Week9_codealong_challenge

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#TIDYDATA

```
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"
)

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
```

```
tidydata %>%
 group_by(year) %>%
 summarize(total_cases = sum(cases))
```

```
## # A tibble: 2 x 2
##    year total_cases
```

```
##   <dbl>       <dbl>
## 1  1999      250740
## 2  2000      296920
```

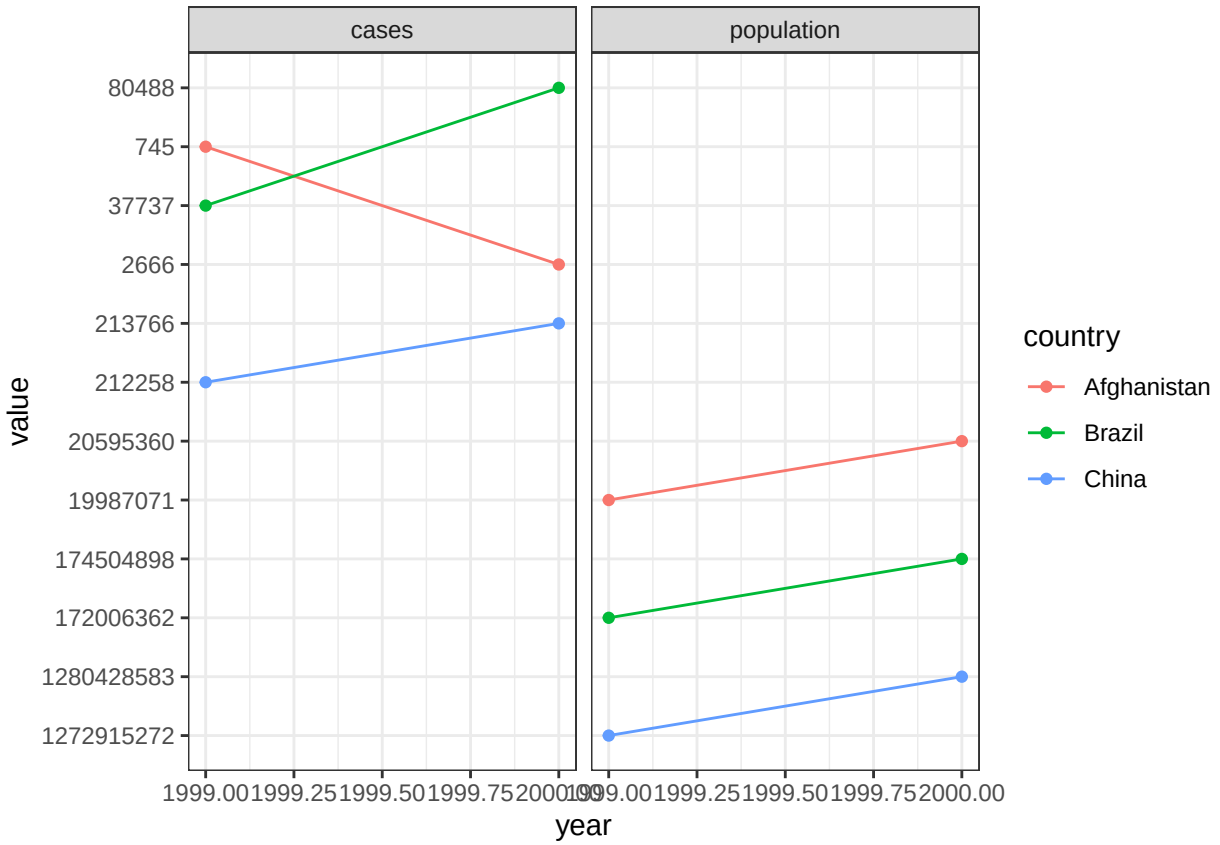
```
tidieddata <- nontidydata %>%
 separate(rate, into = c("cases",
 "population"),
 sep = "/")
tidieddata
```

```
## # 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
```

```
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
```

```
ggplot(newtidieddata) +
 aes(x=year,y=value, colour=country) +
 geom_point() +
 geom_line(aes(group = country))+
 facet_wrap(~measurement) +
 theme_bw()
```




```
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 %>%
 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
```

```r
library(rvest)
```

```
##
## Attaching package: 'rvest'
```

```
## The following object is masked from 'package:readr':
##
##     guess_encoding
```

```r
webpage <- read_html("https://books.toscrape.com/")
table <-html_elements(webpage,"body")
```

```r
library(httr)
library(jsonlite)
```

```
##
## Attaching package: 'jsonlite'
```

```
## The following object is masked from 'package:purrr':
##
##     flatten
```

```r
# current data
current_county_data_url <- "https://api.covidactnow.org/v2/counties.csv?apiKey=YOUR_KEY_HERE"
# historic data
historic_county_data_url <-
"https://api.covidactnow.org/v2/counties.timeseries.csv?apiKey=YOUR_KEY_HERE"
# individual location data
individual_loc_data_url <-
"https://api.covidactnow.org/v2/county/{state}.csv?apiKey=YOUR_KEY_HERE"
```

```r
# current data
current_county_data_url <- "https://api.covidactnow.org/v2/counties.csv?apiKey=33382de96fd8441fb6c"
raw_data <- GET(current_county_data_url)
raw_data$status
raw_data$content
```

```r
# current data
current_county_data_url <- "https://api.covidactnow.org/v2/counties.csv?apiKey=33382de96fd8441fb6c"
raw_data <- GET(current_county_data_url)
raw_data$status
raw_data$content
```

```r
# historic data
historic_county_data_url <-
"https://api.covidactnow.org/v2/counties.timeseries.csv?apiKey=33382de96fd8441fb6c1eca82b3bd4ec"
raw_data <- GET(historic_county_data_url)
raw_data$status
raw_data$content
```

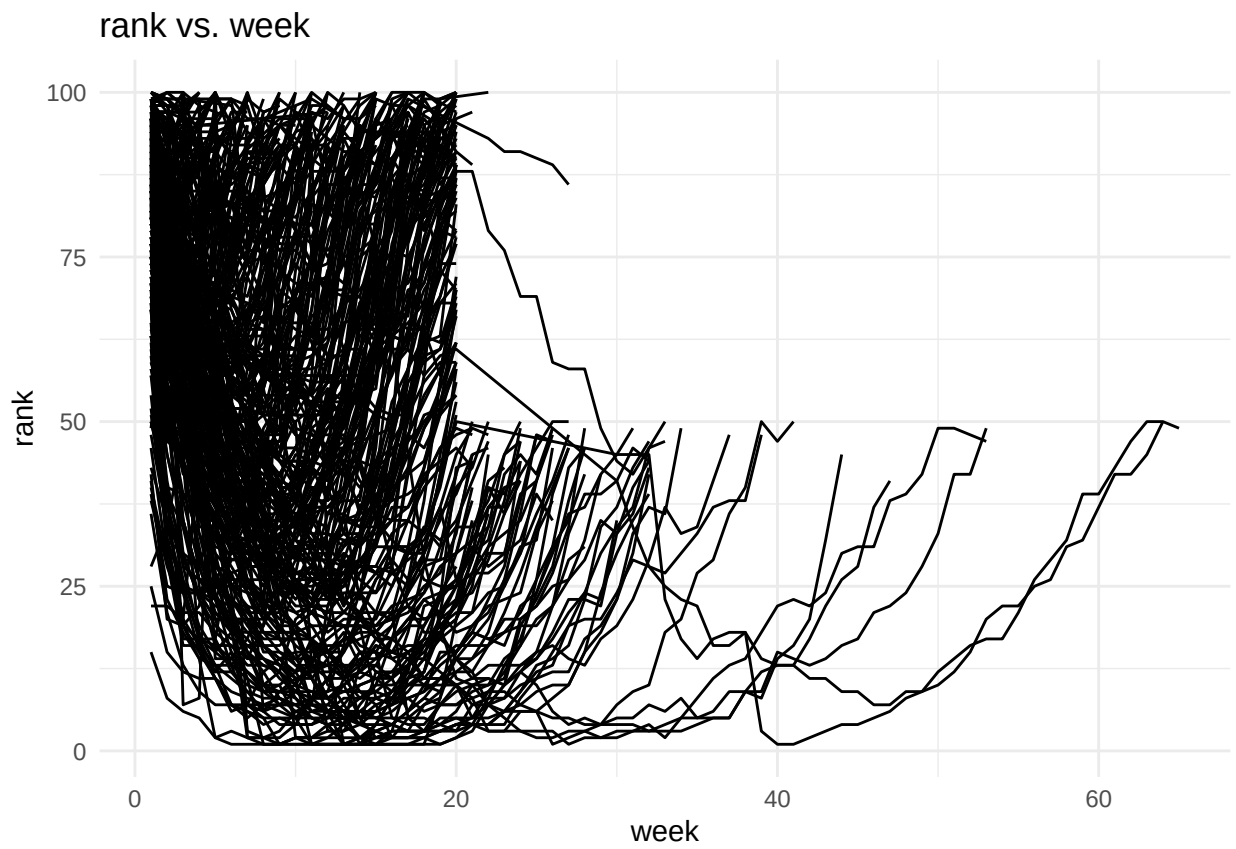
```
# individual location data
individual_loc_data_url <-
"https://api.covidactnow.org/v2/county/{49}.csv?apiKey=33382de96fd8441fb6c1eca82b3bd4ec"
raw_data <- GET(individual_loc_data_url)
raw_data$status
raw_data$content
```

```
billboard
```

```
## # A tibble: 317 x 79
##    artist     track date.entered   wk1   wk2   wk3   wk4   wk5   wk6   wk7   wk8
##    <chr>      <chr> <date>       <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
##  1 2 Pac      Baby~ 2000-02-26      87    82    72    77    87    94    99    NA
##  2 2Ge+her    The ~ 2000-09-02      91    87    92    NA    NA    NA    NA    NA
##  3 3 Doors D~ Kryp~ 2000-04-08      81    70    68    67    66    57    54    53
##  4 3 Doors D~ Loser 2000-10-21      76    76    72    69    67    65    55    59
##  5 504 Boyz   Wobb~ 2000-04-15      57    34    25    17    17    31    36    49
##  6 98^0       Give~ 2000-08-19      51    39    34    26    26    19     2     2
##  7 A*Teens    Danc~ 2000-07-08      97    97    96    95   100    NA    NA    NA
##  8 Aaliyah    I Do~ 2000-01-29      84    62    51    41    38    35    35    38
##  9 Aaliyah    Try ~ 2000-03-18      59    53    38    28    21    18    16    14
## 10 Adams, Yo~ Open~ 2000-08-26      76    76    74    69    68    67    61    58
## # i 307 more rows
## # i 68 more variables: wk9 <dbl>, wk10 <dbl>, wk11 <dbl>, wk12 <dbl>,
## #   wk13 <dbl>, wk14 <dbl>, wk15 <dbl>, wk16 <dbl>, wk17 <dbl>, wk18 <dbl>,
## #   wk19 <dbl>, wk20 <dbl>, wk21 <dbl>, wk22 <dbl>, wk23 <dbl>, wk24 <dbl>,
## #   wk25 <dbl>, wk26 <dbl>, wk27 <dbl>, wk28 <dbl>, wk29 <dbl>, wk30 <dbl>,
## #   wk31 <dbl>, wk32 <dbl>, wk33 <dbl>, wk34 <dbl>, wk35 <dbl>, wk36 <dbl>,
## #   wk37 <dbl>, wk38 <dbl>, wk39 <dbl>, wk40 <dbl>, wk41 <dbl>, wk42 <dbl>, ...
```

```
week <- billboard %>%
  pivot_longer(cols = starts_with("wk"),
names_to ="week",
values_to = "value",
values_drop_na = TRUE) %>%
  mutate(week = parse_number(week))

ggplot(week, aes(x = week, y = value, group=track)) +
  geom_line() +
  labs(x = "week", y = "rank") +
  ggtitle("rank vs. week") +
  theme_minimal()
```




```
cms_patient_experience
```

```
## # A tibble: 500 x 5
##    org_pac_id org_nm                              measure_cd measure_title prf_rate
##    <chr>      <chr>                               <chr>      <chr>            <dbl>
##  1 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       63
##  2 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       87
##  3 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       86
##  4 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       57
##  5 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       85
##  6 0446157747 USC CARE MEDICAL GROUP INC          CAHPS_GRP~ CAHPS for MI~       24
##  7 0446162697 ASSOCIATION OF UNIVERSITY PHYSI~ CAHPS_GRP~ CAHPS for MI~       59
##  8 0446162697 ASSOCIATION OF UNIVERSITY PHYSI~ CAHPS_GRP~ CAHPS for MI~       85
##  9 0446162697 ASSOCIATION OF UNIVERSITY PHYSI~ CAHPS_GRP~ CAHPS for MI~       83
## 10 0446162697 ASSOCIATION OF UNIVERSITY PHYSI~ CAHPS_GRP~ CAHPS for MI~       63
## # i 490 more rows
```

```
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>
```