Strings

Practice

1. Create a vector of four empty strings and then add the following values to it: London, Paris, Rome, Athens.

2. Create a numeric values with the integers from 1 to 10 and then convert it into a character vector.

3. Print the phrase “I like apples very much” without quotes, using two methods.

4. Create a variable with the value of 25.13499517 and then print it using the format() function:
   - with 5 digits only
   - with 6 decimals only

5. Create a variable with the value of 132.48349587015 and print it using the sprintf() function:
   - with 5 decimals only
   - with 9 digits only
   - with 6 decimals only and with the + sign before
   - in exponential format

6. Please look at the sprintf() function below:

   sprintf(“By dividing %d to %d we get %.2f”, x, y, x/y)

   Create two variables x and y that fit in the statement above.

7. Create two string vectors with the following values:

   x = (car, train, plain, ship)

y = (road, railroad, air, water)

Afterwards concatenate the components of these vectors:

- with a space as a separator in each pair of components and an asterisk as a separator between pairs
- with a comma as a separator in each pair and an underscore as a separator between pairs

8. Concatenate the vectors above using the cat() function with a hashtag as a separator.

9. Explain the difference between cat() and other printing functions.

10. Create a variable containing the phrase “I learn how to write code in R”, then replace:

    - each “e” with a “w”
    - each “h” with a double dash
    - each “o” with a hashtag and each “w” with a backslash, at the same time

    (Recreate the variable before every new replacement operation.)

11. Create a string vector with the following values: Timothy, Marianne, Margaret, Christian. Then perform the following operations:
    - extract four characters from each component, starting with the second character
    - replace the fifth character in each component with a dash
    - replace the fifth, the sixth and the seventh character in each component with the string “www”
    - replace the third, the fourth and the fifth character in each component as follows: with “123” in the first component, with “789” in the second component, with “024” in the third component and with “357” in the fourth component.

12. Split the following strings:

    - “352:611:733” by the colon
    - “Santa Monica” by the space
    - “Colorado” by “o”
    - “management”, letter by letter.

13. Create a vector with the following values: strong, impressive, arrogant, compress, stimulate, instructive. Afterwards find the pattern below in each component, using the functions grep(), grepl(), regrexpr() and gregexpr().

    “ro”, “pres”, “im”, “gan”, “ive”, “ex”

    Explain the way each function works.

14. Create a vector with the following values: stop, instead, forecast, castle. Then replace all the occurrences of the “st” string with a hashtag.

15. Create a vector with the following values: road, apple, capital, ore, market, pillow. Then find:

    - the components that contains at least one of the letters “e”, “o” or “r”
    - the components that contains any other letter than “e”, “o” or “r”

16. Create a vector with the following values: pq279, typ, a956es, tn124, mba, 156. Then find:
    - the components that contain at least a figure between 1 and 4
    - the components that contain any other figure than a figure between 1 and 4
    - the components that contain at least a digit
    - the components that contain other characters than digits.

17. Create a vector with the following values: pain, sport, spin, point, noise, open, printer. Then find:

    - the components that contain the sequence p – any character – n
    - the components that contain the sequence p – any two characters – n.

18. Create a vector with the following values: card, $%#, park233, 1585, \train, computer, time_s, y*-#. Then find:

    - the components that contain words
    - the components that contain non-words.