

# Lab 2 - Data wrangling

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2026-02-12

```
library(tidyverse)
```

## Questions

### Part 1

#### Question 1

```
midwest |>  
  count(state, sort = TRUE)
```

```
# A tibble: 5 x 2  
  state      n  
  <chr> <int>  
1 IL      102  
2 IN       92  
3 OH       88  
4 MI       83  
5 WI       72
```

Illinois has the highest number of counties with 102, while Wisconsin has the lowest number of counties with only 72.

## Question 2

```
midwest |>
  count(county, state) |>
  count(county, name = "nstates") |>
  filter(nstates == 5)
```

```
# A tibble: 3 x 2
  county    nstates
  <chr>      <int>
1 CRAWFORD      5
2 JACKSON       5
3 MONROE        5
```

### Question 3

```
midwest |>
  filter(popdensity > 25000) |>
  select(county, state, popdensity, poptotal, area) |>
  arrange(desc(popdensity))
```

```
# A tibble: 9 x 5
  county    state popdensity poptotal  area
  <chr>    <chr>      <dbl>    <int> <dbl>
1 COOK      IL          88018.  5105067 0.058
2 MILWAUKEE WI          63952.   959275 0.015
3 WAYNE     MI          60334.  2111687 0.035
4 CUYAHOGA  OH          54313.  1412140 0.026
5 DU PAGE   IL          39083.   781666 0.02
6 MARION    IN          34659.   797159 0.023
7 HAMILTON  OH          34649.   866228 0.025
8 FRANKLIN  OH          28278.   961437 0.034
9 MACOMB    MI          25621.   717400 0.028
```

```
midwest |>
  filter(popdensity == max(popdensity)) |>
  select(county, state, popdensity, poptotal, area)
```

```
# A tibble: 1 x 5
  county state popdensity poptotal  area
  <chr>  <chr>      <dbl>    <int> <dbl>
1 COOK   IL          88018.  5105067 0.058
```

## Question 5

## Question 6

## Question 7

## Question 8

## Part 2

### Question 9