**HW 1**

Install the reshape2 package and access the tips data. The dataset features 244 customer dining experiences along with seven different measured variables. The description of the variables are as follows:

total\_bill: Final price of the meal \_\_\_\_\_\_\_ tip: Amount of tip left by the paying customer \_\_\_\_\_\_\_sex: Gender of the paying customer \_\_\_\_smoker: If they were seated at a smoking table \_\_\_\_\_\_\_day: Day of the week when they dined \_\_\_\_ \_ time: Time of day \_\_\_\_\_\_\_size: Number of customers dinning

The code below will get you started. **R**> install.packages(“reshape2”) **R**> library(reshape2) **R**> attach(tips) **R**> tips

Questions

1. Produce a one-way frequency distribution of the days when the customers had gone to the restaurant.
2. Produce a two-way frequency distribution of the variables day and time.
3. Produce a three-way relative frequency distribution of gender of the paying customer and if they were at a smoking table, by the day which they dined.
4. Produce a relative frequency bar graph of the variable day.
5. Produce a boxplot of the variable tip.
6. Produce side-by-side boxplots of tip amount by day.
7. Produce a grouped data table using 7 classes of the variable total\_bill. In the table include the frequency distribution, relative frequency distribution, cumulative frequency distribution, and the cumulative relative frequency distribution.
8. Create a relative frequency histogram of total\_bill using the class breaks in Question 7.

**R**>install.packages(“lattice”) **R**>library(lattice)

1. Produce frequency histograms of the total\_bill amount by day using the class breaks in Question 7.
2. Produce a scatterplot showing total\_bill on the horizontal axis and tip on the \_vertical axis.