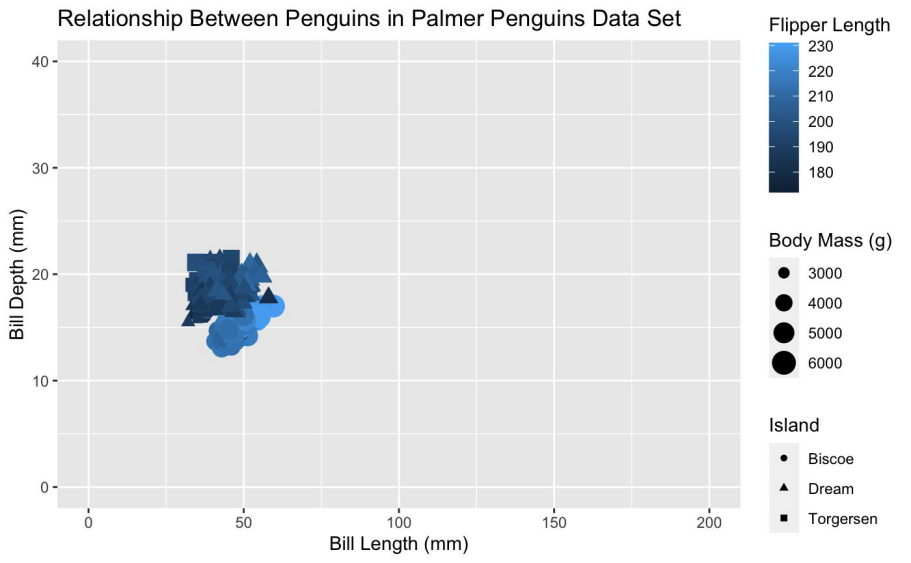
Ugliest Plot Competition

STAT 331 Winter 2023



Code:

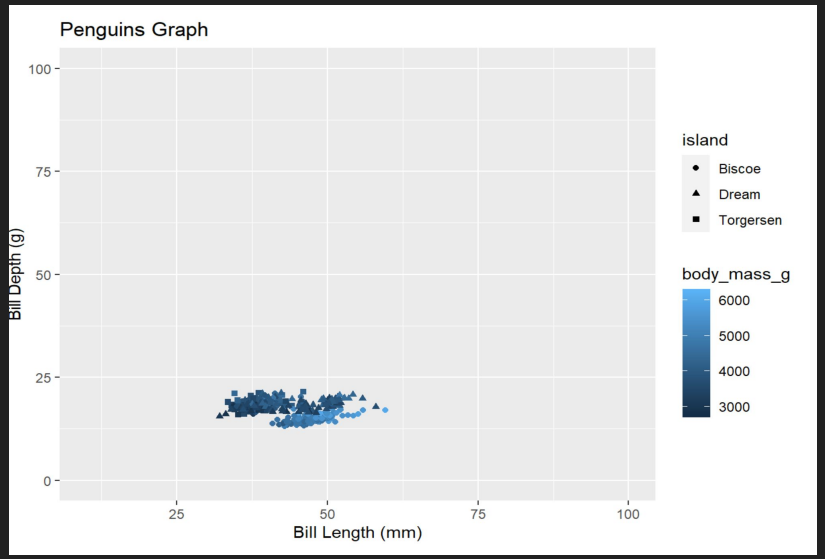
```
ggplot(data = penguins) +
  geom_point(mapping = aes(x = bill_length_mm, y
= bill_depth_mm, color = flipper_length_mm,
shape = island, size = body_mass_g)) +
  labs(title = "Relationship Between Penguins in
Palmer Penguins Data Set", x = "Bill Length
(mm)", y = "Bill Depth (mm)", color = "Flipper
Length", shape = "Island", size = "Body Mass
(g)") + xlim(0,200) + ylim(0,40)
```

Explanation:

I decided to overuse the Aesthetic Mappings feature and assign attributes to variables that make the graph not only hard to read, but hard to look at.

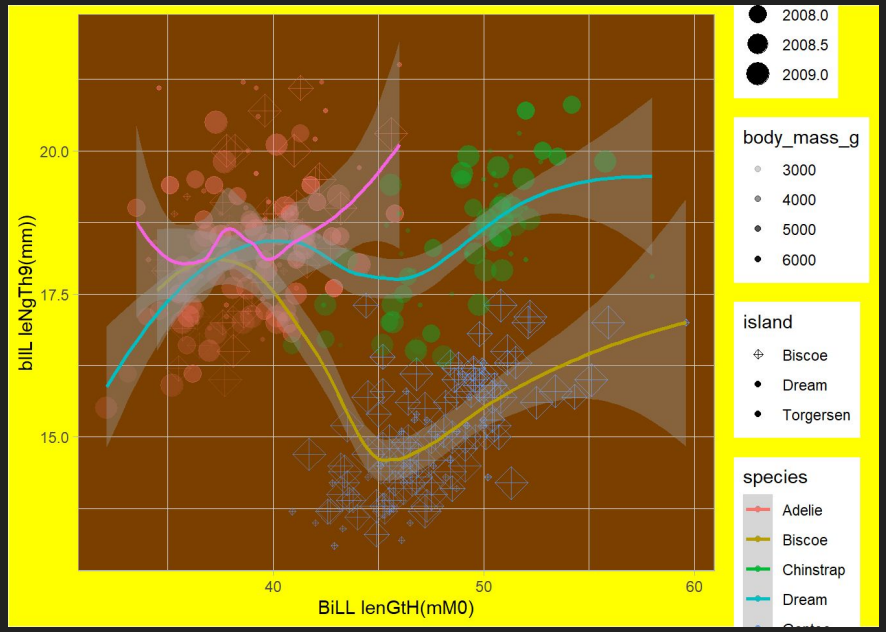
In the code, I linked the penguin's body mass to the size of the observation. By making flipper length associated with color, these two attributes go hand in hand to overlap the data. As a result, they also make it difficult to distinguish the last variable: Island, which determines the shape of the observation. To go a step further, I also adjusted the axes scale so that the observations are squished together.

I've intentionally avoided keeping observations from excessive overlapping in addition to not using an axes scale that properly displays the data. The combination of all three make this graph a pain to obtain data from.



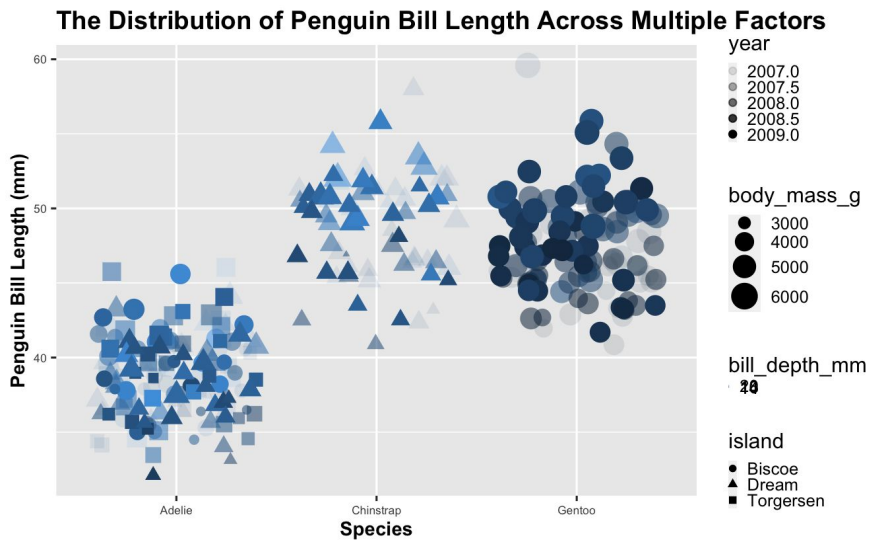
I first added the body mass of the penguins to the graph by color. I then made the y and x axis a lot bigger than necessary which made it so all the points are not filling up the graph and are not distinguishable from each other. Lastly, I added shape by island which with this zoomed out of a graph makes the points even more blended together. I intentionally violated the principles of good graphics where you want the points to overlap as little as possible.

```
data(penguins)

ggplot(data = penguins) +
 geom_point(mapping = aes(x = bill_length_mm, y = bill_depth_mm,
                          color = body_mass_g, shape = island)) +
  xlim(10, 100) +
  ylim(0, 100) +
  labs(title = "Penguins Graph", x = "Bill Length (mm)", y = "Bill Depth
(g)")
```



I tried making this really ugly by first crowding a lot of information on to the graph. Mapping the x and y, year, shape, and species to add more objects on the graph. Added a smooth line and several dot plots that have ugly colors and shapes. Background colors are hard to look and bright. Nothing should be consistent on the pictures and hard to read. Misspellings, errors, and poor choices are all on here.

```
ugly <- ggplot(data = penguins) +
  geom_point(mapping = aes(x = bill_length_mm,
y = bill_depth_mm, color = species, shape =
island, size = year, alpha = body_mass_g)) +
  labs(x = "BiLL lenGtH(mM0)", y = "bIlL
leNgTh9(mm))") +
  scale_shape_manual(values = c(9, 16, 19)) +
  theme_light() +
  geom_smooth(mapping = aes(x = bill_length_mm,
y = bill_depth_mm, color = island))

ugly + theme(
  panel.background = element_rect(fill =
"#7B3F00", size = 5)) +
  theme(plot.background = element_rect(fill =
"#FFFF00", size = 0.1))
```



I decided to use color to group the penguin bill depth, which makes it hard for the readers to read as each slightly different shade of blue will serve as the group for many different bill depths. On top of that I decided to use shapes to distinguish the islands even if some of them overlay one another. I also decided to take the body mass into account and group it according to figure size. I switched geom_plot() to geom_jitter() so that the plots are more spread out. Changing the type of plot compliments the size aesthetic because they take up so much space and are uninformative. Lastly, I edited the layout of the plot labels and legends to make it more visible for the readers.

```
ggplot(data = penguins) +
      geom_jitter(mapping = aes(x = species, y = bill_length_mm,
                                color = bill_depth_mm, shape = island, size = body_mass_g, alpha = year)) +
      labs(x = "Species", y = "Penguin Bill Length (mm)",
           title = "The Distribution of Penguin Bill Length Across Multiple Factors") +
      theme(plot.title = element_text(face = "bold"),
            axis.title = element_text(size = 10, face = "bold"),
            axis.text = element_text(size = 6),
            legend.key.size = unit(.01, "cm"))
```