# Homework 1

*Due February 12, 2020 (Before class)*

Create R scripts that solve the following questions, and then submit to the Blackboard. Please also make necessary comments on your code so that I can understand your code quickly. Note that the filename of your scripts should be "LastnameFirstname_Homework1.R".

## Question 1:

Today's temperature is 8 degrees in fahrenheit. Write a R program to convert it to celsius. Assign the temperature in celsisus to a variable `a1`.

## Question 2:

1. Write a R program to create a sequence of numbers from 100 to 150, and name this sequence `x`.
2. Find mean of numbers from 100 to 120, and assign the value to a variable `a2`.
3. Find sum of numbers from 101 to 149, and assign the value to a variable `b2`.

## Question 3:

Let `var1=FALSE`, `var2=pi`, and `var3=-2`. Write a R program to find:

1. $a3 = \frac{log_{10}(var2)+var2^3}{exp(var3)}$
2. $b3 = (var1 + var2 + var3)^{1/3}$

## Question 4:

The following vector summarizes the NBA Lengend Kobe Bryant's average points per game (PPG) throughout his career.

$kb = c(7.6, 15.4, 19.9, 22.5, 28.5, 25.2, 30.0, 24.0, 27.6, 35.4, 31.6, 28.3, 26.8, 27.0, 25.3, 27.9, 27.3, 13.8, 22.3, 17.6)$

Write a R program to count how many times Kobe had PPG above 25. Assign the result to a variable `a4`.

## Question 5:

Write a R program to produce the following matrix and then compute its rowsum, colsum, and sum of all elements.

```
m1
```

```
##      col1 col2 col3 col4
## row1    1    6   11   16
## row2    2    7   12   17
## row3    3    8   13   18
## row4    4    9   14   19
## row5    5   10   15   20
```