change title*
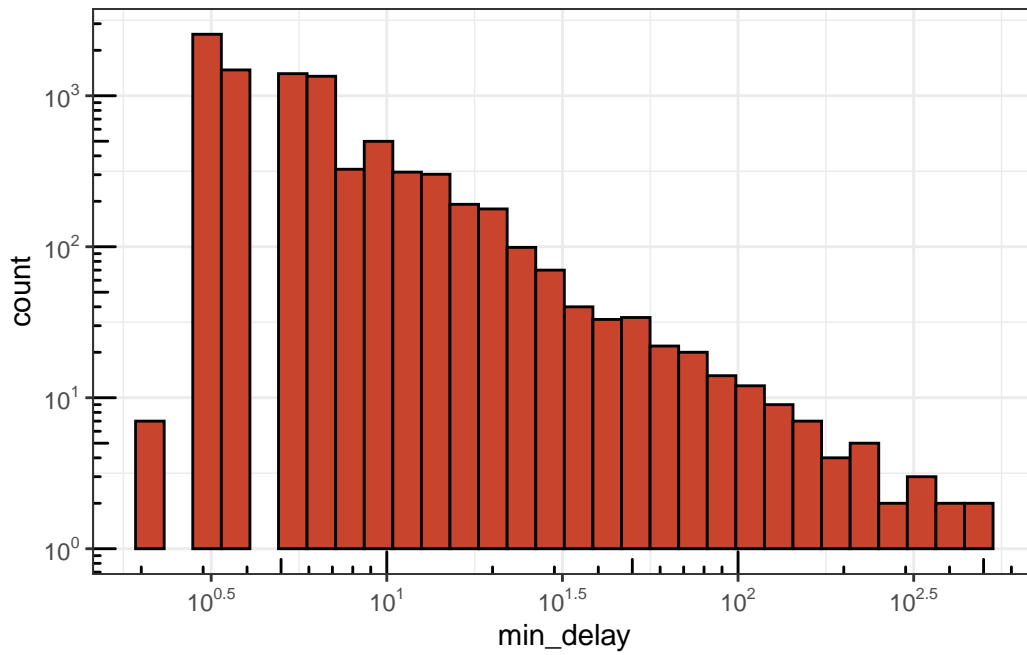
My subtitle if needed

Syed Hassan

01 February 2023

First sentence. Second sentence. Third sentence. Fourth sentence.

Stations that face most delays

Introduction

be clear about your objective/aim/estimand

You can and should cross-reference sections and sub-sections. For instance, Section @ref(data). Quarto automatically makes the sections lower case and adds a dash to spaces to generate labels, for instance, Section @ref(first-discussion-point).
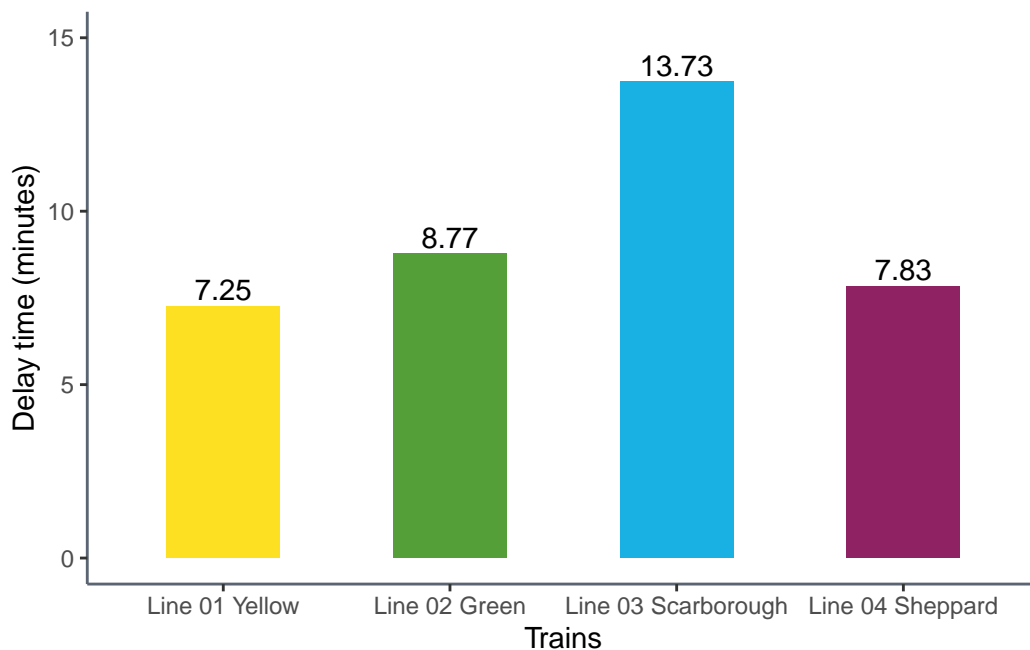
Data

Figure 1: TTC subways, average delay times.

cite this get mode chunk

```
[1] "character"
```
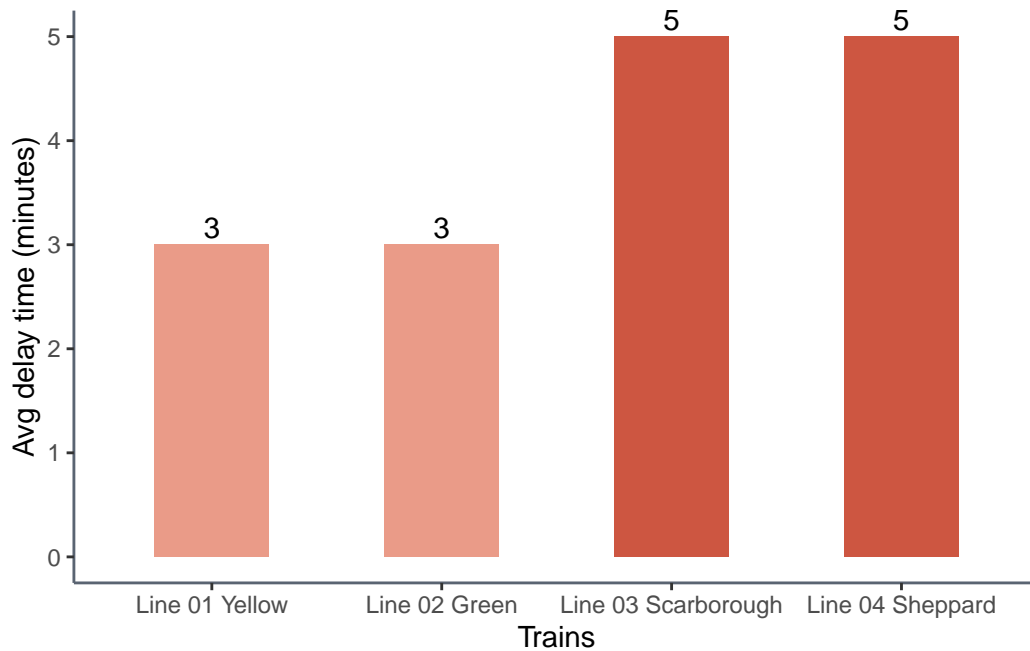
Figure 2: Most common delay duration in minutes.

```
ttc_data_days <- ttc_data |>
  group_by(day) |>
  summarize(min_delay = mean(min_delay)) |>
  mutate(across(min_delay, round, 2))

ttc_df_mean <- ttc_df_filtered %>%
  group_by(line) |>
  summarize(min_delay = mean(min_delay))


# #| warning: false
# #| echo: false
# #| label: fig-line-delays-days
# #| fig-cap: Subway delays over the period of 24 hours.
# #| fig-align: center
# #| fig-width: 5.5

#ttc_df_time <- ttc_df_filtered |>
#  group_by(time) |>
#  summarize(min_delay = mean(min_delay))
```
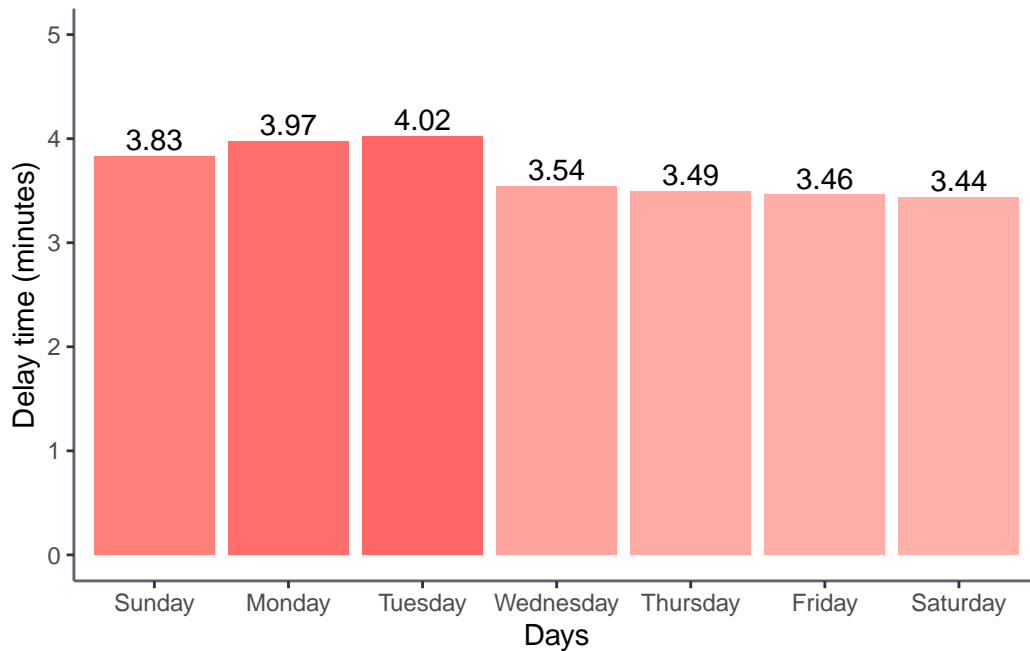
Figure 3: Subway delay average over days of the week.

```
#ttc_df_time$time |> class()

#ttc_df_arranged_time <- arrange(ttc_df_time, time)

#ggplot(ttc_df_arranged_time, aes(x = min_delay, y = time)) +
#  geom_point()
```

Our data is of penguins (Figure 4).

Talk more about it.

Also bills and their average (Figure 5). (You can change the height and width, but don't worry about doing that until you have finished every other aspect of the paper - Quarto will try to make it look nice and the defaults usually work.)

```
Warning: The `guide` argument in `scale_*()` cannot be `FALSE`. This was deprecated in
ggplot2 3.3.4.
i Please use "none" instead.
```
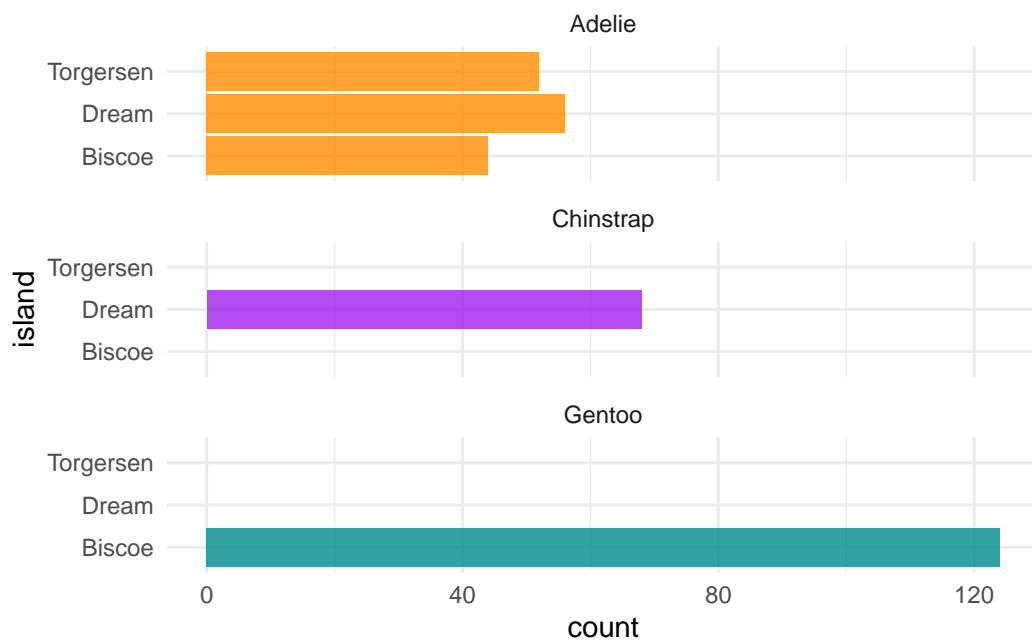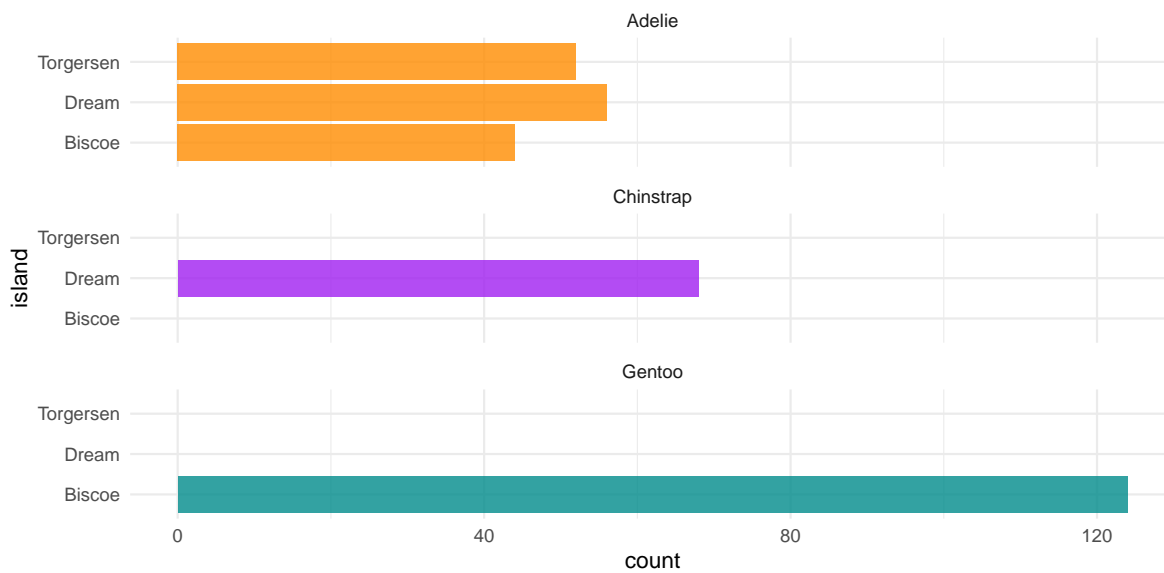
Talk way more about it.

Figure 4: Bills of penguins

Figure 5: More bills of penguins

Model

$$Pr(\theta|y) = \frac{Pr(y|\theta)Pr(\theta)}{Pr(y)} \tag{1}$$

Equation 1 seems useful, eh?

Here's a dumb example of how to use some references: In paper we run our analysis in `R` (R Core Team 2020). We also use the `tidyverse` which was written by Wickham et al. (2019) If we were interested in baseball data then Friendly et al. (2020) could be useful.

We can use maths by including latex between dollar signs, for instance θ.

Results

Discussion

First discussion point

If my paper were 10 pages, then should be be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

Second discussion point

Third discussion point

Weaknesses and next steps

Weaknesses and next steps should also be included.

Appendix

Additional details

References

Friendly, Michael, Chris Dalzell, Martin Monkman, and Dennis Murphy. 2020. *Lahman: Sean "Lahman" Baseball Database.* https://CRAN.R-project.org/package=Lahman.

R Core Team. 2020. *R: A Language and Environment for Statistical Computing.* Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D'Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. "Welcome to the tidyverse." *Journal of Open Source Software* 4 (43): 1686. https://doi.org/10.21105/joss.01686.