**Assignment 3.3**

1. Test whether two vectors are exactly equal (element by element)

vec1 = c(rownames(mtcars[1:15,]))

vec2 = c(rownames(mtcars[11:25,]))

Answer : identical(vec1, vec2)

**Output**:

|  |
| --- |
| [1] FALSE |
|  |

2. Sort the character vector in ascending order and descending order.

vec1 = c(rownames(mtcars[1:15,]))

vec2 = c(rownames(mtcars[11:25,]))

Answer: **Ascending Order:**

sort(vec1, vec2, decreasing = FALSE)

**Output**:

[1] "Cadillac Fleetwood" "Datsun 710" "Duster 360" "Hornet 4 Drive"

[5] "Hornet Sportabout" "Mazda RX4" "Mazda RX4 Wag" "Merc 230"

[9] "Merc 240D" "Merc 280" "Merc 280C" "Merc 450SE"

[13] "Merc 450SL" "Merc 450SLC" "Valiant"

**Descending order:**

sort(vec1, vec2, decreasing = TRUE)

**Output**:

[1] "Valiant" "Merc 450SLC" "Merc 450SL" "Merc 450SE"

[5] "Merc 280C" "Merc 280" "Merc 240D" "Merc 230"

[9] "Mazda RX4 Wag" "Mazda RX4" "Hornet Sportabout" "Hornet 4 Drive"

[13] "Duster 360" "Datsun 710" "Cadillac Fleetwood"

3. What is the major difference between str() and paste() show an example.

Answer:

Str() we will get information of each column and display the internal structure of an R object, a diagnostic function and an alternative to summary( Character or numerical).

**## Example of str()**

str(mtcars)

**Output**:

'data.frame': 32 obs. of 11 variables:

$ mpg : num 21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...

$ cyl : num 6 6 4 6 8 6 8 4 4 6 ...

$ disp: num 160 160 108 258 360 ...

$ hp : num 110 110 93 110 175 105 245 62 95 123 ...

$ drat: num 3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...

$ wt : num 2.62 2.88 2.32 3.21 3.44 ...

$ qsec: num 16.5 17 18.6 19.4 17 ...

$ vs : num 0 0 1 1 0 1 0 1 1 1 ...

$ am : num 1 1 1 0 0 0 0 0 0 0 ...

$ gear: num 4 4 4 3 3 3 3 4 4 4 ...

$ carb: num 4 4 1 1 2 1 4 2 2 4 ...

The function paste() is used to create and build strings. paste() takes one or more R objects, converts them to "character", and then it concatenates (pastes) them to form one or several character strings.

**## Example of paste IloveR**

IloveR = paste("I", "love", "R", sep = "-")

IloveR

**Output**:

[1] "I-love-R"

4. Introduce a separator when concatenating the strings.

Answer:

cat(1:10, sep = "-")

**Output**:

1-2-3-4-5-6-7-8-9-10