Assignment 5

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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).

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)

##
## Attaching package: 'palmerpenguins'

## The following objects are masked from 'package:datasets':
##
##     penguins, penguins_raw

## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.5'
## (as 'lib' is unspecified)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union

## # A tibble: 6 x 8
##   species island    bill_length_mm bill_depth_mm flipper_length_mm body_mass_g
##   <fct>   <fct>              <dbl>         <dbl>             <int>       <int>
## 1 Adelie  Torgersen           39.1          18.7               181        3750
## 2 Adelie  Torgersen           39.5          17.4               186        3800
## 3 Adelie  Torgersen           40.3          18                 195        3250
## 4 Adelie  Torgersen           NA            NA                 NA          NA
```
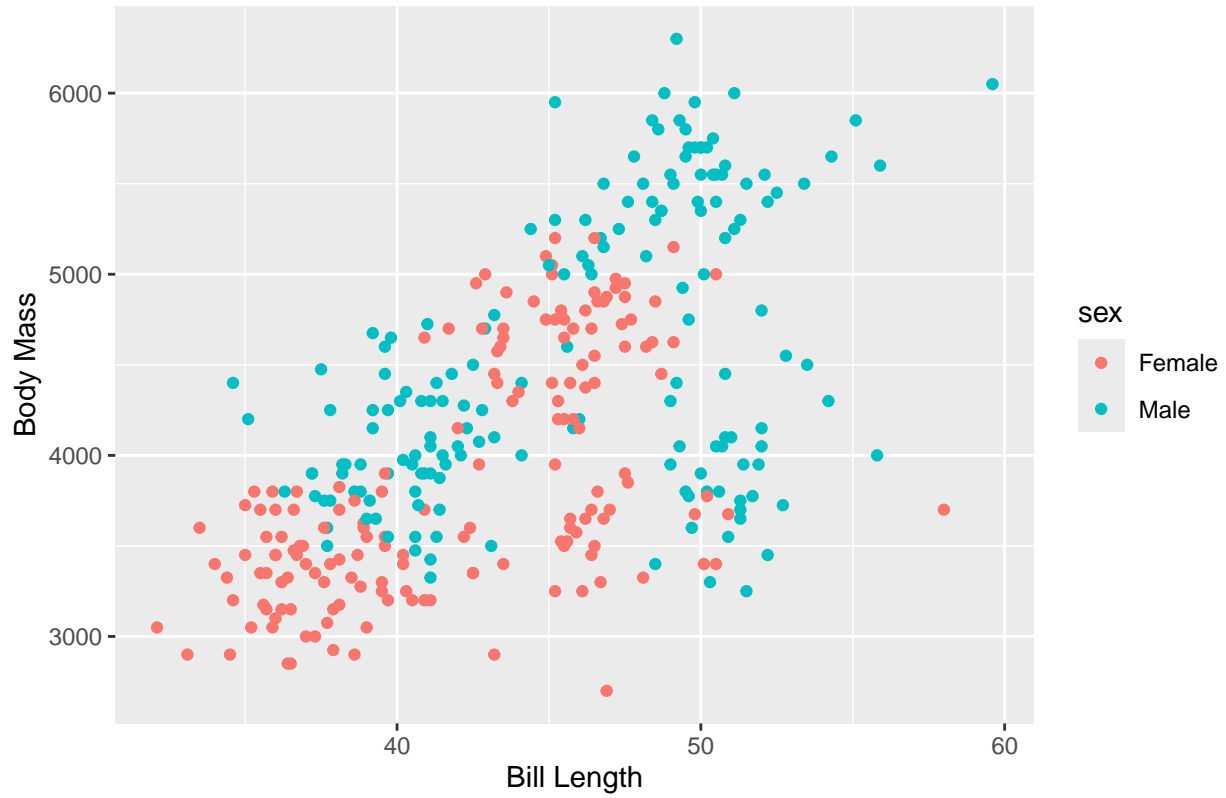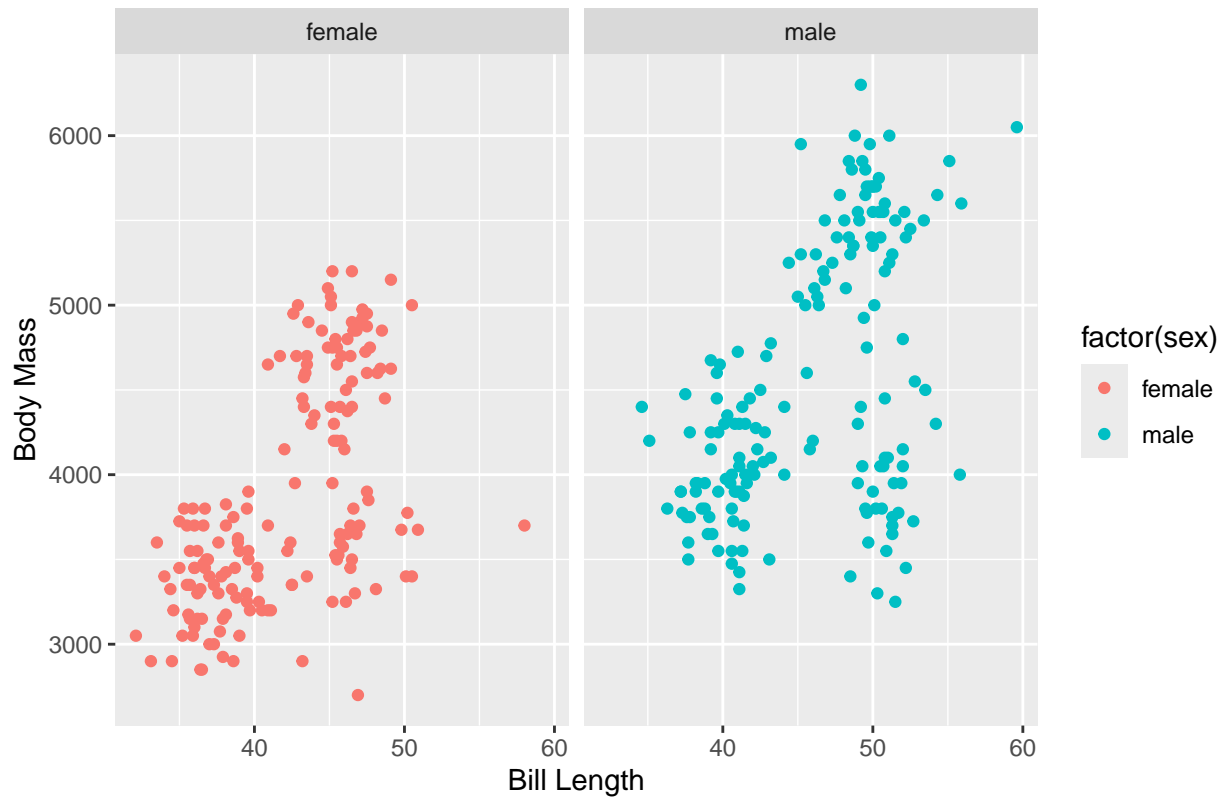
```
## 5 Adelie  Torgersen            36.7          19.3                193        3450
## 6 Adelie  Torgersen            39.3          20.6                190        3650
## # i 2 more variables: sex <fct>, year <int>
```


Visualization of the association between bill length and body mass by sex

Visualization of the association between bill length and body mass by sex

2. Interpret the plot (40 pts).

When we look at the penguins according to their gender, a similar situation has been observed in both genders. There is a positive increase in beak length and body mass. Males have longer beak lengths and larger body mass indexes than females.