

Categorical Data Analysis

(STAT343)

Assignment 1

(no due date)

1. The students at a class were asked whether he or she was a vegetarian. Of 25 students, two answered "yes." Let a binomial parameter π be the probability of being a vegetarian. Consider $H_0 : \pi = 0.5$ against $H_1 : \pi \neq 0.5$. Do computations by hand, SAS, and/or R to answer the following questions.
 - (a) Estimate the probability of being a vegetarian.
 - (b) Obtain 95% Wald, likelihood ratio, and score confidence intervals.
 - (c) Conduct Wald, likelihood ratio, and score tests for the hypothesis with significance level 0.05.
 - (d) Conduct the exact test for the hypothesis with significance level 0.05.