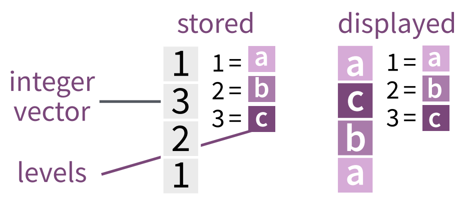
Factors with forcats : : **CHEAT SHEET**

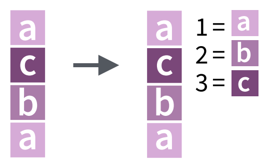
The **forcats** package provides tools for working with factors, which are R's data structure for categorical data.

Factors



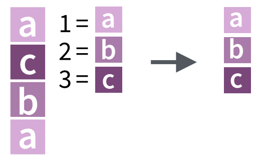
R represents categorical data with factors. A **factor** is an integer vector with a **levels** attribute that stores a set of mappings between integers and categorical values. When you view a factor, R displays not the integers, but the values associated with them.

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"))

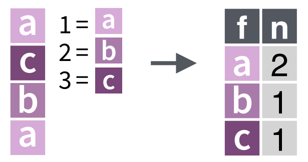
Return its levels with levels()



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

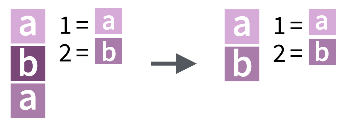
Use unclass() to see its structure

Inspect Factors



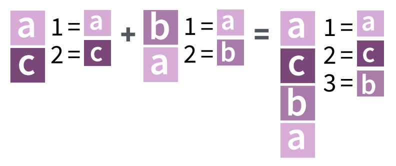
fct_count(f, sort = FALSE, prop = FALSE**)** Count the number of values with each level. fct_count(f)

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

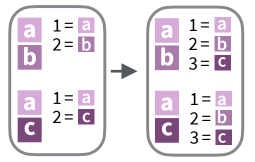


fct_unique(f**)** Return the unique values, removing duplicates. fct_unique(f)

Combine Factors

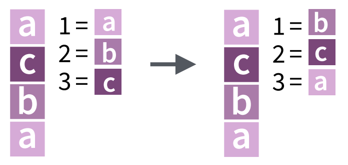


fct_c(…**)** Combine factors with different levels. Also **fct_cross()**.
f1 <- factor(c("a", "c"))
f2 <- factor(c("b", "a"))
fct_c(f1, f2)

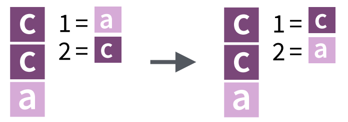


fct_unify(fs, levels = lvls_union(fs)**)** Standardize levels across a list of factors. fct_unify(list(f2, f1))

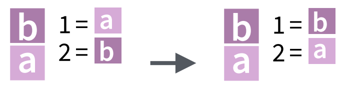
Change the order of levels



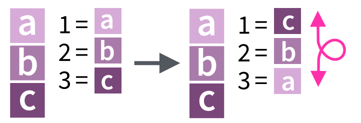
fct_relevel(.f, ..., after = 0L**)** Manually reorder factor levels. fct_relevel(f, c("b", "c", "a"))



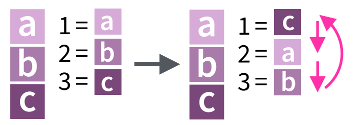
fct_infreq(f, ordered = NA**)** Reorder levels by the frequency in which they appear in the data (highest frequency first). Also **fct_inseq()**.
f3 <- factor(c("c", "c", "a"))
fct_infreq(f3)



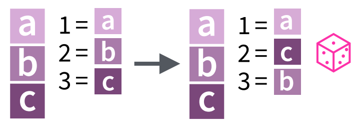
fct_inorder(f, ordered = NA**)** Reorder levels by order in which they appear in the data. fct_inorder(f2)



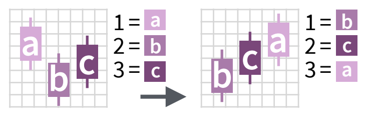
fct_rev(f**)** Reverse level order.
f4 <- factor(c("a","b","c"))
fct_rev(f4)



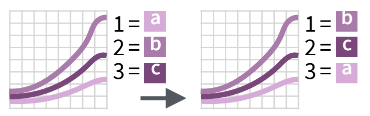
fct_shift(f**)** Shift levels to left or right, wrapping around end. fct_shift(f4)



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

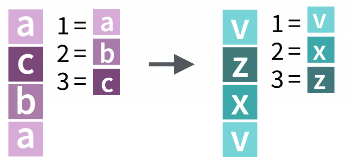


fct_reorder(.f, .x, .fun = median, ..., .desc = FALSE**)** Reorder levels by their relationship with another variable.
boxplot(data = PlantGrowth, weight ~ reorder(group, weight))

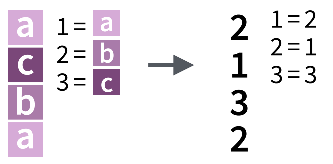


fct_reorder2(.f, .x, .y, .fun = last2, ..., .desc = TRUE**)** Reorder levels by their final values when plotted with two other variables.
ggplot(diamonds,aes(carat, price, color = fct_reorder2(color, carat, price))) + geom_smooth()

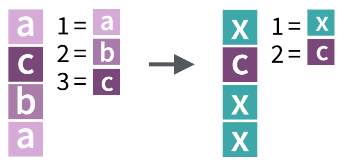
Change the value of levels



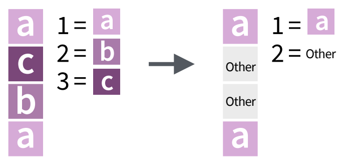
fct_recode(.f, ...**)** Manually change levels. Also **fct_relabel()** which obeys purrr::map syntax to apply a function or expression to each level.
fct_recode(f, v = "a", x = "b", z = "c")
fct_relabel(f, ~ paste0("x", .x))



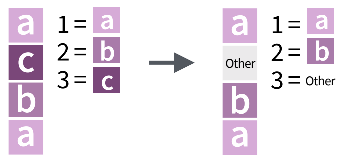
fct_anon(f, prefix = ""**)** Anonymize levels with random integers.
fct_anon(f)



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

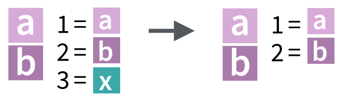


fct_lump_min(f, min, w = NULL, other_level = "Other"**)** Lumps together factors that appear fewer than min times. Also **fct_lump_n()**, **fct_lump_prop()**, and **fct_lump_lowfreq()**.
fct_lump_min(f, min = 2)

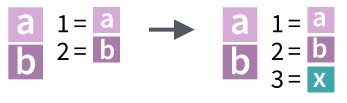


fct_other(f, keep, drop, other_level = "Other"**)** Replace levels with "other."
fct_other(f, keep = c("a", "b"))

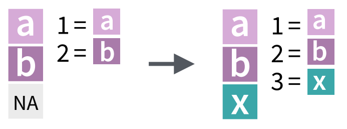
Add or drop levels



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_explicit_na(f, na_level="(Missing)"**)** Assigns a level to NAs to ensure they appear in plots, etc.
fct_explicit_na(factor(c("a", "b", NA)))