lab

2023-08-28

R Markdown

This is a lab activity for CS - 324 instructed by Prof. Jimenez, my collaborator was Megan Bernacchi.

The 3 things I learned from the reading are : 1. How to use . operators to reference a dataframe being used in a pipeline 2. The syntax for functions in R 3. There are many interesting ways to index a vector in R

PART 2

Exercise 1

```
library(knitr)
library(magrittr)
rnorm(10) %>%  replace(., . < 0, NA) %>% mean( . , na.rm = TRUE)
```

```
## [1] 1.102664
```

Exercise 2

```
library("dplyr")
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
x <- rnorm(10)
y <- rnorm(10)

subtract <- function(x,y) {
  x - y
}

exponent <- function(x){
  x ** 2
}

df <- data.frame(x,y)

df %>% {.[1] - .[2]} %>% {.**2} %>%
  {./length(df)} %>% sqrt() %>% sum()
```

```
## [1] 5.460833
```

Exercise 2

```r
genSeq <- function(x,y,z) seq(x,y,z)
```

Exercise 3

```r
vec <- c(4,5,9,6)
sort(vec)
```

```
## [1] 4 5 6 9
```

```r
rank(vec)
```

```
## [1] 1 2 4 3
```

```r
order(vec)
```

```
## [1] 1 2 4 3
```

Exercise 4

If we perform operations on vectors of different length, the results vary depending on the operation and the length of the vectors, sometimes the smaller vector is repeated as many times as needed, and if the length of the longer vector is not a multiple of the length of the shorter, we get a warning.