Lab #2
Data Science I

The data we will be using for this assignment is from data.cms.gov (https://data.cms.gov/Medicare-Inpatient/Inpatient-Prospective-Payment-System-IPPS-Provider/97k6-zzx3).The data include hospital-specific charges for the more than 3,000 U.S. hospitals that receive Medicare Inpatient Prospective Payment System (IPPS) payments for Fiscal Year (FY) 2011. The data are for the top 100 most frequently billed discharges as categorized by Medicare Severity Diagnosis Related Group (MS-DRG). These DRGs represent more than 7 million discharges or 60 percent of total Medicare IPPS discharges. Before you begin this assignment do a little bit of research and familiarize yourself with DRG codes (https://en.wikipedia.org/ wiki/Diagnosis-related_group).

We will be using this data to write some functions and then will turn these functions and the data into a documented R package!

1. Write a function that makes a boxplot of payments by DRG code. Make it an option for your function to do this for either the average Medicare payments, the average total payment, or the average covered charges.
2. Write a function that calculates statistics over all of the DRG codes for average Medicare payments. Make it an option in your function to calculate either the mean, median or standard deviation of the DRG codes.
3. Take the two functions that you wrote as well as the DRG data and create an R package. Be sure to document your functions. Put the DRG data into the R package.

Rubric:

Code Style (5 points) Is code organized well and commented?

Submission (5 points) Was the lab submitted as an html document on Canvas? Does the html document contain a link for a GitHub repository that contains your R package?

Functions (10 points each, 20 points total) Do the functions produce the plots/statistics? Do the functions have all of the required arguments? Are the functions concise and well-written?

R Package (10 points) Does the R package work? Does the package include the two functions and the data? Are the two functions well documented?