Assignment 1

2023-04-17

## Assignment 1

1. Assign the value of five to a variable called a and the value of two to a variable called b.

a <- 5  
b <- 2

1. Compute the sum, difference, product and ratio of a and b (a always in the first place) and store the results to four different variables called r1, r2, r3, and r4

r1 <- a + b  
r2 <- a - b  
r3 <- a \* b  
r4 <- a / b

1. Create a vector v1 which contains the values stored within the four variables from step 2

v1 <- c(r1, r2, r3, r4)

1. Add a fifth entry to vector v1 which represents a by the power of b (i.e. a\*\*b).

r5 <- a ^ b  
v1 <- c(r1, r2, r3, r4, r5)

1. Show the content of vector v1 (e.g. use the print function or just type the variable name in a separate row).

print(v1)

## [1] 7.0 3.0 10.0 2.5 25.0

v1

## [1] 7.0 3.0 10.0 2.5 25.0

1. Create a second vector v2 which contains information on the type of mathematical operation used to derive the five results. Hence this vector should have five entries of values sum, difference,…

v2 <- c("sum", "difference", "product", "ratio", "exponentiation")

1. Show the content of vector v2.

v2

## [1] "sum" "difference" "product" "ratio"   
## [5] "exponentiation"

1. Combine the two vectors v1 and v2 into a data frame called df. Each vector should become one column of the data frame so you will end up with a data frame having 5 rows and 2 columns.

df <- data.frame(v1, v2)

1. Make sure that the column with the data of v1 is named Results and v2 is named Operation.

df <- data.frame(Results = v1, Operation = v2)

1. Show the entire content of df.

df

## Results Operation  
## 1 7.0 sum  
## 2 3.0 difference  
## 3 10.0 product  
## 4 2.5 ratio  
## 5 25.0 exponentiation

1. Show just the entry of the cell in the second row and first column.

df[2,1]

## [1] 3