Introduction to statistical methods I

Example presentation

2022-08-29

Welcome!

Bullet point list

Unordered

- Item A
- Item B
- Item C

Ordered

1. Item 1
2. Item 2
3. Item 3

Incremental list

- Item 1
- Item 2
- Item 3

Equations

Write mathematical symbols and equations using Latex.

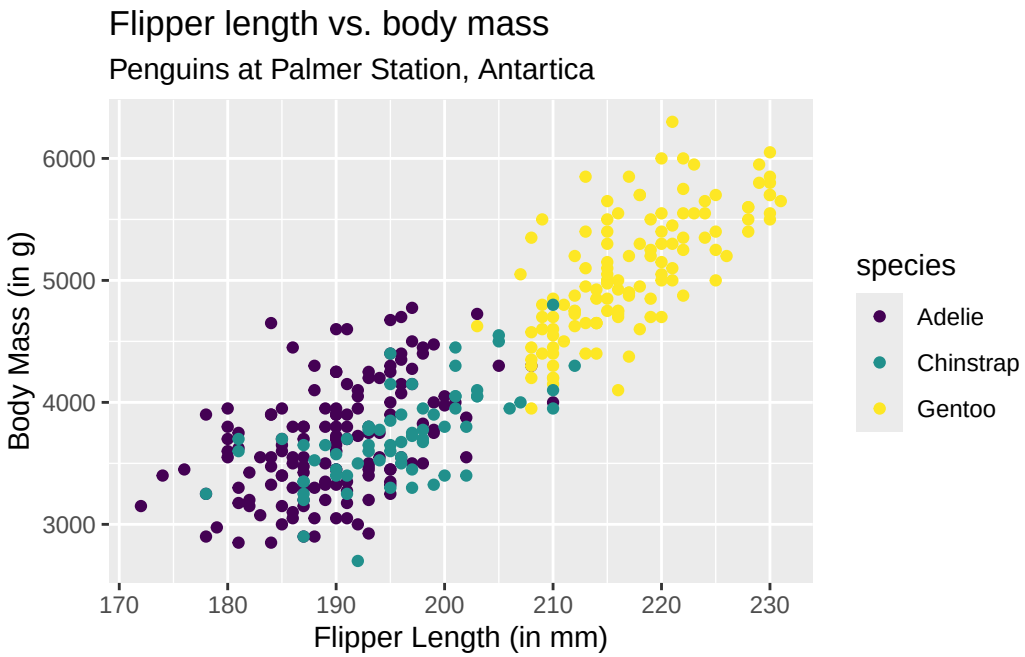
Use the formulas below to calculate $\hat{\beta}_1$, the estimated slope, and $\hat{\beta}_0$, the estimated intercept.

$$\hat{\beta}_1 = r\frac{s_y}{s_x}$$
$$\hat{\beta}_0 = \bar{y} - \hat{\beta}_1\bar{x}$$

Code

```
# Use code chunk option fig-align: center to center the plot.
ggplot(data = penguins, aes(x = flipper_length_mm, y = body_mass_g,
                            color = species)) +
         geom_point() +
  labs(x = "Flipper Length (in mm)",y = "Body Mass (in g)",
       title = "Flipper length vs. body mass",
       subtitle = "Penguins at Palmer Station, Antartica") +
  scale_color_viridis_d()
```

```
Warning: Removed 2 rows containing missing values or values outside the scale range
(`geom_point()`).
```


Flipper length vs. body mass
Penguins at Palmer Station, Antartica
Body Mass (in g)
6000
5000
4000
3000
170
180
190
200
210
220
230
Flipper Length (in mm)
species
Adelie
Chinstrap
Gentoo

Images

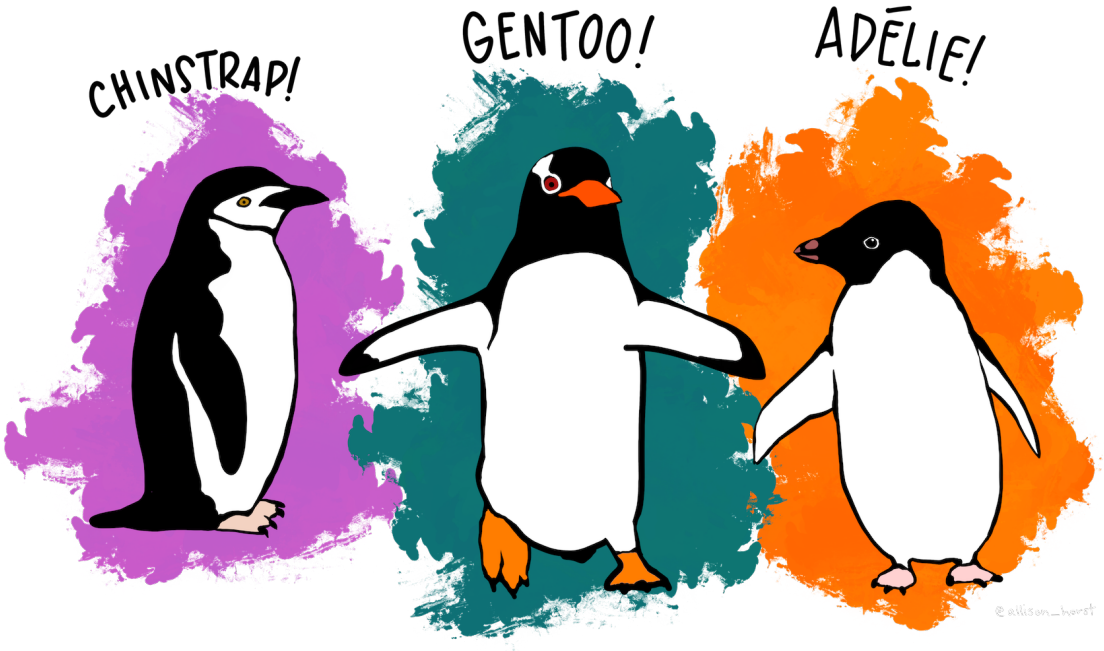


Figure 1: Artwork by @allison_horst

Columns

Calculate the proportion of penguins from each species.

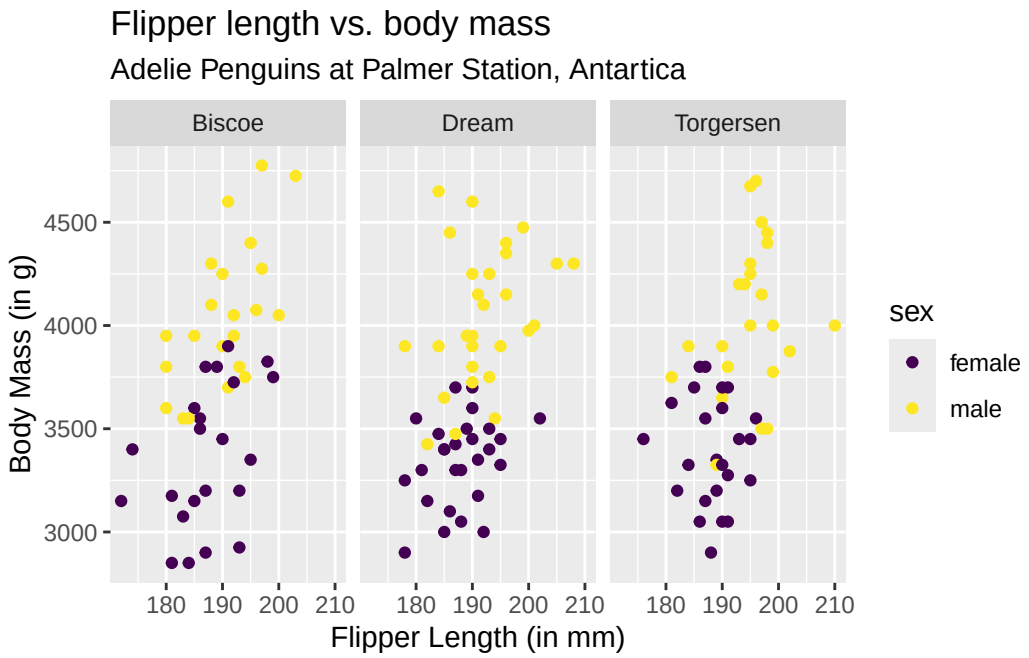
```
penguins |>
  count(species) |>
  mutate(prop  = n / sum(n))
```

```
# A tibble: 3 x 3
  species       n  prop
  <fct>     <int> <dbl>
1 Adelie      152 0.442
2 Chinstrap    68 0.198
3 Gentoo      124 0.360
```

Panels

Plot

```
penguins |>
  filter(species == "Adelie", !is.na(sex)) |>
  ggplot(aes(x = flipper_length_mm, y = body_mass_g, color = sex)) +
  geom_point() +
  labs(x = "Flipper Length (in mm)",y = "Body Mass (in g)",
       title = "Flipper length vs. body mass",
       subtitle = "Adelie Penguins at Palmer Station, Antartica") +
  scale_color_viridis_d() +
  facet_wrap(~island)
```



Code

```
penguins |>
  filter(species == "Adelie", !is.na(sex)) |>
  ggplot(aes(x = flipper_length_mm, y = body_mass_g, color = sex)) +
  geom_point() +
  labs(x = "Flipper Length (in mm)",y = "Body Mass (in g)",
```

```
      title = "Flipper length vs. body mass",
      subtitle = "Adelie Penguins at Palmer Station, Antartica") +
  scale_color_viridis_d() +
  facet_wrap(~island)
```

Themes

Customize the appearance of the slides using

- Built-in Reveal theme
- Modify built-in theme using Sass
  - Variant of CSS that supports variables and other features
- Create custom thing using Sass

Specify the theme and/or Sass file (.scss) in the YAML