

Lab 1 - Data visualization

Himon Chin-Sam

```
library(tidyverse)
```

```
-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr      1.1.4      v readr      2.1.6
v forcats    1.0.1      v stringr    1.6.0
v ggplot2     4.0.1      v tibble     3.3.0
v lubridate  1.9.4      v tidyr      1.3.2
v purrr       1.2.0
-- 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
```

Questions

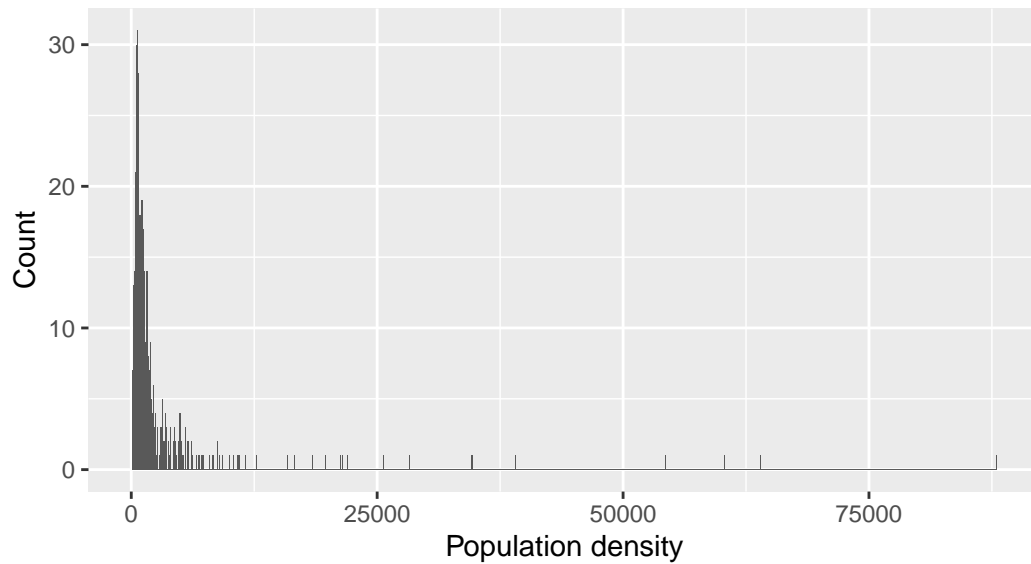
Part 1

Question 1

```
ggplot(midwest, aes(x = popdensity)) +
  geom_histogram(binwidth = 100) +
  labs(
    x = "Population density",
    y = "Count",
    title = "Population density of midwestern counties",
    subtitle = "Binwidth = 100"
  )
```

Population density of midwestern counties

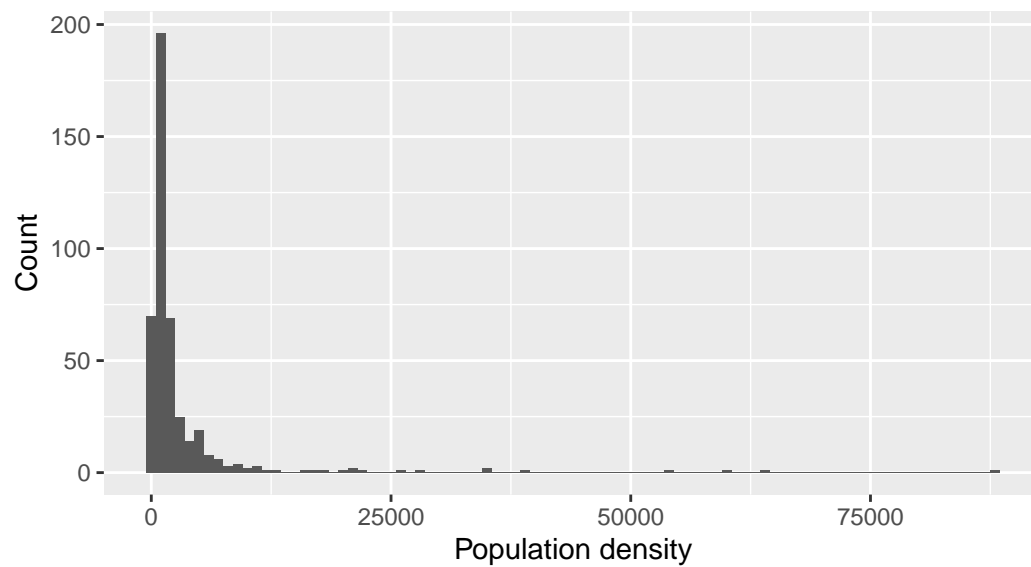
Binwidth = 100



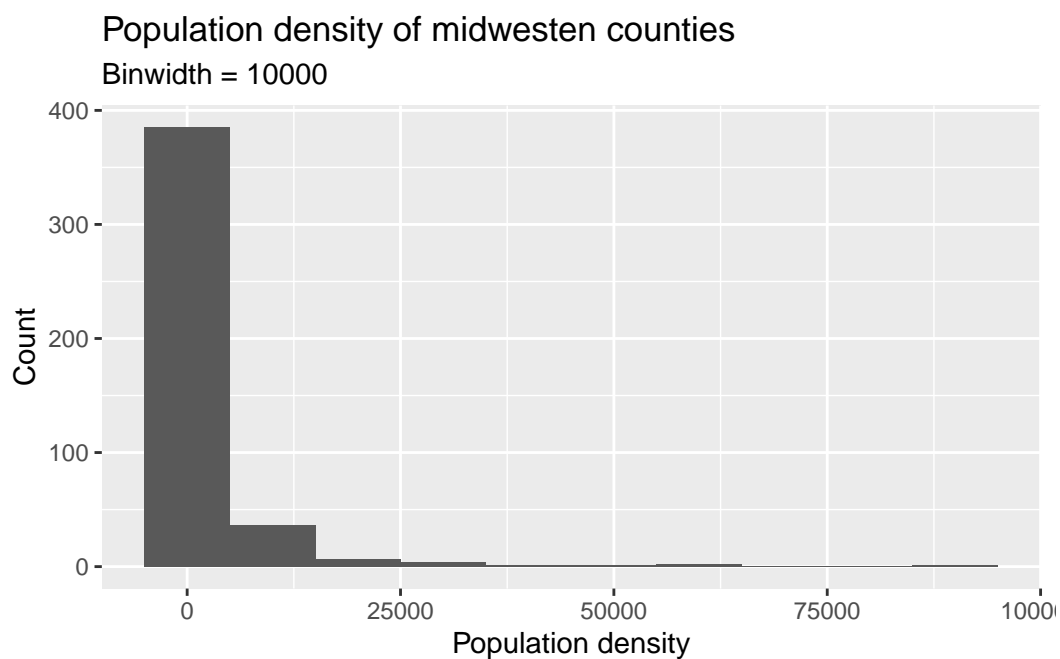
```
ggplot(midwest, aes(x = popdensity)) +  
  geom_histogram(binwidth = 1000) +  
  labs(  
    x = "Population density",  
    y = "Count",  
    title = "Population density of midwestern counties",  
    subtitle = "Binwidth = 1000"  
  )
```

Population density of midwestern counties

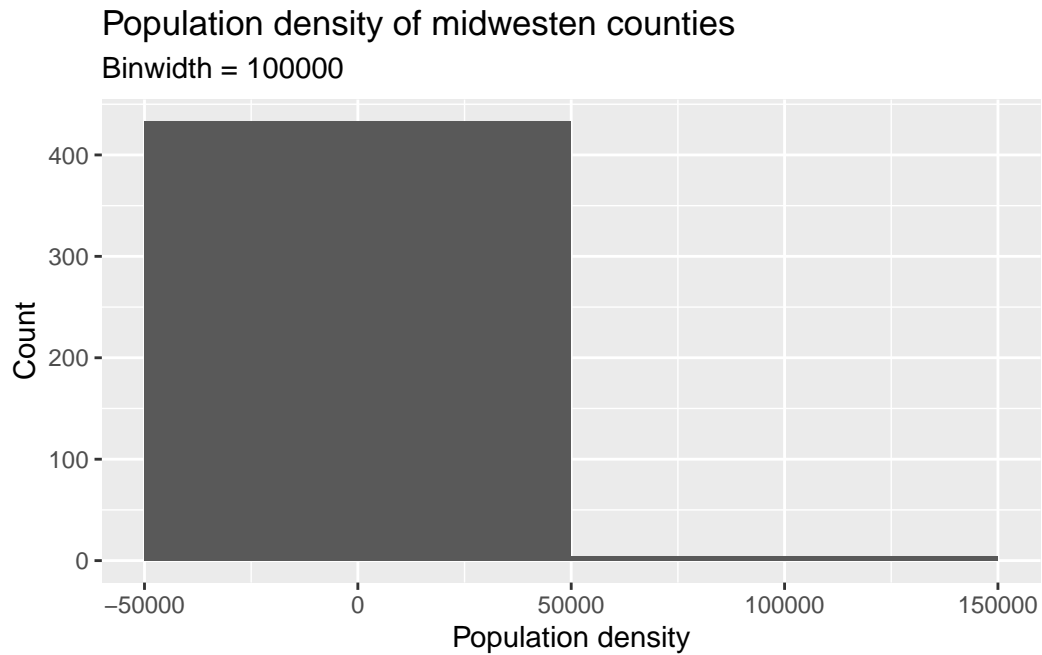
Binwidth = 1000



```
ggplot(midwest, aes(x = popdensity)) +  
  geom_histogram(binwidth = 10000) +  
  labs(  
    x = "Population density",  
    y = "Count",  
    title = "Population density of midwestern counties",  
    subtitle = "Binwidth = 10000"  
  )
```



```
ggplot(midwest, aes(x = popdensity)) +  
  geom_histogram(binwidth = 10000) +  
  labs(  
    x = "Population density",  
    y = "Count",  
    title = "Population density of midwestern counties",  
    subtitle = "Binwidth = 10000"  
  )
```



Binwidth 1000 is most appropriate for this data because the data is grouped in a sufficient ranges to see patterns in the overall set. Any smaller or bigger will have the data distribution be convoluted and its shape ambiguous.

Question 2

Question 3

Question 4

Question 5

Question 6

Question 7

Part 2

Enough about the Midwest!

Question 8

Question 9