

Code-Along and Challenge 9

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```
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 4.2.3
```

```
## Warning: package 'ggplot2' was built under R version 4.2.3
```

```
## Warning: package 'tibble' was built under R version 4.2.3
```

```
## Warning: package 'tidyr' was built under R version 4.2.2
```

```
## Warning: package 'readr' was built under R version 4.2.2
```

```
## Warning: package 'purrr' was built under R version 4.2.3
```

```
## Warning: package 'dplyr' was built under R version 4.2.3
```

```
## Warning: package 'stringr' was built under R version 4.2.2
```

```
## Warning: package 'forcats' was built under R version 4.2.3
```

```
## Warning: package 'lubridate' was built under R version 4.2.2
```

```
## -- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
```

```
## v dplyr      1.1.2      v readr      2.1.4
```

```
## v forcats    1.0.0      v stringr   1.5.0
```

```
## v ggplot2    3.4.3      v tibble    3.2.1
```

```
## v lubridate  1.9.2      v tidyr     1.3.0
```

```
## 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,
  "Brazil", 2000, 80488, 174504898,
  "China", 1999, 212258, 1272915272,
  "China", 2000, 213766, 1280428583)
```

```
nontidydata <- tribble(
  ~country,~year,~rate,
  "Afghanistan", 1999, "745/19987071",
  "Afghanistan", 2000, "2666/20595360",
  "Brazil", 1999, "37737/172006362",
  "Brazil", 2000, "80488/174504898",
  "China", 1999, "212258/1272915272",
  "China", 2000, "213766/1280428583")
```

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

```
## # A tibble: 6 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      2000 80488   174504898
## 5 China       1999 212258  1272915272
## 6 China       2000 213766  1280428583
```

```
nontidydata
```

```
## # A tibble: 6 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      2000 80488/174504898
## 5 China       1999 212258/1272915272
## 6 China       2000 213766/1280428583
```

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

```
## # A tibble: 12 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      2000 cases      80488
## 8 Brazil      2000 population 174504898
## 9 China       1999 cases      212258
## 10 China      1999 population 1272915272
## 11 China      2000 cases      213766
## 12 China      2000 population 1280428583
```

```
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
```

```
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
```

```
newtidieddata
```

```
## # A tibble: 12 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      2000 cases      80488
## 8 Brazil      2000 population 174504898
## 9 China       1999 cases      212258
## 10 China      1999 population 1272915272
## 11 China      2000 cases      213766
## 12 China      2000 population 1280428583
```

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

```
## # A tibble: 6 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      2000 80488  174504898
## 5 China       1999 212258 1272915272
## 6 China       2000 213766 1280428583
```

```
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
```

```

newbillboard <- billboard %>%
  pivot_longer(
    cols = wk1:wk76,
    names_to = "week"
  ,
    values_to = "rank",
    values_drop_na = TRUE,
  )
newbillboard <- newbillboard %>%
  mutate(week = parse_number(week))
newbillboard

```

```

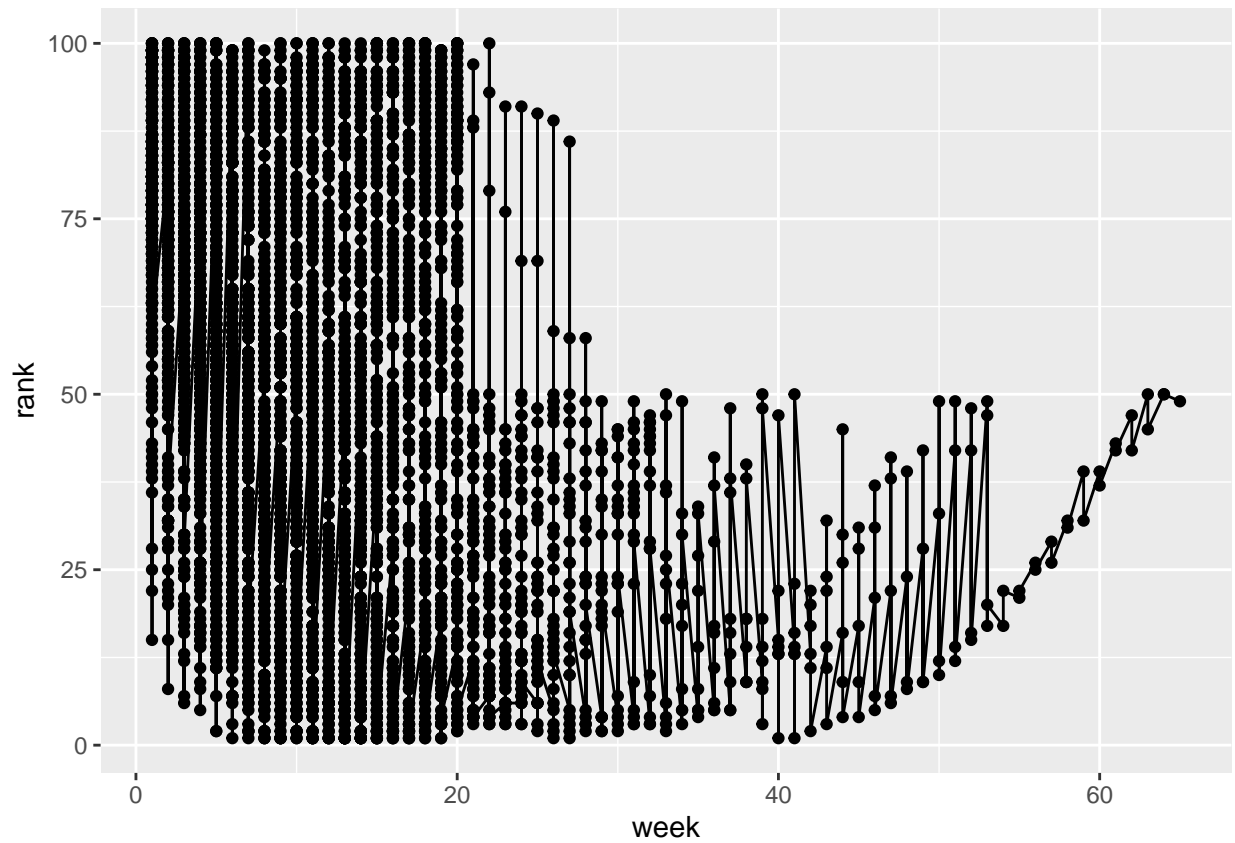
## # A tibble: 5,307 x 5
##   artist track date.entered week rank
##   <chr> <chr> <date> <dbl> <dbl>
## 1 2 Pac Baby Don't Cry (Keep... 2000-02-26 1 87
## 2 2 Pac Baby Don't Cry (Keep... 2000-02-26 2 82
## 3 2 Pac Baby Don't Cry (Keep... 2000-02-26 3 72
## 4 2 Pac Baby Don't Cry (Keep... 2000-02-26 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

```

```

ggplot(data = newbillboard, mapping=aes(x = week, y = rank)) +
  geom_point() +
  geom_line()

```



```
ggplot(data = newbillboard, mapping=aes(x = week, y = rank, colour=track)) +  
  geom_point() +  
  geom_line(aes(group = track))
```

● I Need A Hot Girl	● It Feels So Good	● Loser	● My Next Thirty \
● I Need You	● It Must Be Love	● Love's The Only Hous...	● N 2 Gether Now
● I Think God Can Expl...	● It Was	● Love Is Blind	● Never Let You G
● I Think I'm In Love ...	● Jumpin' Jumpin'	● Love Sets You Free	● No Leaf Clover
● I Try	● Just Another Day In ...	● Lucky	● No Matter What
● I Turn To You	● Just Be A Man About ...	● Maria, Maria	● No Me Dejes De
● I Wanna Be With You	● Just Friends	● Me Neither	● No Mercy
● I Wanna Know	● Kernkraft 400	● Meanwhile Back At Th...	● No More
● I Will Love Again	● Kiss This	● Meet Virginia	● No More Rain (I
● I Will.. But	● Kryptonite	● Mirror Mirror	● None Of Ur Frie
● I Wish	● L.A. Song	● Monica	● Nothing As It Se
● If I Am	● Last Resort	● More	● One Night Stand
● If You Don't Wanna L...	● Learn To Fly	● Most Girls	● One Voice
● Imagine That	● Left & Right	● Mr. Too Damn Good	● Only God Know
● Incomplete	● Left, Right, Left	● Music	● Oops!.. I Did It /
● Independent Women Pa...	● Lessons Learned	● My Baby You	● Open My Heart
● It's Always Somethin...	● Let's Get Married	● My Best Friend	● Original Prankst
● It's Gonna Be Me	● Let's Make Love	● My First Love	● Otherside
● It's Mv Life	● Liar	● Mv Love Goes On And ...	● Partv Up (Up In

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

```
## # 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>
```