STAT 6430 **Homework 1**

Please submit your annotated R code in a file titled `hw01.R` and the file `mygradefile.csv` described below.

1. The file `samplegrades.csv` contains simulated course grade data for a large section of introductory statistics.

   The format of the file is Comma Separated Values (CSV), which is the text-based format for Excel spreadsheets. R has a specific function for reading in such files. Download the file, put it in your working directory, and then execute the command

   ```
   grade.data <- read.csv("samplegrades.csv", header=TRUE)
   ```

   This will create a data frame named `grade.data`. Use this to answer the following questions about students in this course.

   (a) Determine the percentage of students who had a course average of less than 60%, the minimum to pass the course.

   (b) How many students did not take the final exam?

   (c) Which was higher, the average for quizzes, the midterm, or the final?

   (d) How many students had a midterm score of at least 80% and also a quiz score of no more than 70%?

   (e) Find the percentage of students in the entire class that had a course average lower then their final exam score.

   (f) Repeat the previous part, but this time for students in the top 20% of the class, and then for students in the bottom 20% of the class.

   (g) Find the number of students who either had a quiz average between 70% and 80% or had homework average between 90% and 95%.

2. Give the R code required to add a new column to `grade.data` that contains a letter grade, assigned based on the table below.

Course Average x	$90 \leq x \leq 100$	$80 \leq x < 90$	$70 \leq x < 80$	$60 \leq x < 70$	$x < 60$
Letter Grade	A	B	C	D	F

3. Export `grade.data` (with course grades) to a CSV file `mygradefile.csv`.