Session 2 - Vectors and Missing Values

The simplest data structure in R is the **[...]**.

R: **logical** vectors can contain the values **[...]**, **[...]**, and **[...]**

R: suppose you have a numeric vector

num_vect <- c(0.5, 55, -10, 6).

What is the result of the expression num_vect < 1?

R: what is the result of the expression

```
(3 > 5) & (4 == 4)
```

?

R: what is the result of the expression

```
(TRUE == TRUE) | (TRUE == FALSE)
```

?

R: what is the result of the expression

```
TRUE & !TRUE
```

?

R: suppose `my_char <- c("Massachusetts", "General", "Hospital")`. What is the result of `length(my_char)`?

R: which symbol is used to denote a missing value?

R: suppose `x <- c(44, NA, 5, NA)`. What is the result of the expression `x - 1`?

R: suppose `x <- c(44, NA, 5, NA)`. What is the result of the expression `is.na(x)`?

R: find the sum of the elements of the numeric vector `x <- c(1, 2, 3)`.

R: find the average of the elements of the numeric vector `x <- c(1, 2, 3)`.

R: suppose you have a vector `z` that contains some missing values. Find the total number of missing values in `z`.

R: suppose you have a vector z that contains some missing values. Find the proportion of elements in `z` that are missing (`NA`).

R: what is the result of the expression `0 / 0`?

R: what is the result of the expression `1 / 0`?

R: suppose you have a vector `x`. Retrieve the second element of `x`.

R: suppose you have a vector `x`. Retrieve the first ten elements of `x`.

R: suppose you have a vector `x` given by:

```
x <- c(1, 2, NA, 3)
```

What is the result of the following expression?

```
x[!is.na(x)]
```

R: suppose you have a vector `z` with many values, some of which are missing values. Create a vector `z_complete` which contains all elements of `z` that are not missing (`NA`).

R: suppose you have a numeric vector `age`. Select the subset of elements of `age` that are less than `65`.

R: suppose you have a vector `x`. Retrieve the 3rd, 5th, and 7th elements of `x`.

R: suppose you have a vector x. Subset all elements <u>except</u> the 2nd and the 10th one.