# Homework (HW02) Data Analysis

### General Instructions

For this homework you will upload 1 R file into blackboard.

Reminder:

* All HW must start with an Identification Block like this sample…

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# IST 387/687, Standard Homework Heading

#

# Student name:

# Homework number:

# Date due:

#

# Attribution statement: (choose the statements that are true)

# 1. I did this work by myself, with help from the book and the professor

# 2. I did this work with help from the book and the professor and these Internet sources: <provide the urls>

# 3. I did this work with coaching from <Name of another student> but did not cut and paste any code

# Run these three functions to get a clean test of homework code

dev.off() # Clear the graph window

cat('\014') # Clear the console

rm(list=ls()) # Clear all user objects from the environment!!!

# Set working directory

# Change to the folder containing your homework data files

setwd("~/MyDesktop/ISTX87/Homework")

### HW02

**Step A: Explore the myArrests dataframe from PE02.**

1. Execute the summary command for myArrestsdataframe to refamiliarize yourself with the data that we will be working with.

**Step B: Explore the assault rate**

1. # A Write a comment: Is a higher or lower assault rate best?
2. What is the mean assault rate?
3. Which state has the best assault rate?

**Step C: Explore the murder rate**

1. Which state has the highest murder rate?
2. Create a sorted dataframe, based on descending murder rate
3. Show the 10 states with the highest murder rate

**Step D: Which state is the safest?**

1. Write a comment: explaining which attributes in your myArrests dataframe are appropriate for determining the safest state
2. Write a comment: What are two different ways that you can arithmetically combine these attributes
3. Write the R code to combine these attributes and determine the safest state

**Step E: In depth look at the state with “best” combination of the arrest attributes.**

1. What are the 5 safest states, when “safest” is defined as of rape and murder counting twice as much as any other attribute used in the calculation? Hint: use scale( ) to create a new standardized version of the attributes.
2. Given your findings in Step 4, is your answer in Step 3 still supported? Why or why not? Why is using scale important?

***You must submit all Homework to blackboard prior to the deadline specified for each assignment.***

Late HW assignments will not be accepted for credit.

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