

# Day 1 - Exercise 1

## Getting started with RStudio & R

### Console in RStudio

1) Write in the 'Console' the following and press after each line the Enter key.

```
3 + 2
a <- 3
b <- 2
a + b
t <- "hello"
```

In the 'Console' you should see the following

```
> 3 + 2
[1] 5
> a <- 3
> b <- 2
> a + b
[1] 5
```

- 2) Check in the upper right corner the register 'Environment' - can you see the two values?
- 3) Try to change the value saved in *a* from 3 to 1 by using the arrow key 'up' in the 'Console' till you see the following line:

```
a <- 3
```

- replace 3 with 1
- press the Enter Key

What changed in the register 'Environment'?

### Remove objects from environment

The function *rm()* can be used to remove objects.

Write the following in the 'Console'

```
rm(a)
```

and check what happens in the register 'Environment'.

### Built-in help documentation

If you want to get more information regarding a function then type in 'Console'

```
help(rm)
?rm
```

and you will see in the register ‘Help’ (lower right corner) more details regarding the function *rm()*.  
Another example in which you can see

```
help(runif)
?runif
```

## Arguments in a function

Try the following:

```
runif(5)
runif(5, 2, 1)
runif(5, max = 2, min = 1)
```

If the argument (here: *n*, *min* and *max*) are not explicitly mentioned then R assumes that you use the order as defined in the function.

- Code on line 1: *n* = 5 and for the arguments *min* and *max* the default values will be used (see documentation of *runif*).
- Code on line 2: R tries to interpret the second line with arguments: *n* = 5, *min* = 2 and *max* = 1. However, the minimum needs to be smaller than the maximum and a warning is displayed.
- Code on line 3: The first entry will be interpreted as *n* = 5 and the other entries according to the argument stated (*min* = 1, *max* = 2), i.e. stating the arguments and you can use any order you want.

## Code completion feature

RStudio helps you by suggesting function names, variable names, and arguments as you type.

Type the following in the ‘Console’ and press Enter key

```
this_is_a_awful_long_name <- 12345
```

Try the following

- 1) Start to type ‘this’ - RStudio suggests auto completion (press Enter key if you want to select the suggestion)
- 2) Just type ‘th’ and press Tab key - you see now a list with all suggestions starting with ‘th’

## Error message

Error messages are displayed in red print. Try the following and write in the ‘Console’:

```
n
```

In the ‘Console’ you should see the following

```
> n
>Error: Object 'n' not found
```

Errors and warnings are written in red: Error: Object ‘n’ not found