

Homework 6

Enter your name and EID here

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This homework is due on Mar. 7, 2022 at 11:00am. Please submit as a pdf file on Canvas.

Problem 1: (6 pts) We will work with the dataset `olympics_2002` that contains the count of each sex for the 2002 Winter Olympics in Salt Lake City and has been derived from the `olympics` dataset. More information about the dataset can be found at <https://github.com/rfordatascience/tidytuesday/blob/master/data/2021/2021-07-27/readme.md>

```
olympics_2002
```

```
## # A tibble: 1 x 2
##       F       M
##   <int> <int>
## 1  1582  2527
```

Follow these steps and display the modified dataframe after each step:

1. Rearrange the dataframe into long form. The resulting dataframe will have two columns, which you should call `sex` and `count`. There will be two rows of data, one for female and one for male athletes.
2. Create a new column with the percent for each `sex`
3. Rename the values in `sex` to “Female” and “Male”.

```
# your code here
olympics_2002 %<>%
  pivot_longer(cols = c("F", "M"), names_to = "sex", values_to = "count")
olympics_2002
```

```
## # A tibble: 2 x 2
##   sex    count
##   <chr> <int>
## 1 F      1582
## 2 M      2527
```

```
# your code here
olympics_2002 %<>%
  mutate(sex_percent = count / sum(count))
olympics_2002
```

```
## # A tibble: 2 x 3
##   sex    count sex_percent
##   <chr> <int>    <dbl>
## 1 F      1582     0.385
## 2 M      2527     0.615
```

```

# your code here
# having fun with methods of assignment
olympics_2002 <-
olympics_2002 |>
  mutate(
    sex = replace(sex, sex == "F", "Female"),
    sex = replace(sex, sex == "M", "Male")
  )
olympics_2002

```

```

## # A tibble: 2 x 3
##   sex    count sex_percent
##   <chr> <int>      <dbl>
## 1 Female  1582      0.385
## 2 Male   2527      0.615

```

Problem 2: (4 pts)

Now make a pie chart of the dataset you generated in Problem 1. Use `theme_void()` to remove all distracting elements.

```

# your code here
olympics_2002 |>
  ggplot(
    aes(
      x0 = 0, y0 = 0,
      r0 = 0, r = 1,
      amount = sex_percent,
      fill = sex
    )
  ) +
  geom_arc_bar(stat = "pie") +
  theme_void() +
  coord_fixed() +
  labs(title = "Sex Ratio in the 2002 Olympics")

```

Sex Ratio in the 2002 Olympics

