MET CS 555 Assignment 2 – 20 points

SUBMISSION REQUIREMENTS: **Please submit a single document (word or PDF) for submission. Your submission should contain a summary of your results (and answers to questions asked on the homework) as well as your R code used to generate your results (please append your R code to the end of your submission).**

**An experiment was conducted to determine the effect of children participating in a given meal preparation on calorie intake for that meal.**

**Data are attached. Read the data in for analysis.**

**Use R to calculate the quantities and generate the visual summaries requested below.**

**You will lose points if you are not utilizing R.**

1. Summarize the data by whether children participated in the meal preparation or not. Use an appropriately labeled table to show the results. Also, include a graphical presentation showing the calorie distribution for participants vs. non-participants. Describe the shape of each distribution and comment on the similarity (or lack thereof) between the distributions in each group. **(2 points)**
2. Does the mean calorie consumption for those who participated in the meal preparation differ from 425? **Formally test at the alpha = 0.05 level using the five steps** outlined in the module. **(6 points)**
3. Calculate a **90% confidence interval** for the mean calorie intake for participants in the meal preparation. Interpret the confidence interval. **(4 points)**
4. Formally test whether or not participants consumed more calories than non-participants at the alpha = 0.05 level **using the five steps** outlined in the module. **(6 points )**
5. Are the test assumptions used in (4) met? How do you know? **(2 points)**