# Counts and percentages

## Data source

This program uses data from a study of sharing services (like sharing an automobile) and produces counts and percentages for a few demographic variables. There is a data dictionary that provides more details about the data.

## Libraries

Here are the libraries you need for this program.

```
        library(readxl)
        library(tidyverse)
```

## Reading the data

Here is the code to read the data and show a glimpse. There are 31 columns total, but I am showing just a few of the columns here.

```
        fn <- "../data/sharing.xlsx"
        sharing <- read_excel(fn)
        glimpse(sharing[ , c(1, 5:7)])
```

```
Rows: 190
Columns: 4
$ id                <dbl> 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 1…
$ age               <chr> "36-45", "36-45", "over 60", "46-60", "36-45", "over…
$ gender            <chr> "M", "F", "F", "M", "F", "F", "F", "F", "F", "F", "F…
$ employment_status <chr> "employed", "employed", "employed", "employed", "emp…
```

## Calculate counts and percentages for gender

```
sharing |>
  group_by(gender) |>
  summarize(n=n()) |>
  mutate(total=sum(n)) |>
  mutate(pct=100*n/total)
```

```
# A tibble: 3 × 4
  gender     n total   pct
  <chr>  <int> <int> <dbl>
1 F        114   190 60
2 M         70   190 36.8
3 <NA>       6   190  3.16
```

The survey respondents were mostly female with only 37% of respondents identifying as male. Six ages were missing.

## Calculate the counts and percentages for employment_status.

```
sharing |>
  group_by(employment_status) |>
  summarize(n=n()) |>
  mutate(total=sum(n)) |>
  mutate(pct=100*n/total)
```

```
# A tibble: 7 × 4
  employment_status          n total   pct
  <chr>                  <int> <int> <dbl>
1 employed                 108   190 56.8
2 entrepreneur              13   190  6.84
3 full-time student         37   190 19.5
4 self-employed             16   190  8.42
5 temporarily unemployed     5   190  2.63
6 unemployed                 5   190  2.63
7 <NA>                       6   190  3.16
```

Most of the survey respondents were either employed or full time students. About half were employed while 19.5% were students. Only 2.6% were unemployed and there were 6 respondents whose status was unknown.