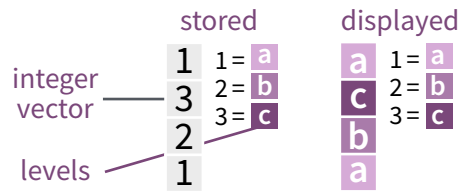


Factors with forcats : : CHEATSHEET

The **forcats** package provides tools for working with factors, which are R's data structure for categorical data.

Factors

R represents categorical data with factors. A **factor** is an integer vector with a **levels** attribute that stores a set of mappings between integers and categorical values. When you view a factor, R displays not the integers, but the levels associated with them.



Create a factor with `factor()`

factor(x = character(), levels, labels = levels, exclude = NA, ordered = is.ordered(x), nmax = NA) Convert a vector to a factor. Also **as_factor()**.
`f <- factor(c("a", "c", "b", "a"), levels = c("a", "b", "c"))`

Return its levels with `levels()`
levels(x) Return/set the levels of a factor. `levels(f)`; `levels(f) <- c("x", "y", "z")`

Use `unclass()` to see its structure

Inspect Factors

fct_count(f, sort = FALSE, prop = FALSE) Count the number of values with each level. `fct_count(f)`

fct_match(f, lvls) Check for lvls in f. `fct_match(f, "a")`

fct_unique(f) Return the unique values, removing duplicates. `fct_unique(f)`

Combine Factors

fct_c(...) Combine factors with different levels. Also **fct_cross()**.
`f1 <- factor(c("a", "c"))`
`f2 <- factor(c("b", "a"))`
`fct_c(f1, f2)`

fct_unify(fs, levels = lvls_union(fs)) Standardize levels across a list of factors.
`fct_unify(list(f2, f1))`

Change the order of levels

fct_relevel(.f, ..., after = 0L) Manually reorder factor levels.
`fct_relevel(f, c("b", "c", "a"))`

fct_infreq(f, ordered = NA) Reorder levels by the frequency in which they appear in the data (highest frequency first). Also **fct_inseq()**.
`f3 <- factor(c("c", "c", "a"))`
`fct_infreq(f3)`

fct_inorder(f, ordered = NA) Reorder levels by order in which they appear in the data.
`fct_inorder(f2)`

fct_rev(f) Reverse level order.
`f4 <- factor(c("a", "b", "c"))`
`fct_rev(f4)`

fct_shift(f) Shift levels to left or right, wrapping around end.
`fct_shift(f4)`

fct_shuffle(f, n = 1L) Randomly permute order of factor levels.
`fct_shuffle(f4)`

fct_reorder(.f, .x, .fun = median, ..., .desc = FALSE) Reorder levels by their relationship with another variable.
`boxplot(PlantGrowth, weight ~ fct_reorder(group, weight))`

fct_reorder2(.f, .x, .y, .fun = last2, ..., .desc = TRUE) Reorder levels by their final values when plotted with two other variables.
`ggplot(diamonds, aes(carat, price, color = fct_reorder2(color, carat, price))) + geom_smooth()`

Change the value of levels

fct_recode(.f, ...) Manually change levels. Also **fct_relabel()** which obeys `purrr::map` syntax to apply a function or expression to each level.
`fct_recode(f, v = "a", x = "b", z = "c")`
`fct_relabel(f, ~ paste0("x", .x))`

fct_anon(f, prefix = "") Anonymize levels with random integers.
`fct_anon(f)`

fct_collapse(.f, ..., other_level = NULL) Collapse levels into manually defined groups.
`fct_collapse(f, x = c("a", "b"))`

fct_lump_min(f, min, w = NULL, other_level = "Other") Lumps together factors that appear fewer than min times. Also **fct_lump_n()**, **fct_lump_prop()**, and **fct_lump_lowfreq()**.
`fct_lump_min(f, min = 2)`

fct_other(f, keep, drop, other_level = "Other") Replace levels with "other".
`fct_other(f, keep = c("a", "b"))`

Add or drop levels

fct_drop(f, only) Drop unused levels.
`f5 <- factor(c("a", "b"), c("a", "b", "x"))`
`f6 <- fct_drop(f5)`

fct_expand(f, ...) Add levels to a factor.
`fct_expand(f6, "x")`

fct_na_value_to_level(f, level = "(Missing)") Assigns a level to NAs to ensure they appear in plots, etc.
`f7 <- factor(c("a", "b", NA))`
`fct_na_value_to_level(f7, level = "(Missing)")`