Assignments to Lecture 1 – Introduction into R
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Setup your code location

0a) Install R from https://cran.r-project.org/bin/windows/base/
0b) and a good text editor from https://notepad-plus-plus.org/downloads/
0c) Create a directory on your hard drive (know the location)
0d) Create a directory in this folder called: Assignments1
0e) Create a file in the Assignments1 folder called: answers.R
0f) Open the file in your editor, and give a header, inspired on:

```
# Analysis of Hardy-Weinberg equilibrium
#
# copyright (c) 2017 - HU Berlin
# written by: Danny Arends
#
# last modified Apr, 2017
# first written Apr, 2017
setwd("<your location>/Assignments1/")          # Instruct R to go to the working directory
```

R as a calculator

Use R to calculate the following:

1a) 1234 + 4567
1b) 100456 - 3350 + 23
1c) natural logarithm of 15
1d) 4596 / 12
1e) 8998 * 76
1f) Euclidean division remainder of 10 and 6
1g) the square root of -8

Vectors

If you even need help about a function you can do ?functionname to get an overview of the function parameters, scroll down the end of the help page to have an example of how to use the function (most of the times)

For these exercises store the result each time in a variable: vector2a, vector2b, etc unless specified differently in the assignment.

2a) Use the ***c()*** function to create a vector from 1 to 10
2b) Use the : operator to create a vector from 11 to 20
2c) We can also use the ***seq()*** function to create more complex vectors, create a vector from 1 to 100 going in steps of 5. (so: 1, 6, 11, …)
2d) Use the LETTERS constant and the ***seq()*** function to create a vector that stores all the 'even' letters (gerade Buchstaben: B, D, F, etc)
2e) what is the type of vector2a, either use the ***class()*** function or ask explicitly using the ***is.numeric()*** , ***is.character()*** or the ***is.logical()*** functions

2f) **c**ombine vector2a and vector2d, what is the type of the resulting vector ?
2g) Use the ***sqrt()*** function to compute the square root of vector2a

Matrices

For these exercises store the result each time in a variable: matrix3a, matrix3b, etc unless specified differently in the assignment.

3a) We can use the ***matrix()*** function to create a matrix, create a 10x10 matrix that holds the numbers 1 to 100.
3b) If you look at the help file of the ***matrix()*** function, you see it has a parameter *byrow* do the same thing as in exercise 3a, but now set the byrow parameter to TRUE, how is this matrix different from the one in exercise 3a ?
3c) Select the 5th column from matrix3a, and select the 5th row from matrix3b
3d) How can we translate matrix3a into matrix3b ?
3e) Add column names to matrix3a, using the LETTERS constant
3f) Look up the help for the ***paste()*** function and add your own rownames to matrix3a, in the structure: “measurement N”, where N is the row number