# HW 02 - Road traffic accidents

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9/26/25

## Load packages and data

```
library(tidyverse)
library(dsbox)
```

## Exercises

### Exercise 1

The dataset has 768 observations.
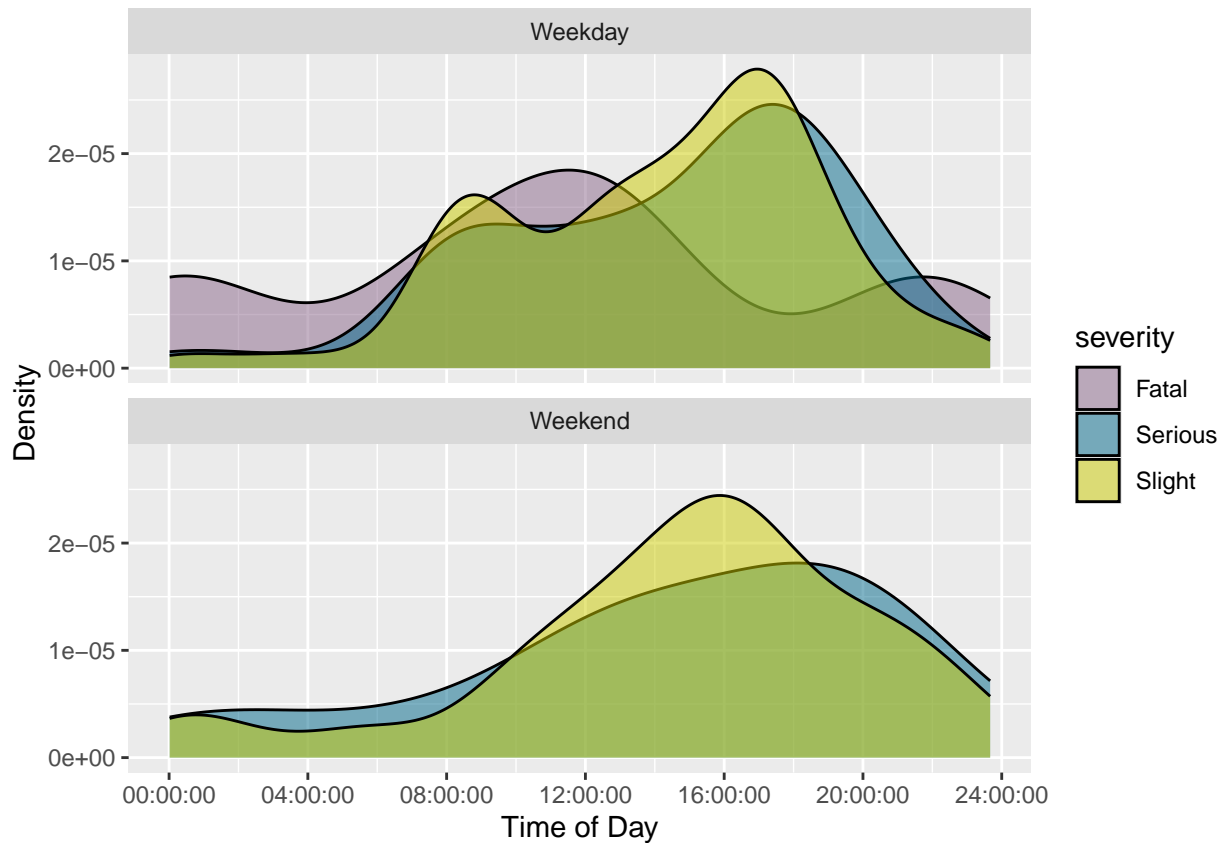
### Exercise 2

Each row represents an accident.

### Exercise 3

```
library(dplyr)
library(ggplot2)

accidents <- accidents %>%
  mutate(
    day_type = case_when(
      day_of_week %in% c("Saturday", "Sunday") ~ "Weekend", TRUE ~ "Weekday"
                        )
        )

ggplot(accidents, aes(x = time, fill = severity)) +
  geom_density(alpha = 0.5) +
  scale_fill_manual(values = c("Fatal" = "plum4",
                               "Serious" = "deepskyblue4",
                               "Slight" = "yellow3")) +
  facet_wrap(~day_type, ncol=1) +
  labs(x="Time of Day", y="Density")
```

**Exercise 4**

Remove this text, and add your answer for Exercise 4 here.

```
library(ggplot2)
library(ggmap)
```

```
## i Google's Terms of Service: <https://mapsplatform.google.com>
##   Stadia Maps' Terms of Service: <https://stadiamaps.com/terms-of-service>
##   OpenStreetMap's Tile Usage Policy: <https://operations.osmfoundation.org/policies/tiles>
## i Please cite ggmap if you use it! Use `citation("ggmap")` for details.
```

```
library(scico)

register_stadiamaps(key = "f2ffdbbf-0f24-49ae-99ff-332a83b69a44")

edin_bbox <- c(left = -3.3, bottom = 55.9, right = -3.1, top = 56.0)

edin_map <- get_stadiamap(edin_bbox, zoom = 12, maptype = "stamen_toner_lite")
```

```
## i © Stadia Maps © Stamen Design © OpenMapTiles © OpenStreetMap contributors.
```

```
ggmap(edin_map) +
  geom_point(data=accidents,
             aes(x = longitude, y = latitude, color = weather, size = vehicles),
             alpha = 0.5
            ) +
  scale_color_manual(
    values = c("Fine + no high winds"="lightgreen", "Fine + high winds"="gold", "Raining + high winds"=
```

```
    breaks = c("Fine + no high winds", "Fine + high winds", "Raining + no high winds", "Snowing + no hig
  scale_size_area(max_size = 4) +
  labs(title="Accidents by Location",subtitle="Displayed by weather and number of vehicles involved", co
  theme_void()
```

## Warning: Removed 140 rows containing missing values or values outside the scale range
## (`geom_point()`).

## Accidents by Location

Displayed by weather and number of vehicles involved