Evan Krause
ECO 634
Prof. Michael Nelson
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1. H_0: The proportion of Brown Creepers that prefer either interior or exterior habitats is the same
2. Of the areas where Brown Creepers were observed, ~ 91.5% were within the interior areas. This suggests a significant habitat presence.
3. fit_species <- lm(penguins$body_mass_g ~ penguins$species)
4. fit_sex <- lm(penguins$body_mass_g ~ penguins$sex)
5. fit_both <- lm(penguins$body_mass_g ~ penguins$species * penguins$species)
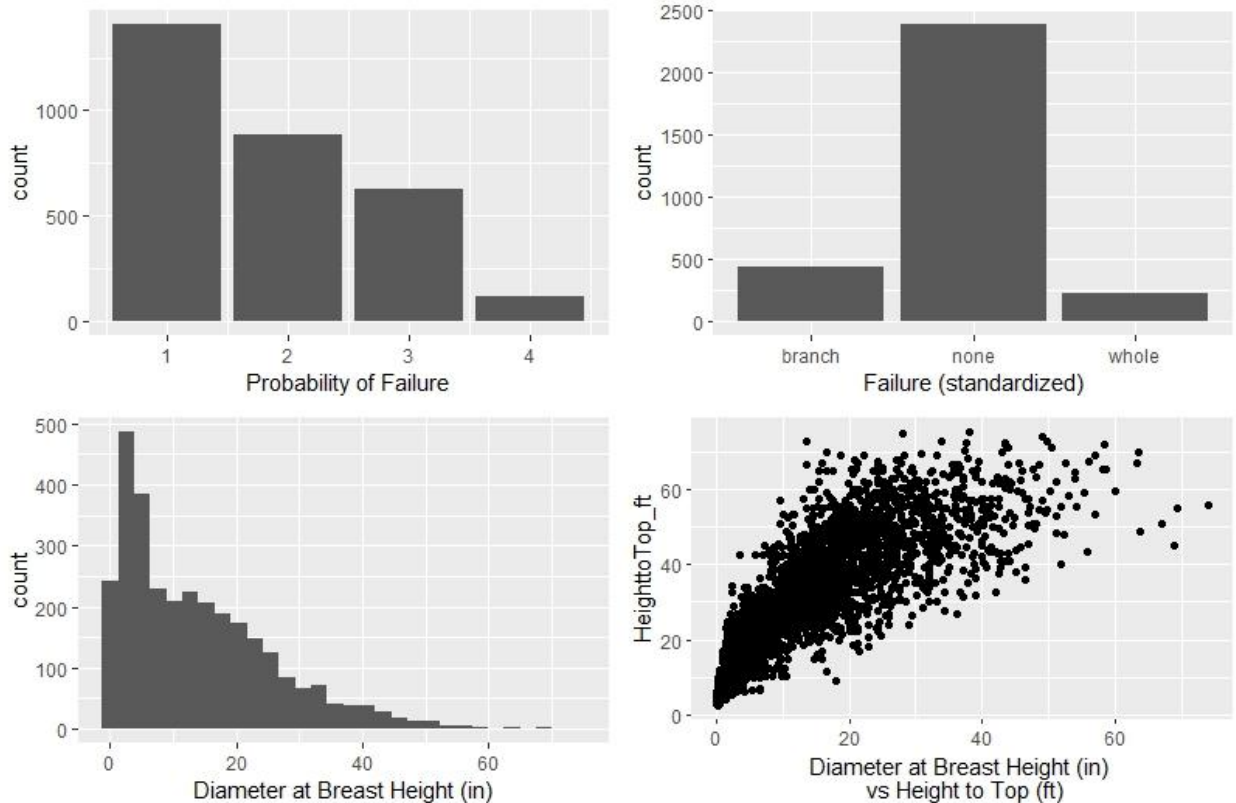6.
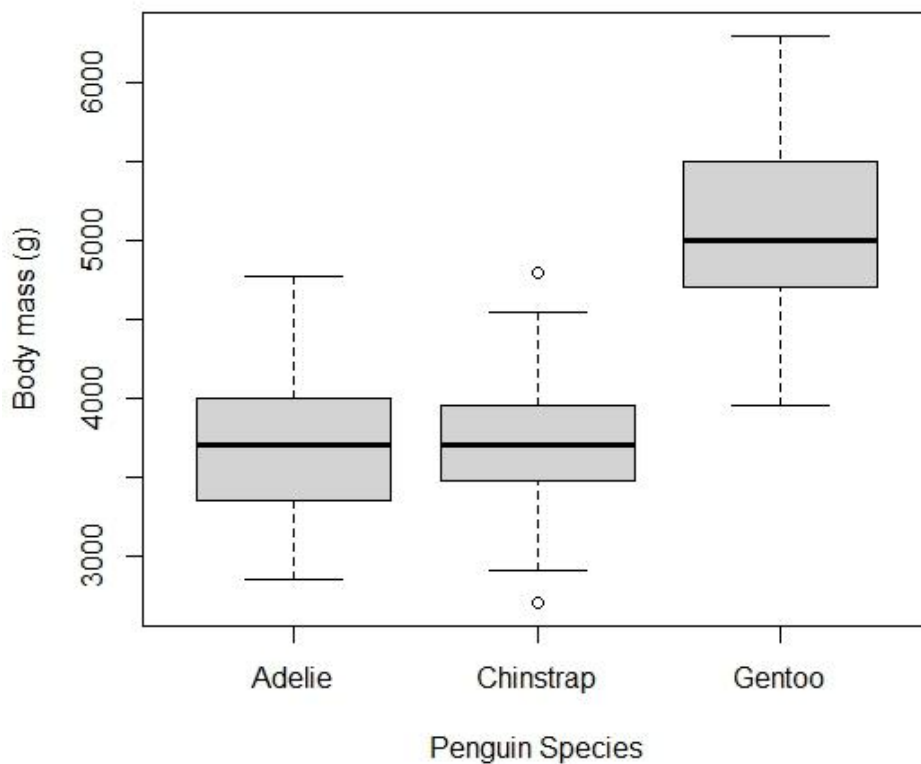
7.
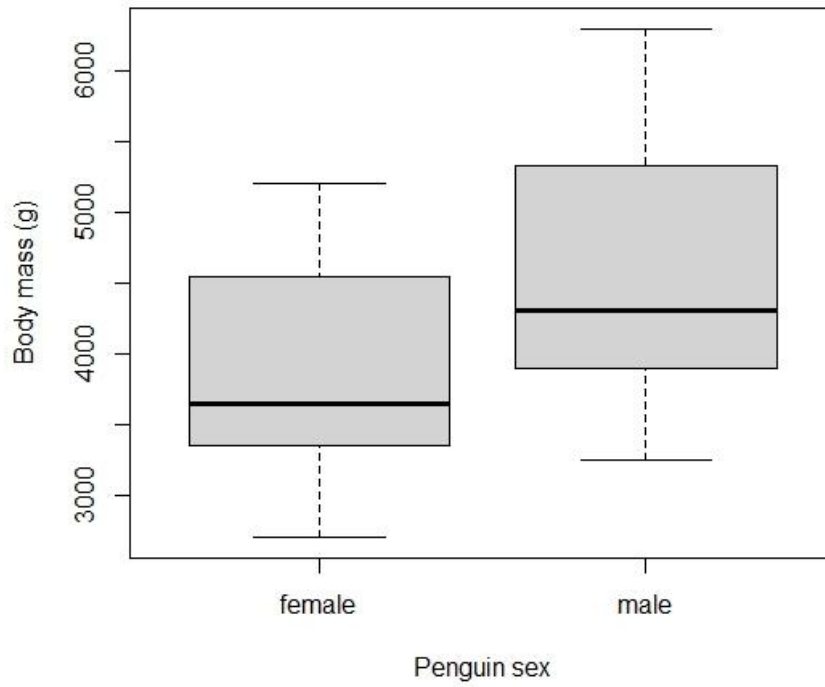
8.
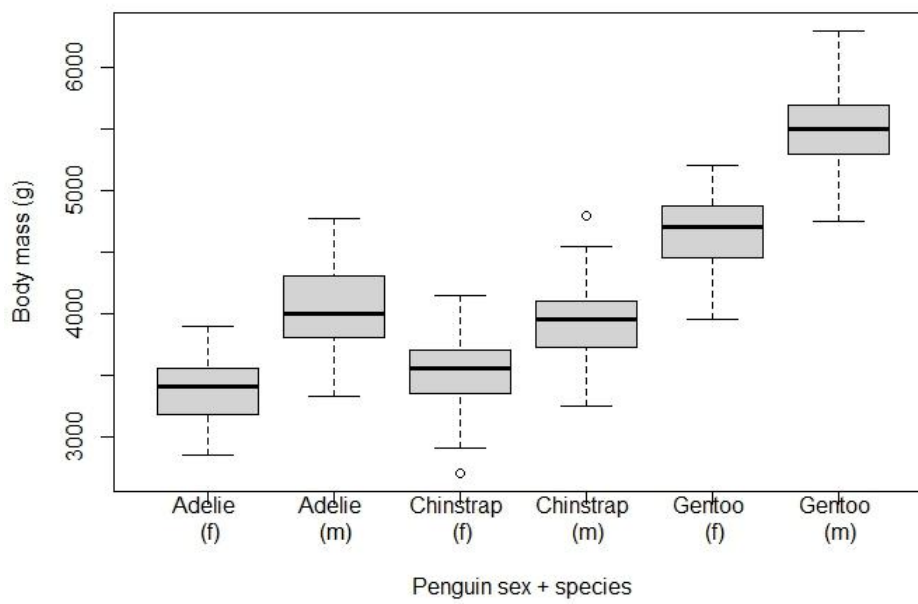
9. The plot of body mass by sex may violate the homogeneity assumption due to the large crossover of values between sexes.
10. The null hypothesis for the Bartlett test is that all of the tested populations have equal variances
11. 0.03194
12. 0.05005
13. 0.1741
14. .
15.

16. The null hypothesis for the Kolmogorov-Smirnov test in terms of DBH of the two tree groups is "Both DBH group measurements are drawn from the same distribution of values"
17. 0.02125. Given that the p-value for the test is less than the level of significance, I do not think that both values were drawn from the same distribution.
18. It looks like it is a curved, increasing monotonic distribution.
19. I think that the Spearman correlation is most appropriate for this data relationship.
20. < 2.2e-16
    Yes, I think that the two variables are significantly correlated.
21. Statistic = 202.65, p-value < 2.2e-16
22. 4
23. Fewer than expected
24. More than expected

25. Yes, it's effective. More failures were associated with the levels that had higher probability of failure.