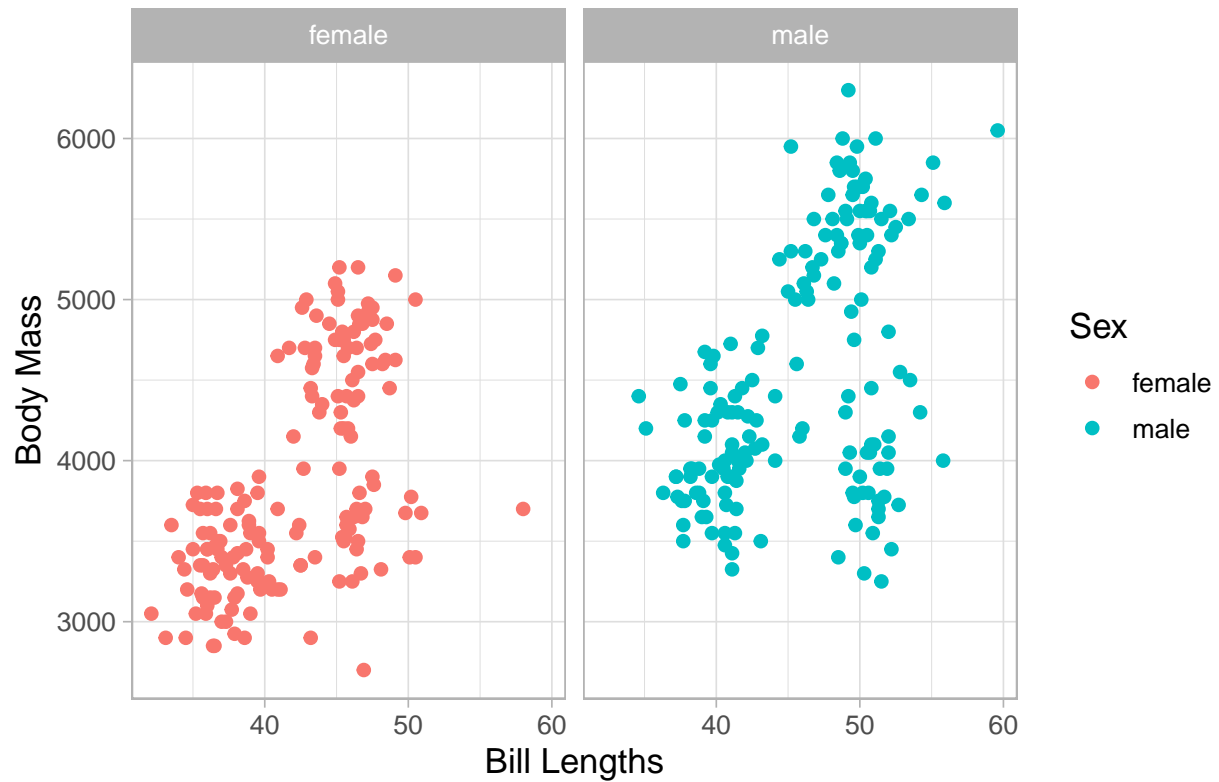# Assignment 5

Sema Tay

2025-11-10

Dataset

The `penguins` dataset (available through the `palmerpenguins` package and can be loaded after installing and loading the package) contains real-world data collected from three penguin species are Adélie, Chinstrap, and Gentoo living in the Palmer Archipelago of Antarctica. The measurements were taken between 2007 and 2009 consists many variables about the penguins such as `species`, `island`, `bill_length_mm`, and so on.

Drawing a plot for association

1. Draw a single plot showing association between the bill lengths and body mass of the penguins according to the their sex (60 pts).

```r
ggplot(penguins, aes(x =bill_len , y = body_mass, colour = factor(sex))) +
  geom_point() +
  labs(title = "Visualization of the penguins between body mass and bill lengths",
       x="Bill Lengths",
       y="Body Mass",
       colour = "Sex")+
   facet_grid(~sex)+
  na.omit(penguins)+
  theme_light(base_size = 13)
```

Visualization of the penguins between body mass and bill le

2. Interpret the plot (40 pts).

As penguins' body mass increases, their bill length increases. There is a positive correlation between them. Because male penguins have greater body mass, their bill lengths also increase.