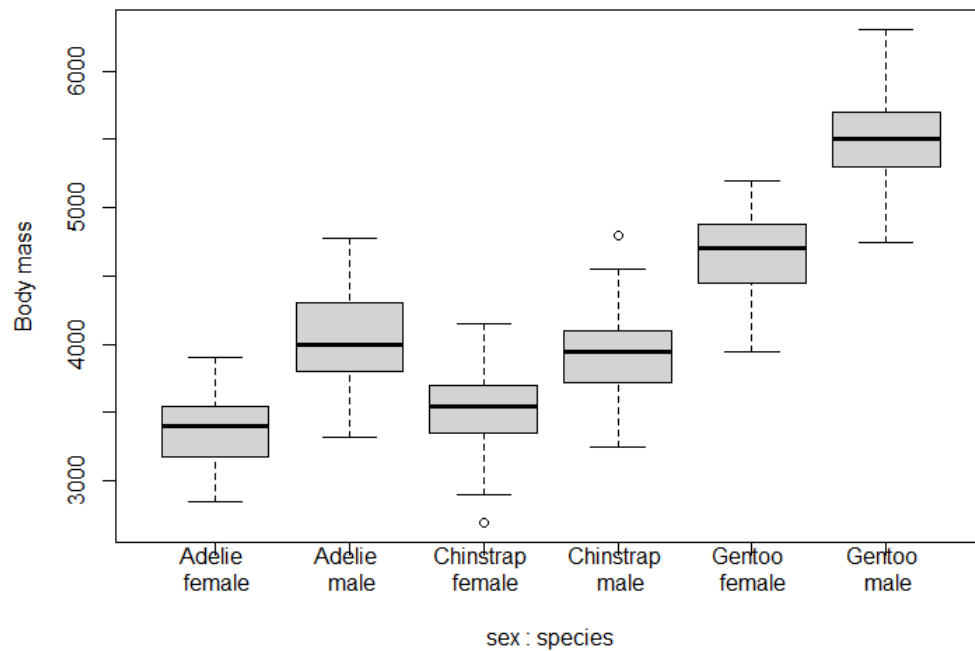


Evan Krause
ECO 602
Prof. Michael Nelson
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1.



2. Yes, I think that the male penguins are significantly heavier than females of each species. All males have greater mean weights and their IQRs are distinct from their female counterparts.

3. Yes, I think that it may improve model fit. The variation between sexes is of different magnitude depending on species.

4.

```
fit_both <- lm(body_mass_g ~ sex * species, data = penguins)
```

```
summary(fit_both)
```

5. The base case is an Adelle female

6. speciesChinstrap is the only relevant coefficient that I could identify.

7. 3527.21
8. 3527.206