

ANOVA Exercises in R

January 11, 2019

Diabetic Patients

When a patient is admitted to a hospital, their admission is generally categorized according to the severity or urgency of their symptoms (e.g., “Elective”, “Emergency”, etc.). We are interested in the different types of hospital admissions for diabetic patients. We will use the data in the file `diabetes_data_clean.csv` to answer several questions related to hospital admissions. Use the appropriate statistical tests, plots, or tables to address the questions below.

1. Number of Labs
 - a. Does the number of labs differ by admissions type?
 - b. If the number of labs differ, which admissions types are different?
 - c. Does the number of labs differ by admissions source?
 - d. If the number of labs differ, which admissions types are different?
 - e. Does the number of labs differ by race?
 - f. If the number of labs differ, which admissions types are different?
2. Time in Hospital
 - a. Does the time in hospital differ by admissions type?
 - b. If the time in hospital differs, which admissions types are different?
 - c. Does the time in hospital differ by admissions source?
 - d. If the time in hospital differs, which admissions types are different?
 - e. Does the time in hospital differ by race?
 - f. If the time in hospital differs, which admissions types are different?
3. Consider question 3.2 from `hypothesis_testing_exercises.pdf`
 - Now that you have the number of medications for each patient on their different stays, create a new variable called `total_medications` where you sum up all of the medications for each patient.
 - ****Hint:** If you need help with this consider a website I made on doing basic R: Introduction to R there is section on the spread function under tidy data.
 - Answer the following questions about the total number of medications
 - a. Do the total number of medications differ by race?
 - b. Do the total number of medications differ by sex?