Homework 1

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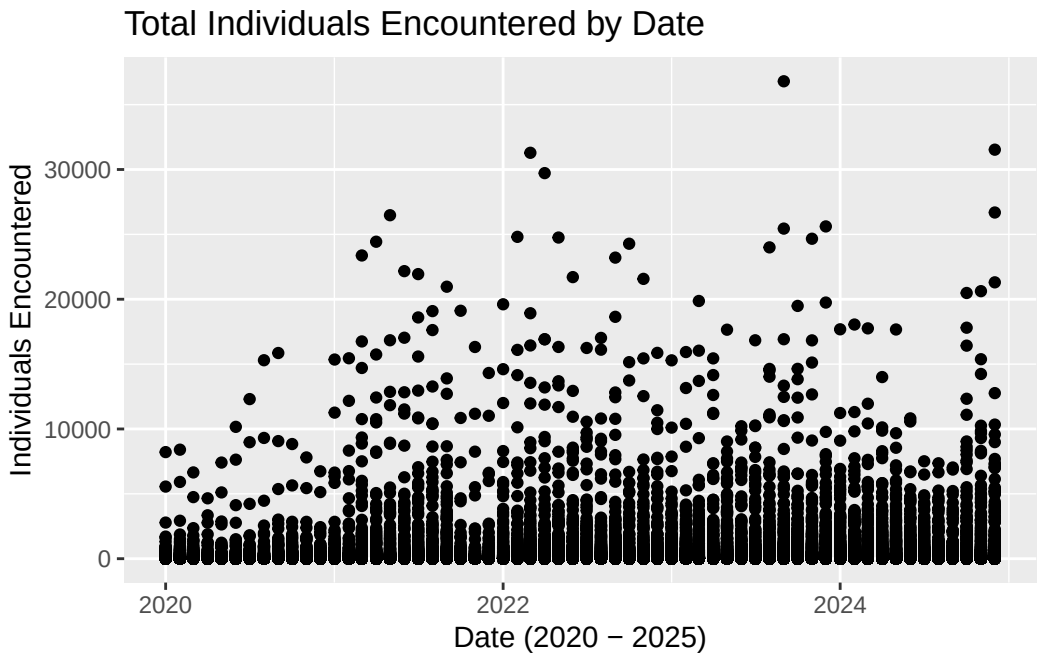
```
library(tidyverse)
library(janitor)

cbp_state <- bind_rows(
read_csv("https://www.cbp.gov/sites/default/files/assets/documents/2023-Nov/nationwide-encou
read_csv("https://www.cbp.gov/sites/default/files/2024-10/nationwide-encounters-fy21-fy24-sta
) |>
clean_names() |>
unique()

cbp_state <- cbp_state |>
    mutate(
    date = str_glue("{fiscal_year}-{month_abbv}"),
   date = ym(date))
```

Exercise 1

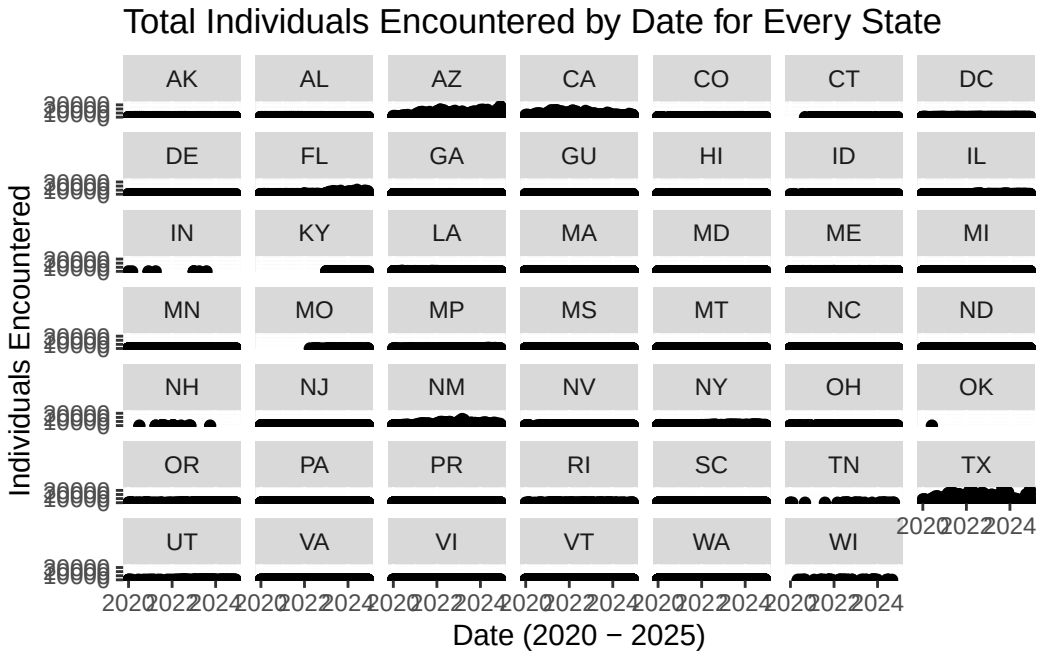
Create scatterplots of total individuals encountered by date, from 2020 to 2025.

Make single plot for totals individuals vs date, then make make a plot with the totals broken down by state.

```
cbp_state %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  labs(
    title = "Total Individuals Encountered by Date",
    x = "Date (2020 - 2025)",
    y = "Individuals Encountered"
  )
```

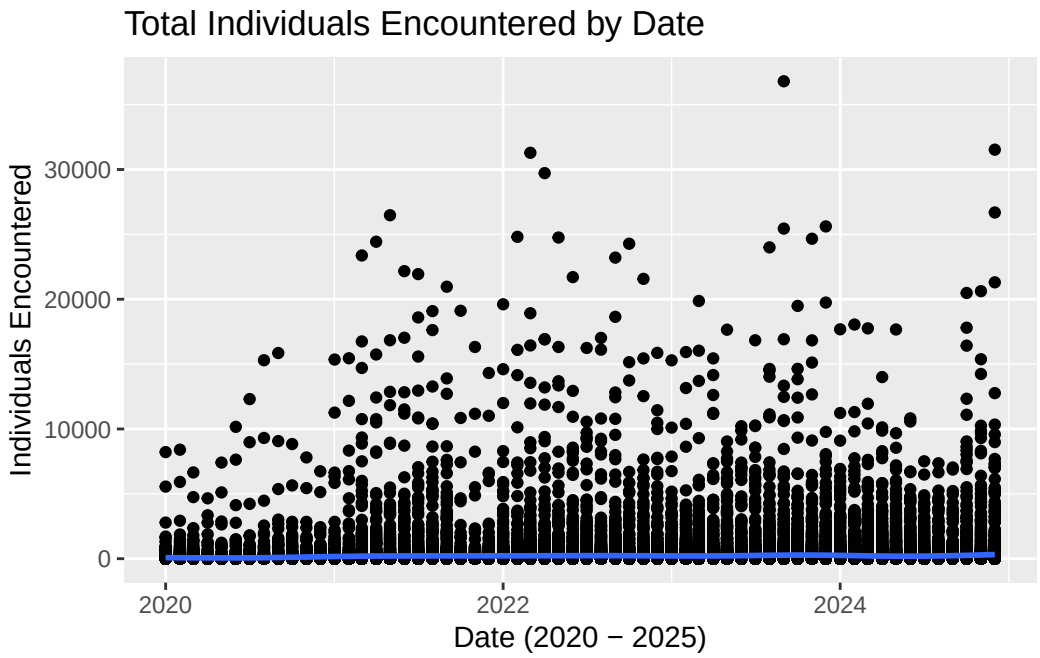



```
cbp_state %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  labs(
    title = "Total Individuals Encountered by Date for Every State",
    x = "Date (2020 - 2025)",
    y = "Individuals Encountered"
  ) + facet_wrap("state")
```

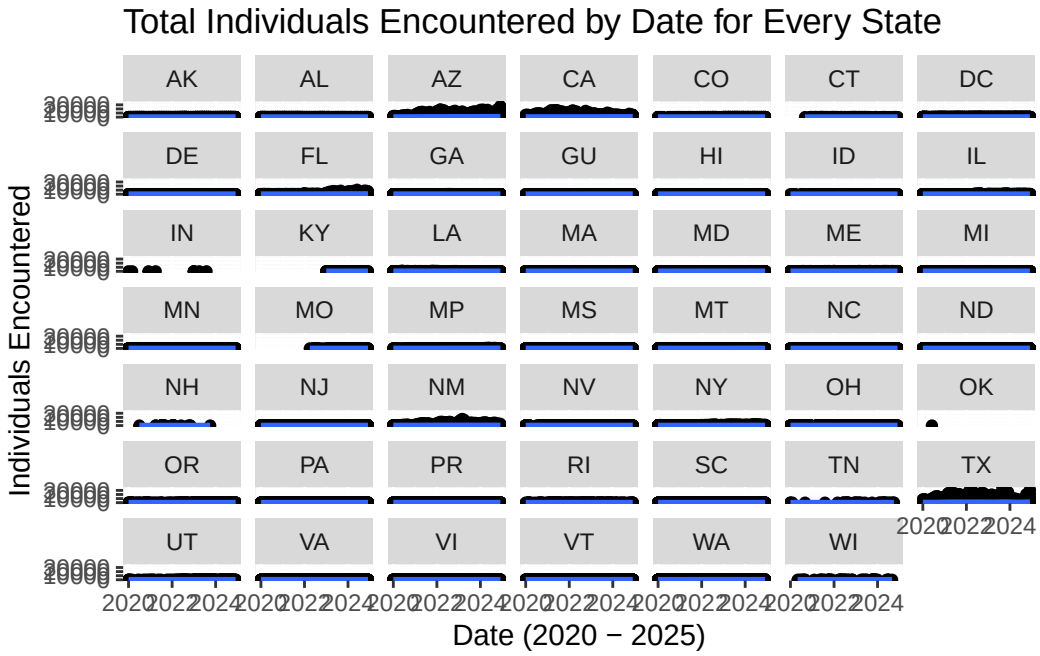


Use smoothing to highlight overall trends.

```
cbp_state %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  geom_smooth() +
  labs(
    title = "Total Individuals Encountered by Date",
    x = "Date (2020 - 2025)",
    y = "Individuals Encountered"
  )
```

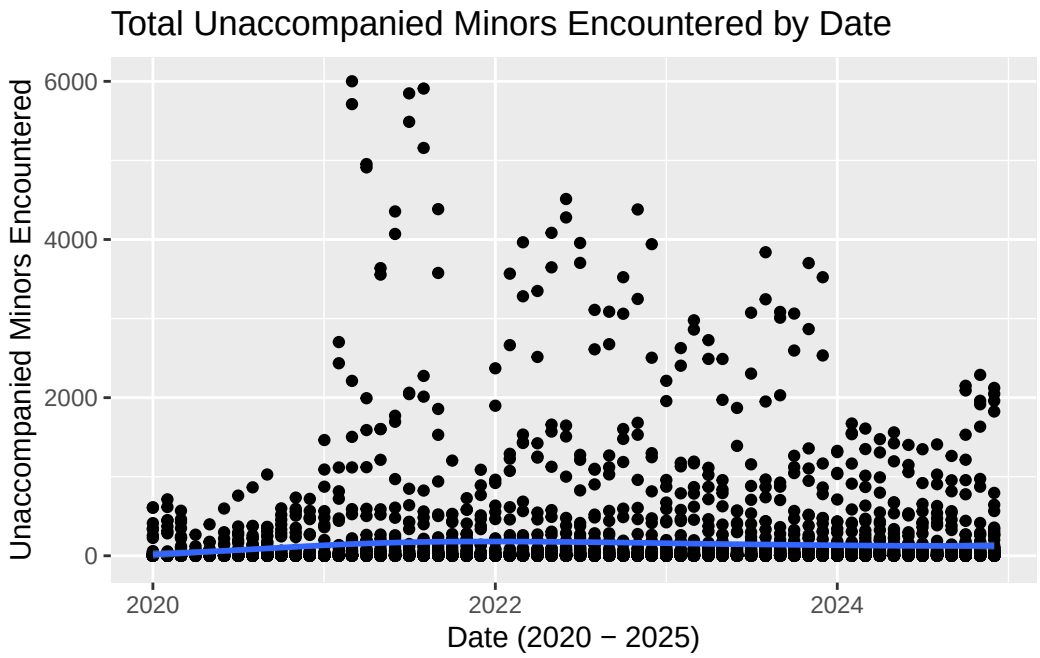



```
cbp_state %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  geom_smooth() +
  labs(
    title = "Total Individuals Encountered by Date for Every State",
    x = "Date (2020 - 2025)",
    y = "Individuals Encountered"
  ) + facet_wrap("state")
```

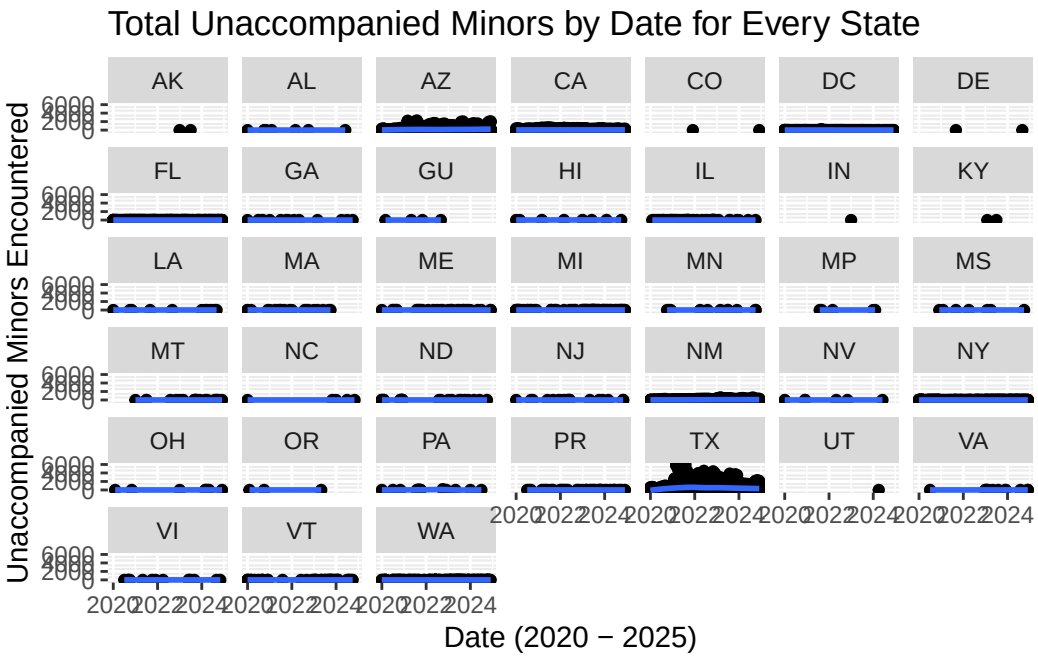


Repeat, but first filtering only unaccompanied minors.

```
cbp_state %>%
  filter(demographic == "UC / Single Minors") %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  geom_smooth() +
  labs(
    title = "Total Unaccompanied Minors Encountered by Date",
    x = "Date (2020 - 2025)",
    y = "Unaccompanied Minors Encountered"
  )
```



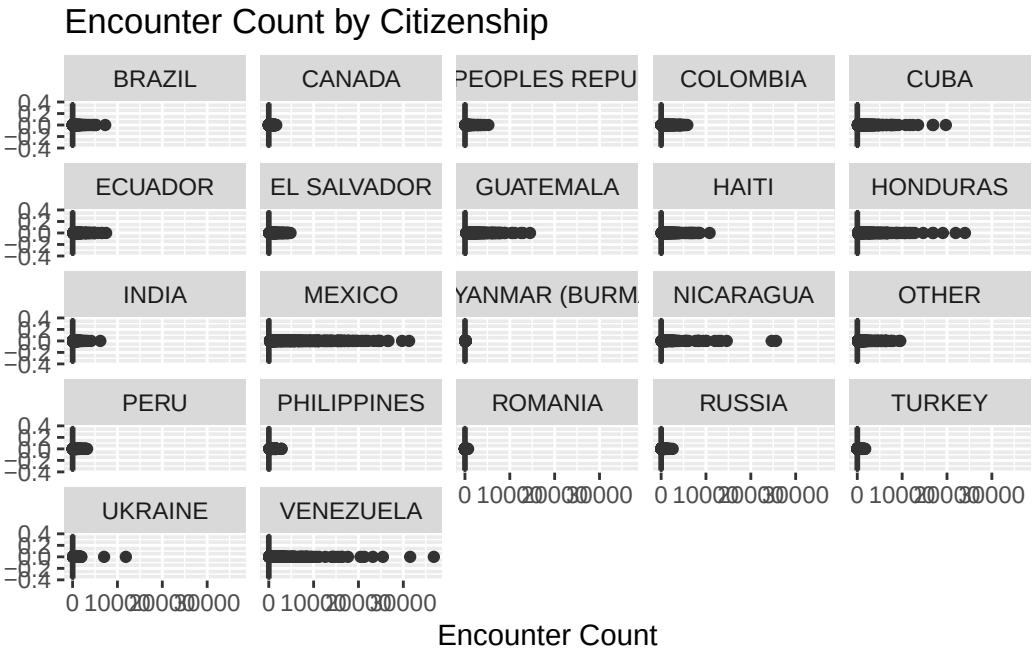

```
cbp_state %>%
  filter(demographic == "UC / Single Minors") %>%
  ggplot(aes(x = date, y = encounter_count)) +
  geom_point() +
  geom_smooth() +
  labs(
    title = "Total Unaccompanied Minors by Date for Every State",
    x = "Date (2020 - 2025)",
    y = "Unaccompanied Minors Encountered"
  ) + facet_wrap("state")
```



Exercise 2

Ecounter Count by Citizenship

```
cbp_state %>%
  ggplot(aes(x = encounter_count)) +
  geom_boxplot() +
  labs(
    title = "Encounter Count by Citizenship",
    x = "Encounter Count"
  ) +
  facet_wrap("citizenship")
```


Encounter Count by Citizenship
BRAZIL
CANADA
PEOPLES REPU
COLOMBIA
CUBA
ECUADOR
EL SALVADOR
GUATEMALA
HAITI
HONDURAS
INDIA
MEXICO
YANMAR (BURM
NICARAGUA
OTHER
PERU
PHILIPPINES
ROMANIA
RUSSIA
TURKEY
UKRAINE
VENEZUELA
0.4
0.2
0.0
−0.2
−0.4
0
10000
20000
30000
Encounter Count