**R Lab Exercises**

1. Assume that we have registered the height and weight for four people: Heights in cm are 180, 165, 160, 193; weights in kg are 87, 58, 65, 100. Make two vectors, height and weight, with the data. The body mass index (BMI) is defined as weight in kg/(height in m)^2

Make a vector with the BMI values for the four people, and a vector with the natural logarithm to the BMI values. Finally make a vector with the weights for those people who have a BMI larger than 25.

2. Suppose we have the following three observations of temperature: 23◦C, 27◦C,19◦C. Make a vector with these values. Recall the relation between the Celsius and Fahrenheit temperature scale:

Degrees in Fahrenheit =degrees in Celsius\*9/5+32

Make a new vector with the temperatures in Fahrenheit.

3. Assume that you are interested in cone-shaped structures, and have measured the height and radius of 6 cones. Make vectors with these values as follows:

R <- c(2.27, 1.98, 1.69, 1.88, 1.64, 2.14)

H <- c(8.28, 8.04, 9.06, 8.70, 7.58, 8.34)

Recall that the volume of a cone with radius R and height H is given by

1/3πR^2H . Make a vector with the volumes of the 6 cones.

4. Compute the mean, median and standard deviation of the cone volumes. Compute also the mean of volume for the cones with a height less than 8.5.

5. create a dataframe having the following structure:

Number Diet Sex Weight Fat.Content Morph

1 Poor M 156 34 Winged

2 Poor F 180 43 Winged

3 Good M 167 40 Wingless

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| 4 Good F 190 50 Intermediate  Check whether Diet is factor or not? If it is a factor then change it to character.  Morph should be a factor.  6. What is the use class() mode and typeof() functions. What is the use of ls() , rm() functions. |
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