Assignment #8: Due November 8, 2018, 1pm

INSTRUCTIONS: Please upload **ONLY** your R program (saved as LASTNAME_FIRSTNAME_HW8) to Canvas. Make sure to use the setwd() function to create a path as was done in class and use that path to locate your files. Please make sure to comment your code, and appropriately label any variable values in the final data set.

One hundred students took a science course at a university. Over the course of the semester students took 5 tests. You promised students that you would post their final grade along with some additional information that allows them to compare themselves to their peers. The following information was provided in the syllabus in regards to how the final grade was to be calculated:

You may drop your lowest grade on tests 2 through 4. The average of the remaining 2 tests counts for 40% of your grade, the first and fifth tests each count for 30%.

Please create a Data Set (called FINALDATA) that contains the following variables: StudentID, Year, Major, FinalGrade, ClassDiff, YearDiff, MajorDiff, where ClassDiff=Final Grade-Overall Class Average, YearDiff=Final Grade- Year Average, and MajorDiff= Final Grade- Major Average. All values in this data set should be rounded to 2 decimal places.

Deliverables:

1. Please sort FINALDATA by student ID and print the first 10 observations
2. Create a Histogram (appropriately titled and labeled) of the distribution of the Final Grade for the 100 students

There are three files for this assignment and they contain the following information (located under Assignment 3):

1. *Demographics.csv*:
    a. StudentID
    b. Year:1 = Freshman, 2= Sophomore, 3=Junior, 4=Senior, 5=Senior Plus
    c. Gender: 1=Male, 2=Female
    d. Residency: 1=In State, 2=Out of State
    e. Major: 1=Chemistry, 2=Biology, 3=Mathematics, 4=Physics, 5=Psychology, 6=Other
2. *TestScores_original.csv*
    a. StudentID
    b. TestScore
    c. TestNumber
3. *TestScores_makeup.csv*
    a. StudentID
    b. TestScore
    c. TestNumber

The *TestScores_original.csv* contains the test scores from the original test that was given (one line per test), while *TestScores_makeup.csv* contains the test scores for individuals who missed the first offering of the test and were allowed to take a make-up. If a student did not take either of the tests, then they should receive a 0.