

Course EPIB-613 - Introduction to Statistical Software

Assignment 3

1. Consider the data from part (d) of problem 1 from assignment 1. Recall that these data are the after minus before differences in blood pressure within a placebo and a calcium supplement group. Calculate a 95% confidence interval for the between treatment group change in blood pressure using the `t.test` command.
2. Suppose that Group A sees 150 successes in 200 subjects, while Group B sees 130 successes in 180 subjects. Calculate a 95% confidence interval for the difference in these two proportions using the `prop.test` command.
3. Using the data from problem 2 above, calculate a 95% confidence interval for the odds ratio, using the `fisher.test` command.
4. Calculate the following areas under the curve:
 - (a) Normal($\mu = 5, \sigma = 5$) curve, area between (0 , 3).
 - (b) Normal($\mu = 5, \sigma = 5$) curve, area between (10, ∞).
 - (c) The t -distribution with 3 degrees of freedom, area between (-2, 2).
5. Referring again to the data used in problem 1 above (which were originally from assignment 1), create the following graphs:
 - (a) A boxplot comparing the diff values between the placebo and calcium groups.
 - (b) A histogram of the diff values from both groups combined.