Coding together week 7 - visualisations

Warm-up

- Complete the quiz
- Open RStudio and set-up a week 7 project and Rmarkdown file
- Create a chunk that loads the tidyverse and run it.
- Recreate the `mpg` scatter plot from week 1

```
ggplot(data = mpg) +
 geom_point(mapping = aes(x = displ, y = hwy))
```

Why visualise

Plot the datasaurus with x and y and aesthetics and a point geometric object. To plot each dataset on a different plot, add a facet layer with `facet_wrap(~ dataset)` Here the `~` means faceting "depends upon the dataset variable"

```
{r datasaurus-plot, cache=TRUE}  ggplot(data = datasaurus) +         geom_point(mapping =
aes(x,y)) +         facet_wrap(~ dataset)
```

Geoms

Plot the mpg data as a line plot. Plot it again with a smooth line. Hint the word smooth is important when choosing your geom.

```
ggplot(data = mpg) +
 geom_line(mapping = aes(x = displ, y = hwy))
```

```
ggplot(data = mpg) +
 geom_smooth(mapping = aes(x = displ, y = hwy))
```

Plot rodent_type from the by_quarter data as a density plot, colour by rodent_type

```
ggplot(data= by_quarter,
        mapping = aes(x = rodent_type,
                      colour = rodent_type)) +
   geom_density()
```

Facets

Plot mpg data scatterplot, hwy vs dipl, and use facet_grid to split the plot by drv and cyl

```
ggplot(data = mpg) +
  geom_point(mapping = aes(x = displ, y = hwy)) +
  facet_grid(drv ~ cyl)
```

Statistical transformations

Plot `hwy` from the `mpg` data as a histogram with binwidth of 15.

```
ggplot(mpg,aes(x = hwy)) +
geom_histogram(bins = 15)
```

Position adjustments

Add point and jitter to the by_quarter boxplot, make the points transparent.

```
# Boxplot with jitter
ggplot(data= by_quarter,
       mapping = aes(x = rodent_type, y = mean_captures,
                     colour = rodent_type)) +
  geom_boxplot() +
  geom_point(position = "jitter", alpha = 0.5) +
  facet_wrap(~ plot_type)
```

Coordinate adjustments

Flip the by_quarter boxplot

```
# Boxplot with jitter
ggplot(data= by_quarter,
       mapping = aes(x = rodent_type, y = mean_captures,
                     colour = rodent_type)) +
  geom_boxplot() +
  geom_point(position = "jitter", alpha = 0.5) +
  facet_wrap(~ plot_type) +
  coord_flip()
```