csci297b Exercise 5
ggplot2

1. Start a new project for this series of exercises and call it `project_02_yourname`. Share it with your instructor, `gmatthews@wlu.edu`

2. Open a new R script in the project called `exercise05`

3. Load the penguins dataset and answer the following questions in your script.

4. How many rows are in penguins? How many columns?

5. What does the `bill_depth_mm` variable in the penguins data frame describe? Read the help for `?penguins` to find out.

6. Make a scatterplot of `bill_depth_mm` vs. `bill_length_mm`. That is, make a scatterplot with `bill_depth_mm` on the y-axis and `bill_length_mm` on the x-axis. Describe the relationship between these two variables.

7. What happens if you make a scatterplot of `species` vs. `bill_depth_mm`? What might be a better choice of geom?

8. Why does the following give an error?

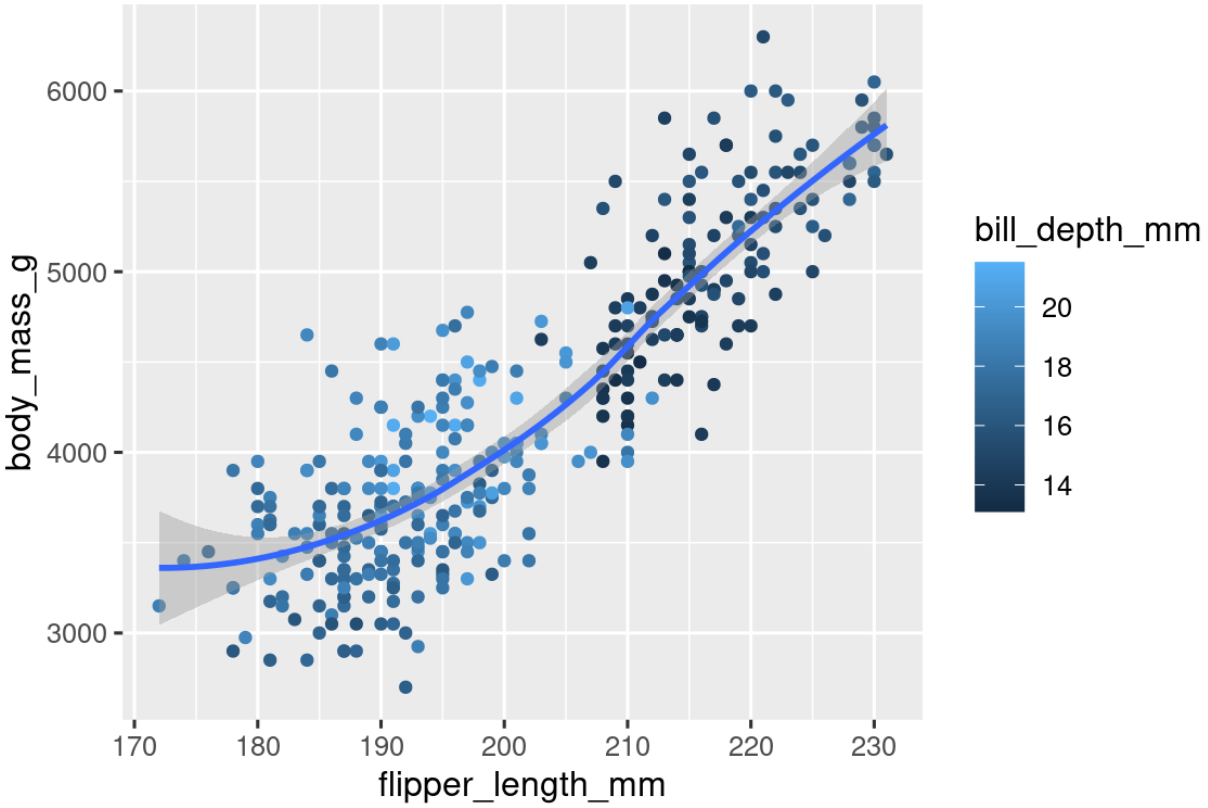
   ```
   ggplot(data = penguins) +
     geom_point()
   ```

   Fix it in your R script.

9. What does the `na.rm` argument do in `geom_point()`? What is the default value of the argument? Create a scatterplot where you successfully use this argument set to TRUE.

10. Add the following caption to the plot you made in the previous exercise: "Data come from the palmerpenguins package." Hint: Take a look at the documentation for labs().

11. Recreate the following visualization. What aesthetic should `bill_depth_mm` be mapped to? And should it be mapped at the global level or at the geom level?



12. Run this code in your head and predict what the output will look like. Then, run the code in R and check your predictions.

```
ggplot(
  data = penguins,
  mapping = aes(x = flipper_length_mm, y = body_mass_g, color = island)
) +
  geom_point() +
  geom_smooth(se = FALSE)
```

13. Will these two graphs look different? Why/why not?

```
ggplot(
  data = penguins,
  mapping = aes(x = flipper_length_mm, y = body_mass_g)
) +
  geom_point() +
  geom_smooth()

ggplot() +
  geom_point(
```

```
  data = penguins,
  mapping = aes(x = flipper_length_mm, y = body_mass_g)
) +
geom_smooth(
  data = penguins,
  mapping = aes(x = flipper_length_mm, y = body_mass_g)
)
```