Categorical Variables:

BAR CHARTS

Categorical data

FACTOR

ordinal
freshman, sophomore, junior, senior

nominal
Manhattan, The Bronx, Brooklyn, Queens, Staten Island
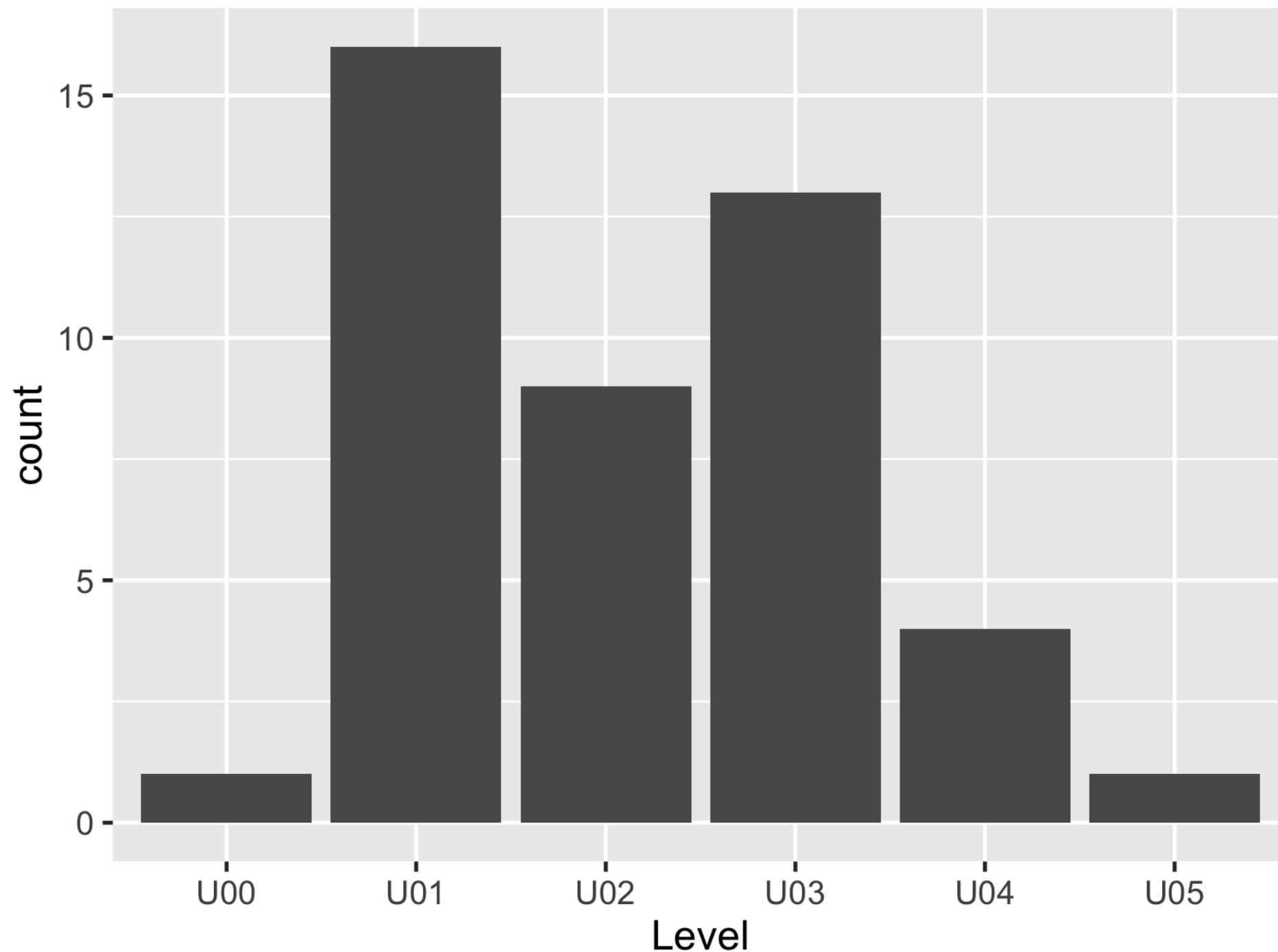
discrete
bikes, # of wheels: 1, 2, 3, 4

Categorical data
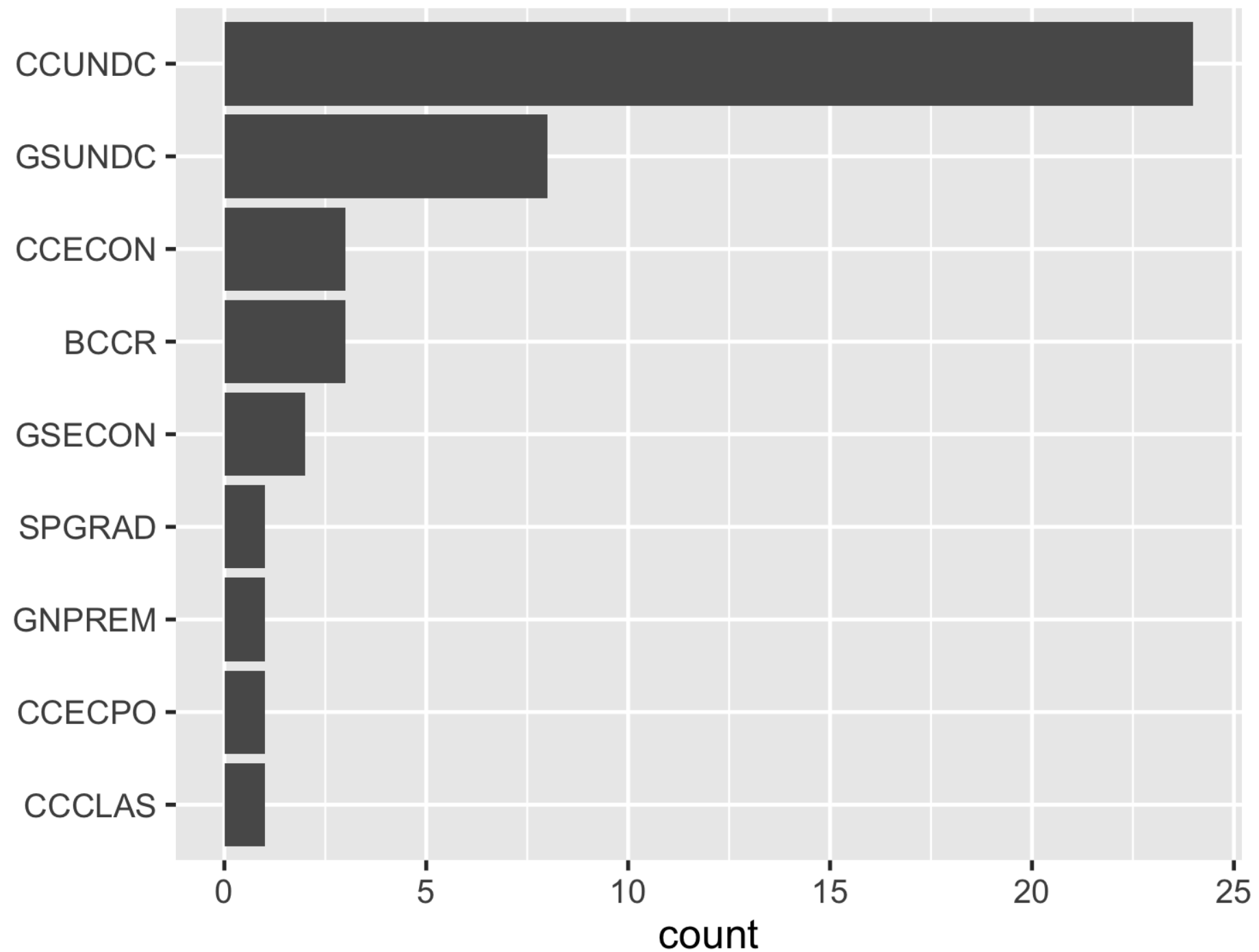
CHARACTER

names, addresses, etc.

Bar charts
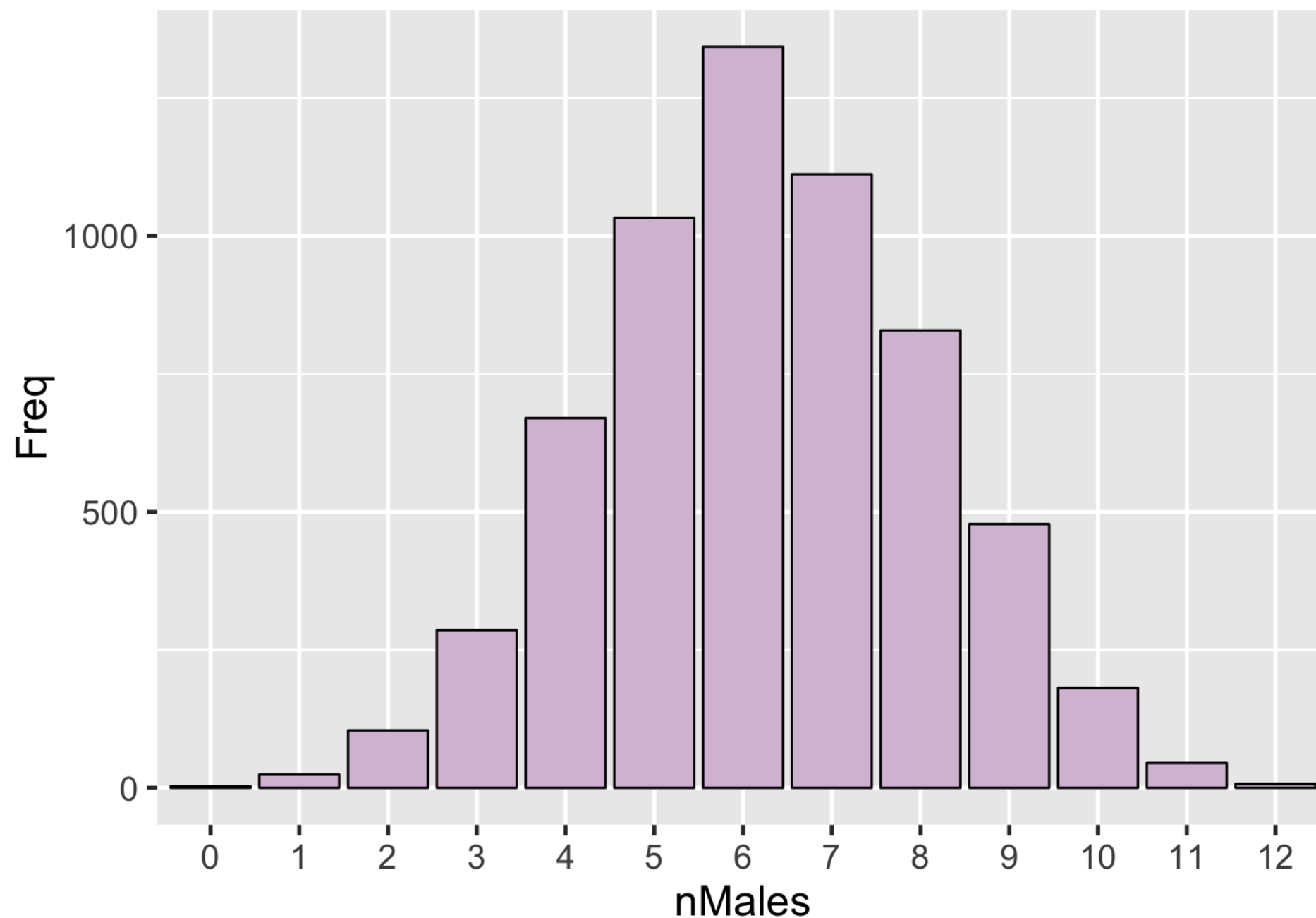## Ordinal data: sort bars by natural order

Bar charts
Nominal data: sort bars by frequency

Bar charts
Discrete data: sort bars by natural order

# of male children in 6115 familes of size 12

ggplot2

unbinned data

```r
df_unbinned <- data.frame(temperature =
    ("cold", "warm", "hot", "hot", "warm",
     "warm", "cold", "cold", "cold"))
```
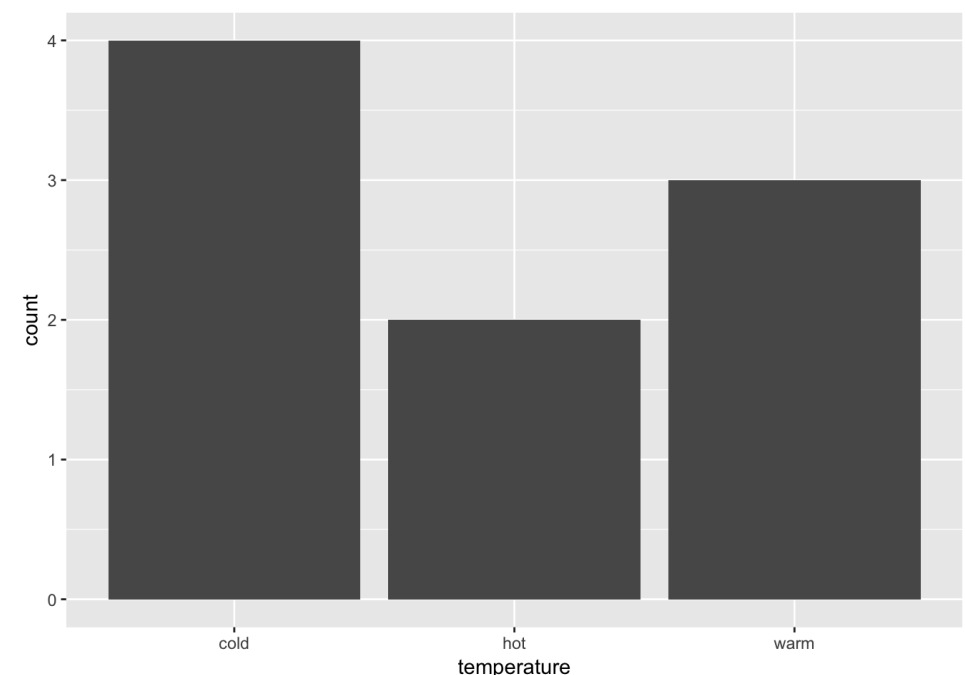
binned data

```r
df_binned <- data.frame(temperature =
    c("cold", "hot", "warm"),
    count = c(4, 2, 3))
```

geom_bar()

unbinned data

```
df_unbinned <- data.frame(temperature =
    ("cold", "warm", "hot", "hot", "warm",
     "warm", "cold", "cold", "cold"))

ggplot(df_unbinned,
    aes(x = temperature)) +
    geom_bar()
```
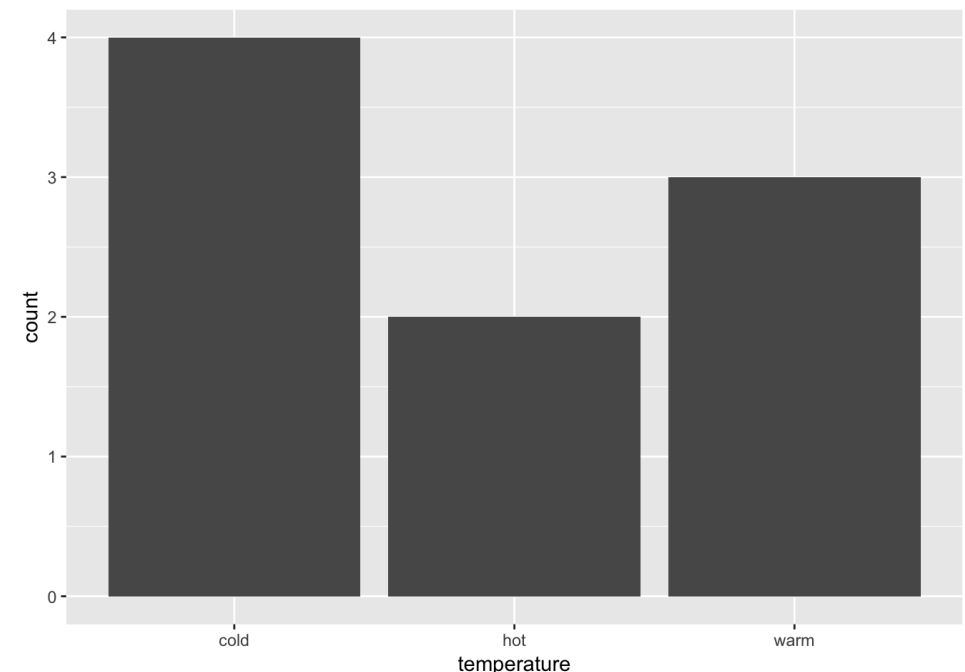
geom_col()

binned data

```
df_binned <- data.frame(temperature =
    c("cold", "hot", "warm"),
    count = c(4, 2, 3))

ggplot(df_binned,
    aes(x = temperature, y = count)) +
    geom_col()
```

how to reorder bars

Kara Woo @kara_woo · Feb 5

Aftereffects of #rstudioconf: I spent five minutes trying to answer a ggplot2 Stack Overflow question on a display laptop in the Apple store, without a reprex or access to R, before remembering that's not what I was there for.

💬 10   🔁 8   ❤️ 206   ✉️

Claus Wilke
@ClausWilke

Following

Replying to @kara_woo

The answer to all ggplot2 questions on stackoverflow: "You need to turn the variable into a factor and then order the levels in the order you want the bars to be drawn."

8:19 PM - 5 Feb 2018

4 Retweets **49** Likes

💬 2   🔁 4   ❤️ 49   ✉️

how to reorder bars

reorder factor levels

base R

```r
df_unbinned$temperature <-
    factor(df_unbinned$temperature,
        levels = c("cold", "warm", "hot"))
```

dplyr

```r
df_unbinned <- df_unbinned %>%
    mutate(temperature = factor(temperature,
        levels = c("cold", "warm", "hot")))
```

how to reorder bars

more options

"Reorder those bars, once and for all, with forcats"

https://github.com/jtr13/codehelp/blob/master/R/reorder.md

Lab 4: Bar charts

1) Go to:

https://github.com/jtr13/BRL-workshops

2) Download ZIP

3) Open:

4-Barchart.Rmd

in the

labs/ folder