R Exercise

R Exercise Tasks#1

Prof. Lee, Gun-woong
Korea University Business School

Make sure to clear memory before starting

```
> rm(list=ls())          # It will  clean up memory!
```

Task#1: Expressions and Variables

- Calculate the following equations:

A = $\frac{32-12}{|403-512|}$

B = $\left(\frac{2}{A} * 4^5\right) * \sqrt{13}$

C = B *$(log_3 27 + log_5 625)$

D = $\frac{C}{4A+5B}$

Q1: Present R code lines for A, B, C, and D

Q2: Test if D is greater than 1.0. Present R code lines.

Task#2: Vectors

- Create the following vectors:

E = [0.1, 0.6, 1.1, 1.6, 2.1]

F = [21, 16, 11 ,6, 1]

G = $\frac{Log_{10}E}{F}$ * 100

Note: Use the 'seq()' function to generate the numbers in the above vectors of E and F

Q3: Present R code lines for E, F, and G

Q4: What is the value of "Third" element in G? Present R code lines.

Q5: How many elements are in G? Present R code lines.

Task#3: Vectors and Indexing

- Create a vector H = [5, 6, 7, 8, 9]
- Create a new vector named "K"
  1. Use the first three elements and the 5th element in "H"
  2. Add two additional elements into "K" (i.e., 5^{th} and 6^{th} elements)
     - Elements: 10 (for 5^{th}) and 20 (for 6^{th})
  3. Assign names for the elements in "K"
     - First, Second, Third, Fourth, Fifth, Sixth
  4. Replace the values of 'Second' and 'Fifth' elements with 30 and 40 respectively
  5. Replace the 'First' element by the mean (average) of the 'Second' and 'Fourth' Values

- Q6: Present R code lines for Step 1 to 5
- Q7: What are the mean and standard deviation of elements in H? Present R code lines.