Solution to Exercise 1

1. What results do you expect of the following commands?

```
x <- c(2, 5, 6, 5)
y <- c(3, 5, 8)

class(x)
```

```
## [1] "numeric"
```

```
x + 1
```

```
## [1] 3 6 7 6
```

Explanation to `x + y`:
When you add vectors, the first element of the first vector is added to the first element of the second vector (i.e. `x + y = c(x[1] + y[1], x[2] + y[2], etc.)`). If one vector is longer than the other (in this case `x`), the shorter vector is recycled (i.e. `(x + y)[4] = x[4] + y[1]` which is equal to `8`).

```
x + y
```

```
## Warning in x + y: Länge des längeren Objektes
##       ist kein Vielfaches der Länge des kürzeren Objektes
```

```
## [1]  5 10 14  8
```

```
y * 2
```

```
## [1]  6 10 16
```

```
y[2:3]
```

```
## [1] 5 8
```

```
x[x > 5]
```

```
## [1] 6
```

```
x[1:3] + y
```

```
## [1]  5 10 14
```

```
x <- x[1:2]
length(x)
```

```
## [1] 2
```

2. Create vectors

```
vec1 <- seq(from = 1, to = 10, by = 0.5)
vec1
```

```
##  [1]  1.0  1.5  2.0  2.5  3.0  3.5  4.0  4.5  5.0  5.5  6.0  6.5  7.0  7.5
## [15]  8.0  8.5  9.0  9.5 10.0
```

```
vec2 <- rep(c(1, 4, 8, 13), each = 4)
vec2
```

```
##  [1]  1  1  1  1  4  4  4  4  8  8  8  8 13 13 13 13
```

3. Combine vectors

Combine the vectors `canton` and `peak` to `peak_canton`.

```
canton <- c("GR", "TI", "UR", "BE", "VS")
peak <- c("Piz Bernina", "Adula Rheinwaldhorn", "Dammastock",
          "Finsteraarhorn", "Dufourspitze")

peak_canton <- paste(peak, canton, sep = "_")
peak_canton
```

```
## [1] "Piz Bernina_GR"         "Adula Rheinwaldhorn_TI"
## [3] "Dammastock_UR"          "Finsteraarhorn_BE"
## [5] "Dufourspitze_VS"
```

4. Load and save a .csv-file

i) Load the file `tree_growth_data.csv` from the folder `01_Data` and give it a name (e.g. `my_table`)

```
# Set your working directory to the folder 'R_Basic_Introduction'
setwd("insert_path_to_folder_R_Basic_Introduction")
```

```
my_table <- read.csv(file = "01_Data/tree_growth_data.csv")

head(my_table)
```

```
##             series                  ts    value version
## 1 dendrometer1_ch3 2019-05-31 23:00:00 8336.182       1
## 2 dendrometer1_ch3 2019-05-31 23:10:00 8336.182       1
## 3 dendrometer1_ch3 2019-05-31 23:20:00 8336.108       1
## 4 dendrometer1_ch3 2019-05-31 23:30:00 8335.571       1
## 5 dendrometer1_ch3 2019-05-31 23:40:00 8335.571       1
## 6 dendrometer1_ch3 2019-05-31 23:50:00 8335.571       1
```

ii) Save the object `my_table` as `my_table.csv` to the folder `01_Data`

```
write.csv(my_table, file = "01_Data/my_table.csv")
```