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11/9/2021

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Lab# 9

Q1: The null hypothesis for the chi-squared test is that there is no relationship between the control and clipped trees, no relationship between the variables.

Q2: The Brown Creepers do show a significant habitat preference. The edge false preference is 144, where the interior false preference is 599. The true values are 29 compared to 314.

Q3: The R code is:

fit\_species =

lm(

formula = body\_mass\_g ~ species,

data = penguins)

Q4: The R code is:

fit\_sex =

lm(

formula = body\_mass\_g ~ sex,

data = penguins)

Q5: The R code is:

fit\_both =

lm(

formula = body\_mass\_g ~ sex, species,

data = penguins)

Q6:

Chart, box and whisker chart

Description automatically generated

Chart, box and whisker chart

Description automatically generatedQ7:

Chart, box and whisker chart

Description automatically generated

Q8:

Q9: The model that would have a problem fulfilling this assumption would be the boxplot of penguins by species because in that plot the boxes look very different and spread out from each other.

Q10: The null hypothesis for the Bartlett test is that there is no difference in variance between the controlled and clipped trees.

Q11: 0.0501

Q12: 0.0319

Q13: 0.1741

Q14: With the Bartlett test I am anticipating there is an issue because the value is insignificant and I cannot reject the null for both variables, but I can for sex. For species the value is right on the boarder of significance.