Project 1

This is the dataset you will be working with:

```
olympics <- readr::read_csv('https://raw.githubusercontent.com/rfordatascience
/tidytuesday/master/data/2021/2021-07-27/olympics.csv')

triathlon <- olympics |>
  filter(!is.na(height)) |>             # only keep athletes with known height
  filter(sport == "Triathlon") |>       # keep only triathletes
  mutate(
    medalist = case_when(                # add column to track medalist vs not
      is.na(medal) ~ "non-medalist",
       !is.na(medal) ~ "medalist"          # any medals (Gold, Silver, Bronze)
count
    )
  )
```

`triathlon` is a subset of `olympics` and contains only the data for triathletes. More information about the original `olympics` dataset can be found on the tidytuesday project and on Olympedia.

For this project, use `triathlon` to answer the following questions about athletes competing in this sport:

1. In how many events total did male and female triathletes compete for each country?
2. Are there height differences among triathletes between sexes or over time?
3. Are there height differences among triathletes that have medaled or not, again also considering athlete sex?

You should make one plot per question.

Hints:

- We recommend you use a bar plot for question 1, a boxplot for question 2, and a sina plot overlaid on top of violins for question 3. However, you are free to use any of the plots we have discussed in class so far.
- For question 2, you will have to convert `year` into a factor.
- For question 3, consider why a boxplot or simple violin plot is not a good idea and mention this in the approach section.
- For all questions, you can use either faceting or color coding or both. Pick whichever you prefer.
- Adjust `fig-width`, `fig-height`, and `out-width` in the chunk options to customize figure sizing and figure aspect ratios. `fig-width` and `fig-height` are given in inches and will usually be between 3 and 10. `out-width` is given in percent and will usually be between 50% and 100%.

You can delete these instructions from your project. Please also delete text such as *Your approach here* or `# Q1: Your R code here`.

Introduction: *Your introduction here.*

Approach: *Your approach here.*

Analysis:

```
# Q1: Your R code here
```

```
# Q2: Your R code here
```

```
# Q3: Your R code here
```

Discussion: *Your discussion of results here.*