



2. Yes, both the boxplot conditioned only on sex and the boxplot conditioned on sex and species (shown above) display that male penguins are consistently heavier.
3. Yes, adding sex to the boxplots improves the model fit because it allows all parts of the model to be displayed and not lumped into the categories of species only. When you look at the boxplot of just species it seems that Adélie and Chinstrap penguins have very similar body masses. However, when you incorporate sex you can see that there is a difference in the body masses of each species' sex. Also, you can see that if looking at only one sex there is a difference in body mass between the species.
4. `fit_both = lm(formula = body_mass_g ~ sex * species, data = penguins)`
5. The base case is Female Adélie
6. Female Chinstrap = Base Case + speciesChinstrap
7. Female Chinstrap = 3527.21 grams
8. Female Chinstrap = 3527.206 grams