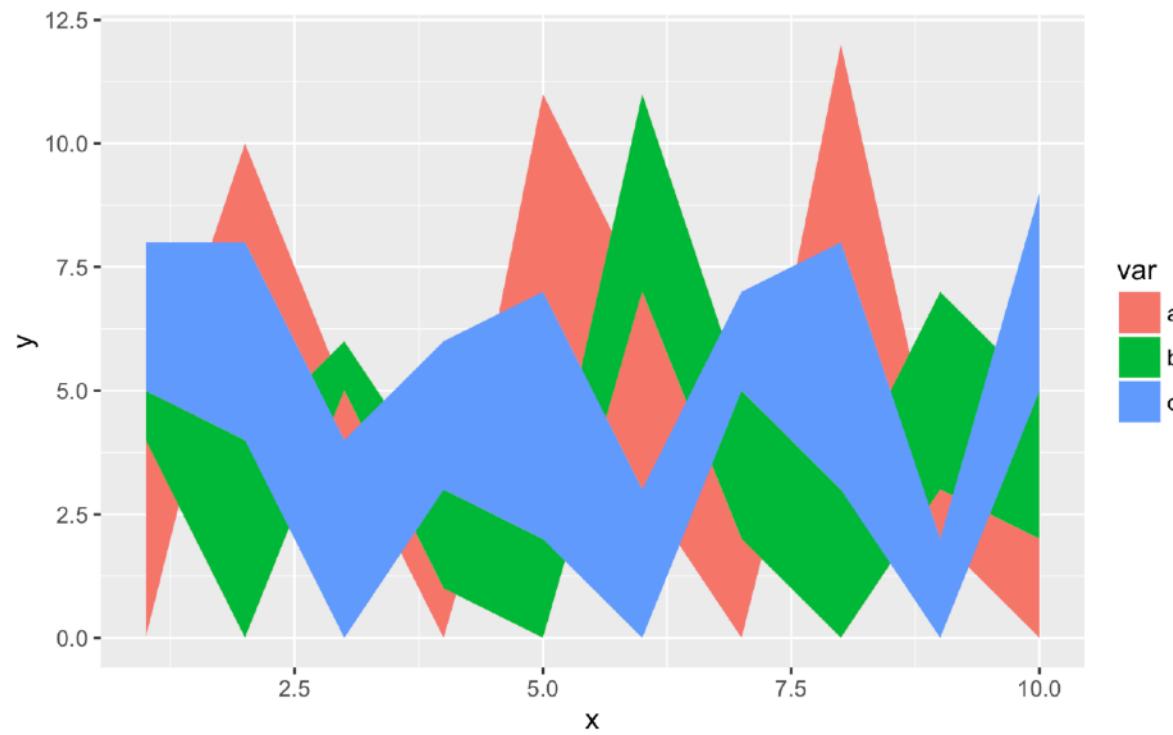


When I try to create a stacked area chart using the following code the segments don't stack, and they occlude each other instead.

```
library("ggplot2")
library("dplyr")

## Create data
set.seed(40)
dat <- data.frame(x = rep(c(1:10), 3),
                  var = rep(c("a", "b", "c"), 10),
                  y = round(runif(30, 1, 5)))

## Plot
ggplot(dat, aes(x = x, y = y, fill = var)) +
  geom_area(position = "stack")
```



REPREX

minimal **r**eproducible **e**xample

```
library("ggplot2")  
  
ggplot(mtcars, aes(wt, mpg)) +  
  geom_point()
```

reprex()

```
``` r
library("ggplot2")

ggplot(mtcars, aes(wt, mpg)) +
 geom_point()
```

```

! [] (<https://i.imgur.com/Ymw2m1B.png>)

Created on 2018-05-18 by the [reprex package] (<http://reprex.tidyverse.org>) (v0.2.0).



Title

Write

Preview

AA B i “ < > ⌂ ≡ ↵ @ ★

```
``` r
library("ggplot2")

ggplot(mtcars, aes(wt, mpg)) +
 geom_point()
```

```

Created on 2018-05-18 by the `[reprex package](http://reprex.tidyverse.org)` (v0.2.0)

Attach files by dragging & dropping, selecting them, or pasting from the clipboard



[Submit new issue](#)

Title

Write

Preview

```
library("ggplot2")  
  
ggplot(mtcars, aes(wt, mpg)) +  
  geom_point()
```

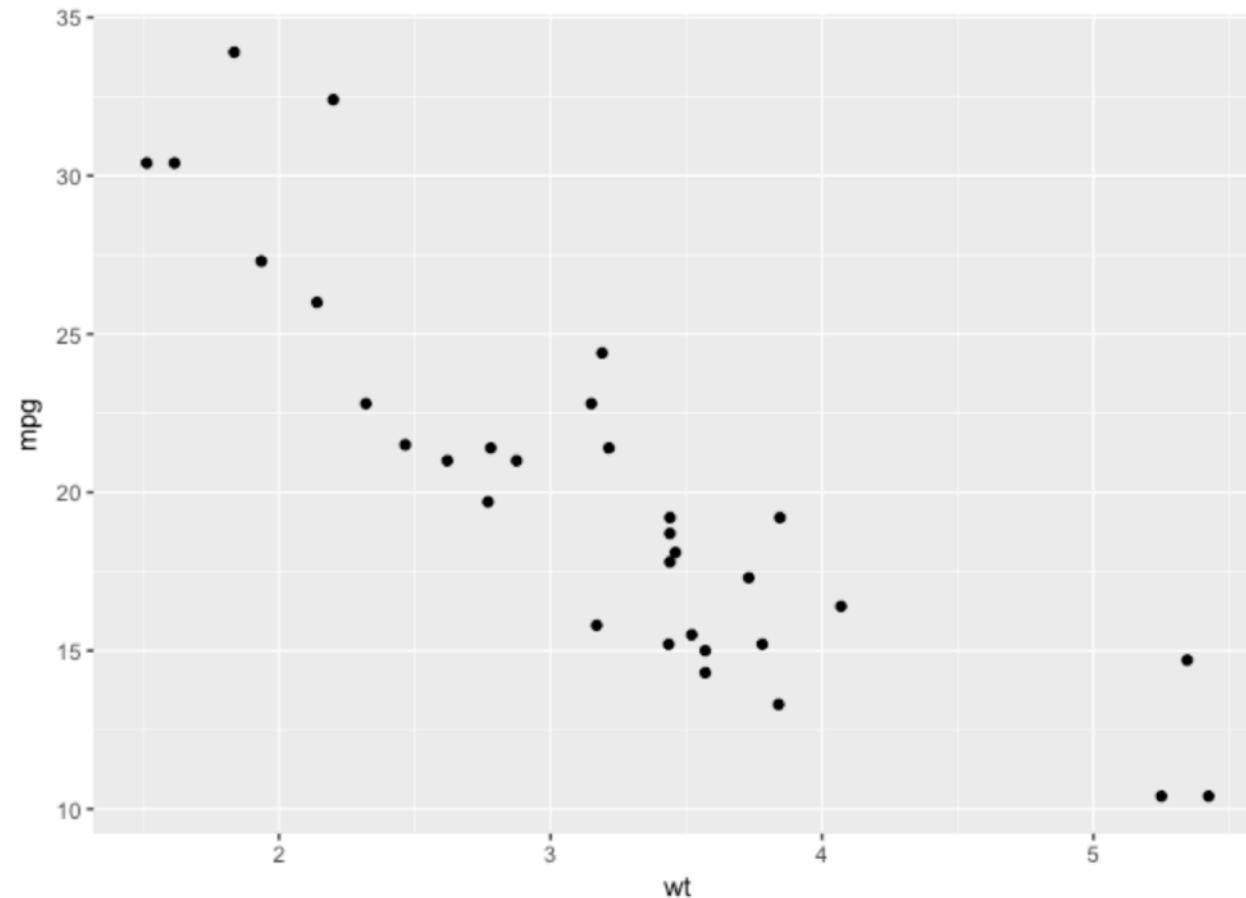




Photo: Sarah Dorweiler

GITHUB ISSUES

provide a **reproducible, clean, parsimonious**
argument that this is a real problem worth fixing



Survey existing
issues on GitHub

Survey existing issues



- Answer questions
- (Re)produce reprexes
- Add information

Code

Issues 62

Pull requests 5

Insights

reduce2_right #498

Open

smj389 opened this issue 29 days ago · 1 comment



smj389 commented 29 days ago



There is a bug in reduce2_right.

The order in which the arguments are passed to reduce2_impl is transposed.

```
function (.x, .y, .f, ..., .init) { reduce2_impl(.x, .f, .y, ..., .init = .init, .left = FALSE) }
```

should be

```
function (.x, .y, .f, ..., .init) { reduce2_impl(.x, .y, .f, ..., .init = .init, .left = FALSE) }
```



2

cderv commented 29 days ago

Contributor



good catch ! Another information to complete : what is odd is that unit test uses this argument inversion

[purrr/tests/testthat/test-reduce.R](#)

Lines 52 to 57 in b3c29c8

```
52     test_that("reduce2_right works if lengths match", {  
53         x <- list(c(0, 1), c(2, 3), c(4, 5))  
54         y <- list(c(6, 7), c(8, 9))  
55         expect_equal(reduce2_right(x, paste, y), c("4 2 8 0 6", "5 3 9 1 7"))  
56         expect_error(reduce2_right(y, paste, x))  
57     })
```

It is why tests are passing on this one. That is definitely not consistent with the documentation and `reduce2`.

```
library(purrr)  
paste2 <- function(x, y, sep = ".") paste(x, y, sep = sep)  
letters[1:4] %>% reduce(paste2)  
#> [1] "a.b.c.d"  
# reduce2 example  
letters[1:4] %>% reduce2(c("-", ".", "-"), paste2)  
#> [1] "a-b.c-d"  
# what would be consistent  
letters[1:4] %>% reduce2_right(c("-", ".", "-"), paste2)  
#> Error in reduce2_impl(.x, .f, .y, ..., .init = .init, .left = FALSE): `y` does not have  
# need to invert .f and .y  
letters[1:4] %>% reduce2_right(paste2, c("-", ".", "-"))  
#> [1] "d-c.b-a"
```



Improve
documentation

```
#' Add two numbers
#'
#' @param x The first number
#' @param y The second number
#' @return The sum of the first
#       and second number
#'
#' @examples
#' add(2, 2)
add <- function(x, y) {
  x + y
}
```

Documentation fixes 🙏

- Typos
- Confusing stuff
- Out of date or inaccurate information
- Examples

[Code](#)[Issues 0](#)[Pull requests 0](#)[Projects 0](#)[Wiki](#)[Insights](#)

Fix typo #1

[Edit](#)

[Merged](#) johannesbjork merged 1 commit into [johannesbjork:master](#) from [karawoo:patch-1](#) 4 days ago

[Conversation 0](#)[Commits 1](#)[Checks 0](#)[Files changed 1](#)

Changes from all commits ▾ Jump to... ▾ +1 -1

[Diff settings ▾](#)[Review changes ▾](#)

2 2 README.md

[View](#) [Copy](#) [Download](#) [Raw](#)

... ... @@ -1,6 +1,6 @@

1 1 # LaCroixColoR (beta)

2 2 LaCroix Color Palettes for R. \

3 -Choose from 20 different LaCroix ~~favors~~--quench your thirst!

3 +Choose from 20 different LaCroix flavors--quench your thirst!

4 4

5 5 ## Install package

6 6





Photo: Kawtar Cherkaoui



Fix a bug!

Contributing code

- Start with an issue

① 3 Open ✓ 6 Closed

Author ▾

Labels ▾

Projects ▾

Milestones ▾

Assignee ▾

Sort ▾

① geom_hex ignores size aesthetic/parameter feature good first issue help wanted layers ↗

#2488 opened on Mar 20 by econandrew

1

① stat_contour's breaks parameter is undocumented docs good first issue help wanted

#2472 opened on Mar 4 by alistaire47

4

① Order of colors in case variable is 'character' bug good first issue scales ↗

#2429 opened on Jan 30 by manuelreif

help wanted

good first issue

BECOMING A BUG DETECTIVE





Photo: Annie Spratt



Photo: Jack Hunter

traceback()



Photo: Ryan Fields

debug()



Photo: Bernard Hermant



Photo: Filip Mroz

Bug hunting tips

- Read the function(s)
- Find the surrounding functions
- `traceback()` and `debug()` are your friends

Contributing code

- Start with an issue

Contributing code

- Start with an issue
- Submit a pull request containing your change

Code

Issues 49

Pull requests 10

Wiki

Insights

Fix angle of switched y strips #2379

Mergedhadley merged 3 commits into `tidyverse:master` from `karawoo:fix-switched-strips` on Dec 22, 2017

Conversation 1

Commits 3

Checks 0

Files changed 3



karawoo commented on Dec 21, 2017

Member



Fixes [#2356](#). The `titleGrob()` refactor caused a bug where strip labels on the left side weren't rotated properly. This fixes it by extracting the creation of the text grobs into a separate function (`create_strip_labels()`) that can be called after the angle has been adjusted.

karawoo added some commits on Dec 21, 2017

 Simplify adjusting angle for switched y strips Verified 019ace5 Create strip text grobs at correct angle when strips are switched Verified c20de02 Test the angle of switched strip labels Verified ✘ 582f76e

Contributing code

- Start with an issue
- Submit a pull request containing your change
 - Update documentation
 - Tests prevent your fix from getting un-fixed
 - Follow code style

Contributing code

- Start with an issue
- Submit a pull request containing your change
 - Update documentation
 - Tests prevent your fix from getting un-fixed
 - Follow code style
- CONTRIBUTING.md



Photo: Antony Xia

START SMALL AND LEARN AS YOU GO

You don't need to be an expert to contribute through issues, comments, reprexes, documentation, or code



hrbrmstr ✅

@hrbrmstr

Following



Oh man. I appreciate _every_ grammar, spelling, re-phrasing, modest code-tweaking, feature suggestion, PR, etc.

I can't always get to them ASAP but they're appreciated & contributors are guaranteed DESCRIPTION credit.

***No* contribution is small. None.**

Emily Robinson @robinson_es

If you're intimidated by the idea of "contributing to open source," check out this post by @reshamas. Contributions don't have to be making a new library/package; documentation, blogs, talk slides, and more are all contributions!

2:58 PM - 10 Apr 2018

More resources

- “Contributing Code to the Tidyverse” by Jim Hester
<http://www.jimhester.com/2017/08/08/contributing/>
- “Contributing to Tidyverse Packages” by Mara Averick
<https://www.rstudio.com/resources/videos/contributing-to-tidyverse-packages/>
- “Happy Git and GitHub for the useR” by Jenny Bryan
<http://happygitwithr.com/>

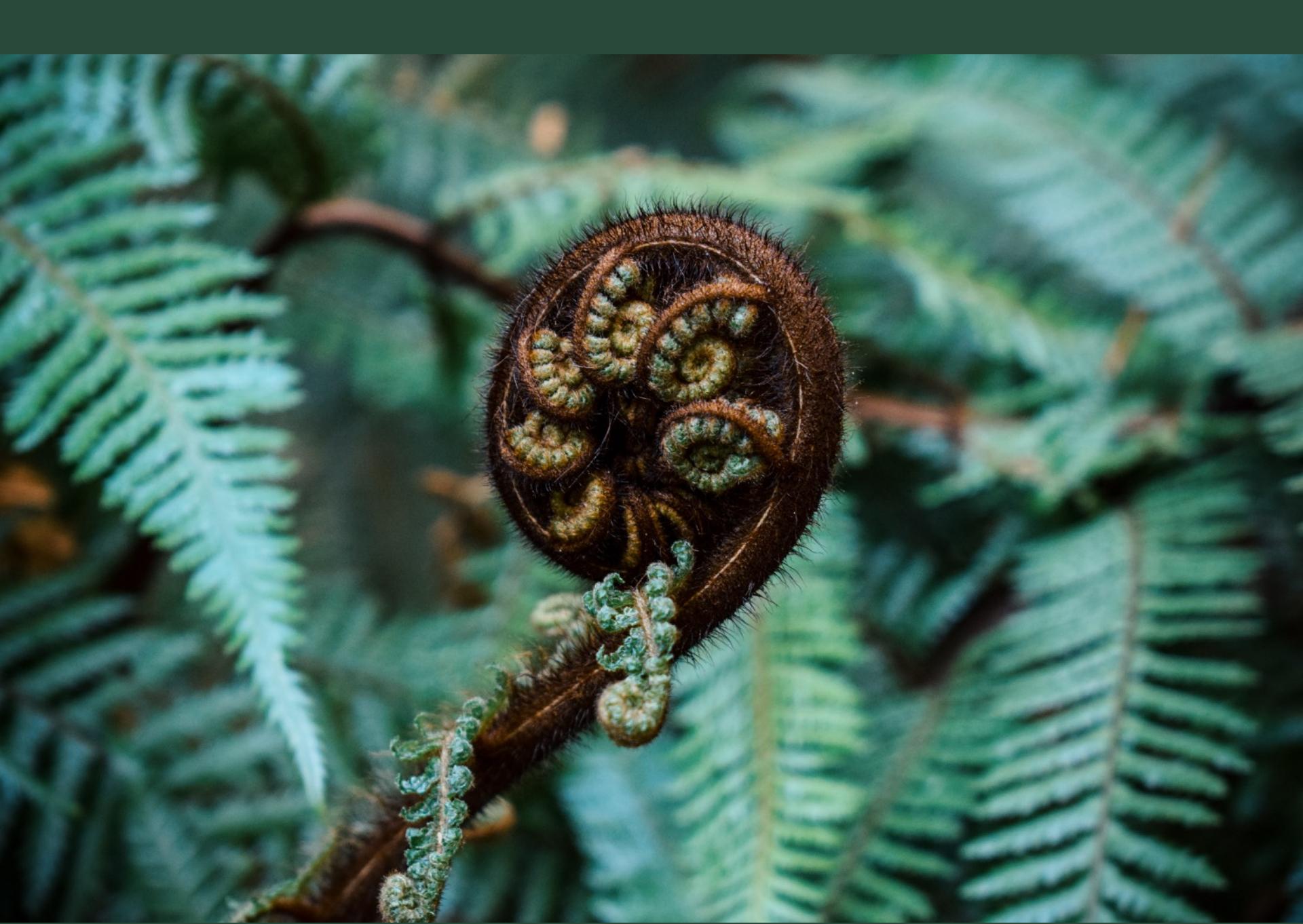


Photo: Agathe Marty

thanks!



Acknowledgements:

Thanks to Mara Averick, Tom Johnson, Sean Kross, Ross Donaldson, Hadley Wickham, R-Ladies Seattle, and #rcatladies

Photo: Tom Johnson