

Instructions

Complete one of the following sets of activities (1 or 2). Save the resulting scripts, and share these with Gaurav via email: gkandlikar@lsu.edu

1. For students new to programming

Follow the R for Ecologists lessons on Youtube. Focus on Lessons 1–4. <https://youtu.be/YKvkXKeGoa8?si=lnD8EFnkK3DekCm7>

Note that the files used by the instructor are available here: https://www.rforecology.com/uploads/Basics_of_R_course_materials.zip

Save the R code you write through these exercises for future reference.

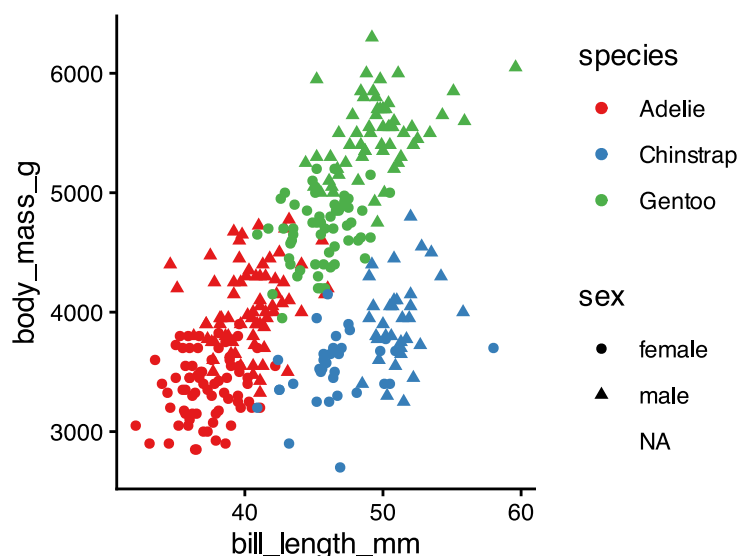
2. For students with programming experience.

Without the use of any AI tools, answer the questions below to the best of your abilities. You are welcome to use books, stack overflow, built-in R help tools, but for now, please don't ask other people for help, and definitely don't use generative AI tools to solve the problem. **The goal of this is for me to get a good sense of your starting point in R so that I can accurately calibrate lessons for the remainder of the semester.**

Note: If you have programming experience but not experience with R, the first few chapters of this book will help you get started on the exercises below: <https://r4ds.hadley.nz>

These questions make use of the `palmerpenguins` package, which you can install with `install.packages(palmerpenguins)`. Once installed and loaded, the `penguins` dataframe will be immediately available in your environment. You can choose to make the plot using `ggplot2` or base R, don't worry about colors etc., just get as close as you can.

1. Write code to create the following graph:



2. As loaded, the dataframe is in wide format. Write code to reshape into long format, such that each individual penguin's bill length, bill depth, flipper length, and body mass appear on separate rows. Also make sure that the final long dataframe has an additional column `penguin_id` that identifies which individual penguin each measurement corresponds to. The resulting dataframe should appear as follows:

```
# A tibble: 1,376 × 7
  species island   sex   year penguin_id name          value
  <fct>   <fct>   <fct> <int>   <int> <chr>         <dbl>
1 Adelie  Torgersen male   2007     1 bill_length_mm  39.1
2 Adelie  Torgersen male   2007     1 bill_depth_mm  18.7
3 Adelie  Torgersen male   2007     1 flipper_length_mm 181
4 Adelie  Torgersen male   2007     1 body_mass_g    3750
5 Adelie  Torgersen female 2007     2 bill_length_mm  39.5
6 Adelie  Torgersen female 2007     2 bill_depth_mm  17.4
7 Adelie  Torgersen female 2007     2 flipper_length_mm 186
8 Adelie  Torgersen female 2007     2 body_mass_g    3800
9 Adelie  Torgersen female 2007     3 bill_length_mm  40.3
10 Adelie Torgersen female 2007     3 bill_depth_mm   18
# i 1,366 more rows
```