# Lab 1 Assignment

MA 2611

*Successful completion and submission of this assignment in html, pdf, or docx format through the use of R Markdown will meet one of your two required assignments for the **L.1 standard**. The following problems are numbered based on the lab standard that is intended be met. Your grade will be based on whether these standards are met. Refer to the syllabus for further details on standards-based grading.*

**Problem L.2.** The following data are the highest points (in feet) in each of the 50 US states:

2413, 20310, 12637, 2753, 14505, 14440, 2379, 447, 345, 4784, 13803, 12668, 1235, 1257, 1671, 4041, 4145, 535, 5270, 3360, 3489, 1979, 2302, 807, 1772, 12807, 5427, 13147, 6288, 1803, 13167, 5343, 6684, 3508, 1549, 4975, 11249, 3213, 811, 3560, 7244, 6643, 8571, 13534, 4395, 5729, 14417, 4863, 1951, 13809

a. What is the height of the highest and lowest points in the US?

b. What is the average and median height of the highest points in the US?

c. How much does the height of the highest points in the US vary?

d. Mt. Greylock, at 3489 ft, is the highest point in Massachusetts. Where does Massachusetts rank among US states for the highest point in the country?

**Problem L.3.** Execute the following steps in order.

a. Create and store a vector "x" that contains the following:

- a sequence of integers from 6 to 12
- a threefold repetition of the value 5.3
- the number -3
- a two-fold repetition of the numbers 1.2, 3.4, and 5.6

b. Overwrite the vector "x" you created in **part (a)** using the same sequence with the order reversed.

c. Create and store a new vector "y" containing the first, middle, and last elements from the vector "x" in **part (b)** (*hint* consider using the function "length()").

**Problem L.4.** Create and store a data frame using data collected in your day-to-day life. It can be any data you like, but the data frame *must* contain at least 10 rows and 3 columns of data, 2 of which are numerical and 1 of which is categorical.