Week 9 code along

Niki

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```
#Slide 8

library(tidyverse)
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v forcats   1.0.0     v readr     2.1.4
## v ggplot2   3.4.3     v stringr   1.5.0
## v lubridate 1.9.2     v tibble    3.2.1
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
tidydata <- tribble(
~country,  ~year,  ~cases, ~population,
"Afghanistan",  1999,    745,   19987071,
"Afghanistan",  2000,   2666,   20595360,
"Brazil", 1999, 37737,  172006362)

tidydata
```

```
## # A tibble: 3 x 4
##   country      year cases population
##   <chr>       <dbl> <dbl>      <dbl>
## 1 Afghanistan  1999   745   19987071
## 2 Afghanistan  2000  2666   20595360
## 3 Brazil       1999 37737  172006362
```

```
#Slide 8

nontidydata <- tribble(
 ~country,~year,~rate,
"Afghanistan",  1999, "745/19987071",
"Afghanistan",  2000, "2666/20595360",
"Brazil", 1999, "37737/172006362",
"Brazil", 1999, "212258/1272915272",
"China", 2000, "213766/1280428583")
nontidydata
```

```
## # A tibble: 5 x 3
##   country      year rate
##   <chr>       <dbl> <chr>
## 1 Afghanistan  1999 745/19987071
```

```
## 2 Afghanistan  2000 2666/20595360
## 3 Brazil       1999 37737/172006362
## 4 Brazil       1999 212258/1272915272
## 5 China        2000 213766/1280428583
```

```
#Slide 11

nontidydata
```

```
## # A tibble: 5 x 3
##   country      year rate
##   <chr>       <dbl> <chr>
## 1 Afghanistan  1999 745/19987071
## 2 Afghanistan  2000 2666/20595360
## 3 Brazil       1999 37737/172006362
## 4 Brazil       1999 212258/1272915272
## 5 China        2000 213766/1280428583
```

```
tidieddata <- nontidydata %>%
  separate(rate, into = c("cases", "population"),
  sep = "/")

tidieddata
```

```
## # A tibble: 5 x 4
##   country      year cases  population
##   <chr>       <dbl> <chr>  <chr>
## 1 Afghanistan  1999 745    19987071
## 2 Afghanistan  2000 2666   20595360
## 3 Brazil       1999 37737  172006362
## 4 Brazil       1999 212258 1272915272
## 5 China        2000 213766 1280428583
```

```
#Slide 12

newtidieddata <- tidieddata %>%
  pivot_longer(
    cols = cases:population,
    names_to = "measurement",
    values_to = "value"
  )
newtidieddata
```

```
## # A tibble: 10 x 4
##    country      year measurement value
##    <chr>       <dbl> <chr>       <chr>
##  1 Afghanistan  1999 cases       745
##  2 Afghanistan  1999 population  19987071
##  3 Afghanistan  2000 cases       2666
##  4 Afghanistan  2000 population  20595360
##  5 Brazil       1999 cases       37737
##  6 Brazil       1999 population  172006362
##  7 Brazil       1999 cases       212258
##  8 Brazil       1999 population  1272915272
##  9 China        2000 cases       213766
## 10 China        2000 population  1280428583
```

```r
#Slide 14

df <- tribble(
  ~id,  ~bp1, ~bp2,
   "A",  100,  120,
   "B",  140,  115,
   "C",  120,  125
)

df
```

```
## # A tibble: 3 x 3
##   id      bp1   bp2
##   <chr> <dbl> <dbl>
## 1 A       100   120
## 2 B       140   115
## 3 C       120   125
```

```r
df %>%
  pivot_longer(
    cols = bp1:bp2,
    names_to = "measurement",
    values_to = "value"
)
```

```
## # A tibble: 6 x 3
##   id    measurement value
##   <chr> <chr>       <dbl>
## 1 A     bp1           100
## 2 A     bp2           120
## 3 B     bp1           140
## 4 B     bp2           115
## 5 C     bp1           120
## 6 C     bp2           125
```

```r
#Slide 18

newtidieddata
```

```
## # A tibble: 10 x 4
##    country      year measurement value
##    <chr>       <dbl> <chr>       <chr>
##  1 Afghanistan  1999 cases       745
##  2 Afghanistan  1999 population  19987071
##  3 Afghanistan  2000 cases       2666
##  4 Afghanistan  2000 population  20595360
##  5 Brazil       1999 cases       37737
##  6 Brazil       1999 population  172006362
##  7 Brazil       1999 cases       212258
##  8 Brazil       1999 population  1272915272
##  9 China        2000 cases       213766
## 10 China        2000 population  1280428583
```

```r
newtidieddata %>%
  pivot_wider(names_from="measurement",
              values_from="value")
```

```
## Warning: Values from `value` are not uniquely identified; output will contain list-cols.
## * Use `values_fn = list` to suppress this warning.
## * Use `values_fn = {summary_fun}` to summarise duplicates.
## * Use the following dplyr code to identify duplicates.
##   {data} %>%
##   dplyr::group_by(country, year, measurement) %>%
##   dplyr::summarise(n = dplyr::n(), .groups = "drop") %>%
##   dplyr::filter(n > 1L)
```

```
## # A tibble: 4 x 4
##   country      year cases      population
##   <chr>       <dbl> <list>     <list>
## 1 Afghanistan  1999 <chr [1]> <chr [1]>
## 2 Afghanistan  2000 <chr [1]> <chr [1]>
## 3 Brazil       1999 <chr [2]> <chr [2]>
## 4 China        2000 <chr [1]> <chr [1]>
```

```
#Slide 19

df <- tribble(
  ~id, ~measurement, ~value,
  "A",        "bp1",    100,
  "B",        "bp1",    140,
  "B",        "bp2",    115,
  "A",        "bp2",    120,
  "A",        "bp3",    105
)
df
```

```
## # A tibble: 5 x 3
##   id    measurement value
##   <chr> <chr>       <dbl>
## 1 A     bp1           100
## 2 B     bp1           140
## 3 B     bp2           115
## 4 A     bp2           120
## 5 A     bp3           105
```

```
df %>%
  pivot_wider(
    names_from = measurement,
    values_from = value
  )
```

```
## # A tibble: 2 x 4
##   id      bp1   bp2   bp3
##   <chr> <dbl> <dbl> <dbl>
## 1 A       100   120   105
## 2 B       140   115    NA
```

```
#Challenge


library(tidyr)

newbillboard <- billboard %>%
  pivot_longer(cols = starts_with("wk"),
```

```
               names_to = "week",
               values_to = "value")
newbillboard
```

```
## # A tibble: 24,092 x 5
##    artist track                   date.entered week  value
##    <chr>  <chr>                   <date>       <chr> <dbl>
##  1 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk1      87
##  2 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk2      82
##  3 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk3      72
##  4 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk4      77
##  5 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk5      87
##  6 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk6      94
##  7 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk7      99
##  8 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk8      NA
##  9 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk9      NA
## 10 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk10     NA
## # i 24,082 more rows
```

```
#Challenge

newbillboard <- billboard %>%
  pivot_longer(cols = starts_with("wk"),
               names_to = "week",
               values_to = "rank")
newbillboard
```

```
## # A tibble: 24,092 x 5
##    artist track                   date.entered week   rank
##    <chr>  <chr>                   <date>       <chr> <dbl>
##  1 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk1      87
##  2 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk2      82
##  3 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk3      72
##  4 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk4      77
##  5 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk5      87
##  6 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk6      94
##  7 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk7      99
##  8 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk8      NA
##  9 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk9      NA
## 10 2 Pac  Baby Don't Cry (Keep... 2000-02-26   wk10     NA
## # i 24,082 more rows
```

```
#Challenge

newbillboard <- billboard %>%
  pivot_longer(cols = starts_with("wk"),
               names_to = "week",
               values_to = "rank",
               values_drop_na = T)
newbillboard
```

```
## # A tibble: 5,307 x 5
##    artist  track                   date.entered week   rank
##    <chr>   <chr>                   <date>       <chr> <dbl>
##  1 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk1      87
##  2 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk2      82
```

```
##  3 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk3      72
##  4 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk4      77
##  5 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk5      87
##  6 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk6      94
##  7 2 Pac   Baby Don't Cry (Keep... 2000-02-26   wk7      99
##  8 2Ge+her The Hardest Part Of ... 2000-09-02   wk1      91
##  9 2Ge+her The Hardest Part Of ... 2000-09-02   wk2      87
## 10 2Ge+her The Hardest Part Of ... 2000-09-02   wk3      92
## # i 5,297 more rows
```

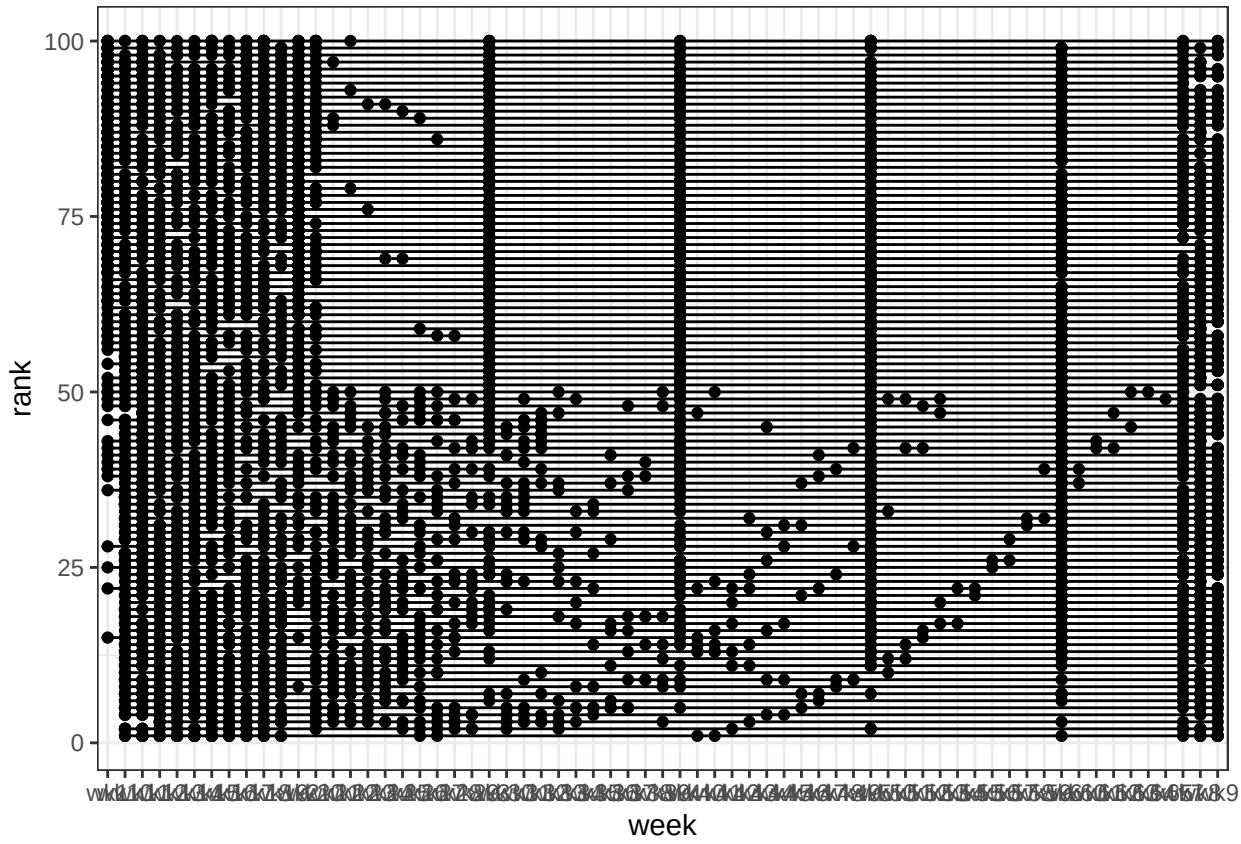
```
#Challenge

newbillboard %>%
  mutate(week = parse_number(week))
```

```
## # A tibble: 5,307 x 5
##    artist  track                   date.entered  week  rank
##    <chr>   <chr>                   <date>       <dbl> <dbl>
##  1 2 Pac   Baby Don't Cry (Keep... 2000-02-26       1    87
##  2 2 Pac   Baby Don't Cry (Keep... 2000-02-26       2    82
##  3 2 Pac   Baby Don't Cry (Keep... 2000-02-26       3    72
##  4 2 Pac   Baby Don't Cry (Keep... 2000-02-26       4    77
##  5 2 Pac   Baby Don't Cry (Keep... 2000-02-26       5    87
##  6 2 Pac   Baby Don't Cry (Keep... 2000-02-26       6    94
##  7 2 Pac   Baby Don't Cry (Keep... 2000-02-26       7    99
##  8 2Ge+her The Hardest Part Of ... 2000-09-02       1    91
##  9 2Ge+her The Hardest Part Of ... 2000-09-02       2    87
## 10 2Ge+her The Hardest Part Of ... 2000-09-02       3    92
## # i 5,297 more rows
```

```
#Challenge

ggplot(newbillboard) +
  aes(x=week,y=rank) +
  geom_point() +
  geom_line(aes(group = rank))+
  theme_bw()
```




```
#Challenge

new_patient <-cms_patient_experience %>%
  pivot_wider(
    names_from = "measure_cd",
    values_from = "prf_rate",
    id_cols = starts_with("org")
    )


new_patient
```

```
## # A tibble: 95 x 8
##    org_pac_id org_nm CAHPS_GRP_1 CAHPS_GRP_2 CAHPS_GRP_3 CAHPS_GRP_5 CAHPS_GRP_8
##    <chr>      <chr>        <dbl>       <dbl>       <dbl>       <dbl>       <dbl>
##  1 0446157747 USC C~          63          87          86          57          85
##  2 0446162697 ASSOC~          59          85          83          63          88
##  3 0547164295 BEAVE~          49          NA          75          44          73
##  4 0749333730 CAPE ~          67          84          85          65          82
##  5 0840104360 ALLIA~          66          87          87          64          87
##  6 0840109864 REX H~          73          87          84          67          91
##  7 0840513552 SCL H~          58          83          76          58          78
##  8 0941545784 GRITM~          46          86          81          54          NA
##  9 1052612785 COMMU~          65          84          80          58          87
## 10 1254237779 OUR L~          61          NA          NA          65          NA
## # i 85 more rows
## # i 1 more variable: CAHPS_GRP_12 <dbl>
```

“‘