Homework!

A couple of basics with R

1. In R everything is an **object** and is stored in the environment
2. We can **create objects** by using **"<-"< strong>**
3. **"="** is redundant with **"<-"< strong> but we use equal sign for formulas**
4. Objects have different **classes**, be aware of the requisition of data classes in the packages
5. **Transformations** aka functions can be applied to lists of variables aka **vectors**. This vectors are created with **"c()"** and the variables are separated with **","**
6. If you give a name to an object out can check the value aka **printing** by typing the name of the object
7. R will give you errors, study these and use google. If you had this problem someone in the internet already had it.
8. Help can be requested in R by typing the **"?""** and the name of the function.
   Also packages have examples and help file that are called **vignettes**

In R studio you have access to interactive warnings, auto-complete, scripting and notebook functions that make R really easy to use!

One important point is to understand the difference between **console**, **script** and **notebook**.

Let s create a Project

1. First we want to create a project folder **File** -> **New Project…**

2. On the *console* I want you to:

   i. Calculate 5+7-1
   ii. Store that result to an object
   iii. Store each individual variable as an object (call them **x**, **y** and **z**)
   iv. Define a function to sum **x** and **y** and subtract **z**
   v. **Print** that function
   vi. Use other arithmetic functions with that object like **log2()**, **log10()**, **exp()**, **sqrt()**

3. I want you to create a new *R Script*

   If you want to comment on a line of code you can use **#** and then write your notes.

R will ignore everything after the **#**

i. Copy the console code that you typed into the scrip!
ii. Use `⌘` or `Control` and `Enter ⏎` to run a line of code aka **chunk**
iii. You should get the same result.
iv. Make a **vector** containing
- 4 twos
- 6 threes
- 8 fours
- 8 fives
- 4 sevens
- 4 eights
- 2 nines

i. Get some information on the object like **"*length*"**, **"*class*"** , **"*max*"**and the **"*mean*"** of the values.
ii. Plot an ***hist***ogram of the object.
iii. Add 1 to that vector
iv. Print that new vector

If everything went smooth you just wrote your first lines in R!
Congratulations!!!!

We will save the notebook for the course!