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 enviroment

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 is 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.