Part III - Confidence Intervals and Hypothesis Testing

Questions 10 through 12 are based on hypothesis testing and confidence intervals. In the different textbooks you will find many criteria about when to use normal distribution and t distribution for solving these problems. Some of the criteria defined are based on approximation that when sample size is large, t distribution can be approximated to normal. However, here when you are using technology to solve problem, stick to criteria that when population standard deviation is known, normal distribution is used. In all other cases orrespective of sample sizes, t distribution is used.

Q10) Consider variable overall satisfaction with the dining facility variable.

1. At 90% confidence, estimate the overall satisfaction with the fining facility.
2. At a 10% significance level, can we conclude overall satisfaction is different from 3.5? Explain criteria used to reach conclusion.

Q 11) Let’s perform analysis on satisfaction based on frequency of visit variable. You may find table completed in Question 4 useful for this analysis. At 5% significance level, test the hypothesis that those who visit dining facility daily are less satisfied that those who to not visit facility daily, In the answers provide test statistics, P value and conclusion. Use subscript 1 for daily visit and 2 for those who don’t visit dining facility daily.