R 语言基础：练习(二)

Table of Contents

1.数组向量矩阵下标练习

Exercise 1

If `x <- c("ww", "ee", "ff", "uu", "kk")`, what will be the output for `x[c(2,3)]`?

    a.   "ee", "ff"
    b.   "ee"
    c.   "ff"

Exercise 2

If `x <- c("ss", "aa", "ff", "kk", "bb")`, what will be the third value in the index vector operation `x[c(2, 4, 4)]`?

    a.   "uu"
    b.   NA
    c.   "kk"

Exercise 3

If `x <- c("pp", "aa", "gg", "kk", "bb")`, what will be the fourth value in the index vector operation `x[-2]`?

    a.   "aa"
    b.   "gg"
    c.   "bb"

Exercise 4

Let `a <- c(2, 4, 6, 8)` and `b <- c(TRUE, FALSE, TRUE, FALSE)`, what will be the output for the R expression max(a[b])?

Exercise 5

Let `a <- c (3, 4, 7, 8)` and `b <- c(TRUE, TRUE, FALSE, FALSE)`, what will be the output for the R expression `sum(a[b])`?

Exercise 6

Write an R expression that will return the sum value of 10 for the vector `x <- c(2, 1, 4, 2, 1, NA)`

Exercise 7

If `x <- c(1, 3, 5, 7, NA)` write an r expression that will return the output `1, 3, 5, 7`.

Exercise 8

Consider the data frame s <- data.frame(first= as.factor(c("x", "y", "a", "b", "x", "z")), second=c(2, 4, 6, 8, 10, 12)). Write an R statement that will return the output 2, 4, 10, by using the variable first as an index vector.

Exercise 9

What will be the output for the R expression (c(FALSE, TRUE)) || (c(TRUE, TRUE))?

Exercise 10

Write an R expression that will return the positions of 3 and 7 in the vector x <- c(1, 3, 6, 7, 3, 7, 8, 9, 3, 7, 2).

2. 因子练习题

Exercise 1

If x = c(1, 2, 3, 3, 5, 3, 2, 4, NA), what are the levels of factor(x)?

  a. 1, 2, 3, 4, 5
  b. NA
  c. 1, 2, 3, 4, 5, NA

Exercise 2

Let x <- c(11, 22, 47, 47, 11, 47, 11). If an R expression factor(x, levels=c(11, 22, 47), ordered=TRUE) is executed, what will be the 4th element in the output?

  a. 11
  b. 22
  c. 47

Exercise 3

If z <- c("p", "a" , "g", "t", "b"), then which of the following R expressions will replace the third element in z with "b".

  a. factor(z[3]) <- "b"
  b. levels(z[3]) <- "b"
  c. z[3] <- "b"

Exercise 4

If `z <- factor(c("p", "q", "p", "r", "q"))` and levels of z are "p","q","r", write an R expression that will change the level "p" to "w" so that z is equal to: "w","q" , "w","r" , "q".

Exercise 5

If: `s1 <- factor(sample(letters, size=5, replace=TRUE))` and `s2 <- factor(sample(letters, size=5, replace=TRUE))`, write an R expression that will concatenate s1 and s2 in a single factor with 10 elements.

Exercise 6

Consider the iris data set in R. Write an R expression that will 'cut' the Sepal.Length variable and create the following factor with five levels.

```
(4.3, 5.02] (5.02, 5.74] (5.74, 6.46] (6.46, 7.18] (7.18, 7.9]
32 41 42 24 11
```

Exercise 7

Consider again the iris data set. Write an R expression that will generate a two-way frequency table with two rows and three colums. The rows should relate to Sepal.length (less than 5: TRUE or FALSE) and columns to Species, with the following output:

```
setosa versicolor virginica
FALSE 30 49 49
TRUE 20 1 1
```

Exercise 8

Consider the factor `responses <- factor(c("Agree", "Agree", "Strongly Agree", "Disagree", "Agree"))`, with the following output:

```
[1] Agree Agree Strongly Agree Disagree Agree
Levels: Agree Disagree Strongly Agree
```

Later it was found that new a level "Strongly Disagree" exists. Write an R expression that will include "strongly disagree" as new level attribute of the factor and returns the following output:

```
[1] Agree Agree Strongly Agree Disagree Agree
Levels: Strongly Agree Agree Disagree Strongly Disagree
```

Exercise 9

Let `x <- data.frame(q=c(2, 4, 6), p=c("a", "b", "c"))`. Write an R statement that will replace levels a, b, c with labels `"fertiliser1"`, `"fertliser2"`, `"fertiliser3"`.

Exercise 10

If x <- factor(c("high", "low", "medium", "high", "high", "low", "medium")), write an R expression that will provide unique numeric values for various levels of x with the following output:

levels value 1 high 1 2 low 2 3 medium 3

返回 课程主页 。