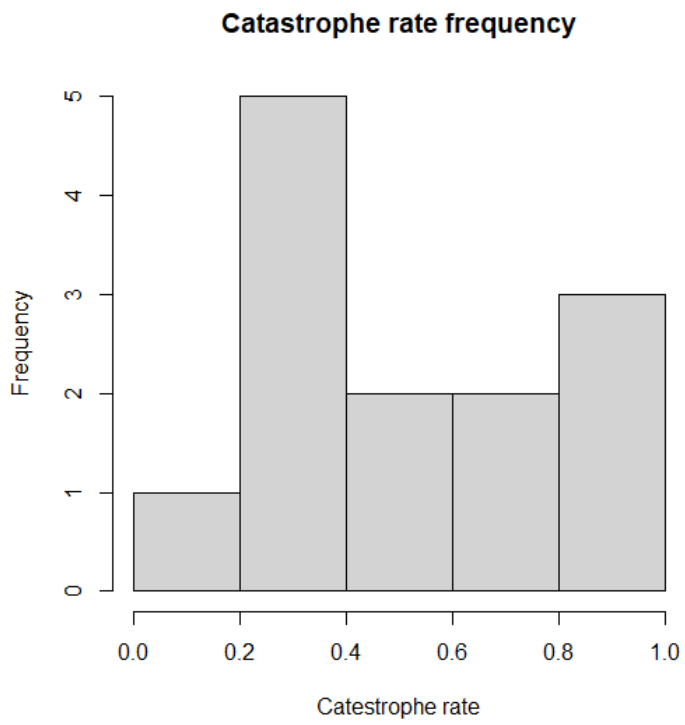
Evan krause
ECO 602
Prof. Michael Nelson
11/12/22

1.



2. p-value = 0.04097
shapiro.test(catrate$cat.rate)

3. H_0: “The sample was taken from a normally distributed population”

4. There is evidence that the sample was taken from a normal distribution.

5. t.test(catrate$cat.rate, mu = 0.28)

6. H_0: “The value of the true mean is equal to 0.28”

7. Non-directional, so it is a two.tailed test

8. p-value = 0.01054
“If this test were performed a large number of times, the likelihood of getting a false-positive result would be around 1.054%”

9. The interval does not include zero
95 percent confidence interval:
 0.3526250, 0.7261295

10. Yes, there was sufficient evidence to reject the null hypothesis

11. p-value = 0.2103

12. Wilcoxon p-value = 0.2103; t-test p-value = 0.01054

13. With a p-value much higher than the level of significance (~0.21 vs 0.05), there is insufficient evidence to reject the null hypothesis.

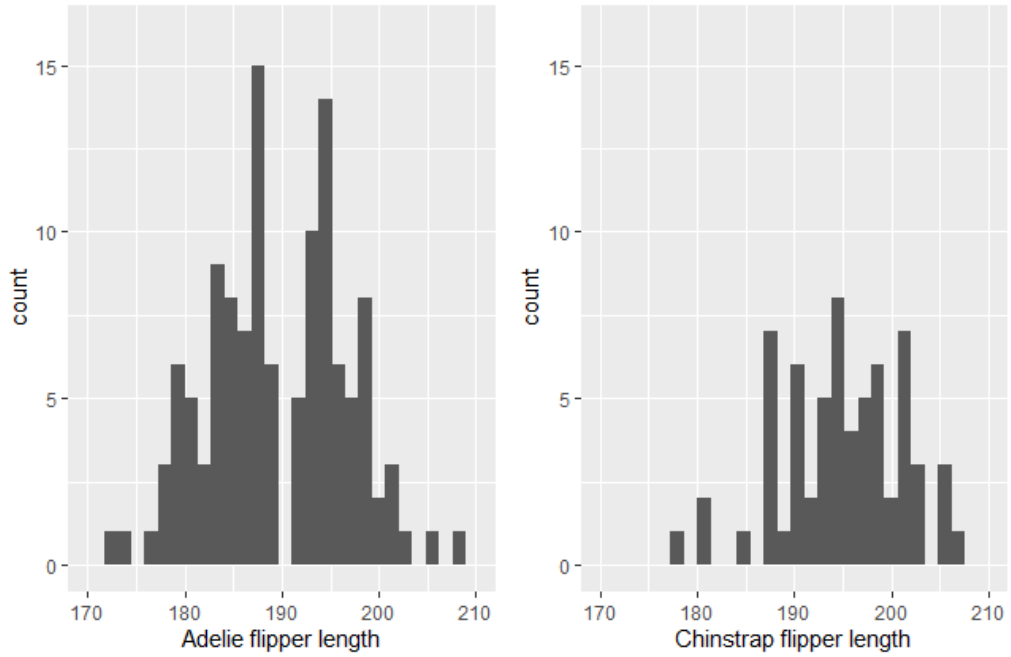
14. From the t-tests we can conclude that there is a likely difference in the catastrophic rate and the pond late-filling rate. From the Wilcoxon test we are unable to conclude that the catastrophic and late-filling rate values are from different distributions.

15. I think that the t-test is more appropriate for this data.

16.
shapiro.test(adelie_dat$flipper_length_mm)
shapiro.test(chinstrap_dat$flipper_length_mm)

17. The p-values of the shapiro tests for flipper lengths of Adelie and Chinstrap penguins were 0.72 and 0.8106 respectively. Flipper lengths were normally distributed for both species.

18.



19. H_a: “The difference in average flipper lengths between the two species is not zero”

20.
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t.test(adelie_dat$flipper_length_mm, chinstrap_dat$flipper_length_mm)
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