**R code Description**

**The Description of the dataset is given below:**   
  
The data comes from the Hospital Compare web site (<http://hospitalcompare.hhs.gov>) run by the U.S. Department of Health and Human Services. The purpose of the web site is to provide data and information about the quality of care at over 4,000 Medicare-certified hospitals in the U.S. This dataset essentially covers all major U.S. hospitals. This dataset is used for a variety of purposes, including determining whether hospitals should be fined for not providing high quality care to patients (see <http://goo.gl/jAXFX> for some background on this particular topic).

The Hospital Compare web site contains a lot of data and we will only look at a small subset for this  
assignment. The zip file ‘datasets’ contains three files

1. **outcome-of-care-measures.csv**: Contains information about 30-day mortality and readmission rates  
 for heart attacks, heart failure, and pneumonia for over 4,000 hospitals.

2. **hospital-data.csv**: Contains information about each hospital.

3. **Hospital\_Revised\_Flatfiles.pdf**: Descriptions of the variables in each file (i.e the code book).

A description of the variables in each of the files is in the included PDF file named Hospital\_Revised\_Flatfiles.pdf. This document contains information about many other files that are not included with this programming assignment. You will want to focus on the variables for Number 19 (“Outcome of Care Measures.csv”) and Number 11 (“Hospital Data.csv”). In particular, the numbers of the variables for each table indicate column indices in each table (i.e. “Hospital Name” is column 2 in the outcome-of-care-measures.csv file).

**I had created 3 functions for this dataset.   
  
Function 1: bestHospital.R   
This functions help in finding the best hospital in a state**   
bestHospital takes two arguments: the 2-character abbreviated name of a state and an outcome name. The function reads the outcome-of-care-measures.csv file and returns a character vector with the name of the hospital that has the best (i.e. lowest) 30-day mortality for the specified outcome in that state. The hospital name is the name provided in the Hospital.Name variable. The outcomes can be one of “heart attack”, “heart failure”, or “pneumonia”. Hospitals that do not have data on a particular outcome should be excluded from the set of hospitals when deciding the rankings.

**Function 2: rankHospital.R   
This functions ranks the hospitals by outcome in a state**rankhospital takes three arguments: the 2-character abbreviated name of a state (state), an outcome (outcome), and the ranking of a hospital in that state for that outcome (num).  
The function reads the outcome-of-care-measures.csv file and returns a character vector with the name  
of the hospital that has the ranking specified by the num argument.

**Function 3: rankAll   
Ranking Hospitals in All state**rankall function takes two arguments: an outcome name (outcome) and a hospital ranking (num). The function reads the outcome-of-care-measures.csv file and returns a 2-column data frame containing the hospital in each state that has the ranking specified in num. For example the function call   
rankall("heart attack", "best") would return a data frame containing the names of the hospitals that  
are the best in their respective states for 30-day heart attack death rates. The function should return a value for every state (some may be NA). The first column in the data frame is named hospital, which contains the hospital name, and the second column is named state, which contains the 2-character abbreviation for the state name. Hospitals that do not have data on a particular outcome should be excluded from the set of hospitals when deciding the rankings.