ACADGILD

SESSION 5: Data Management Using R

Assignment 3

PROBLEM STATEMENT

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

   vec1 = c(rownames(mtcars[1:15,])) vec2 = c(rownames(mtcars[11:25,]))

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

   vec1 = c(rownames(mtcars[1:15,])) vec2 = c(rownames(mtcars[11:25,]))

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

4. Introduce a separator when concatenating the strings

SOLUTION :

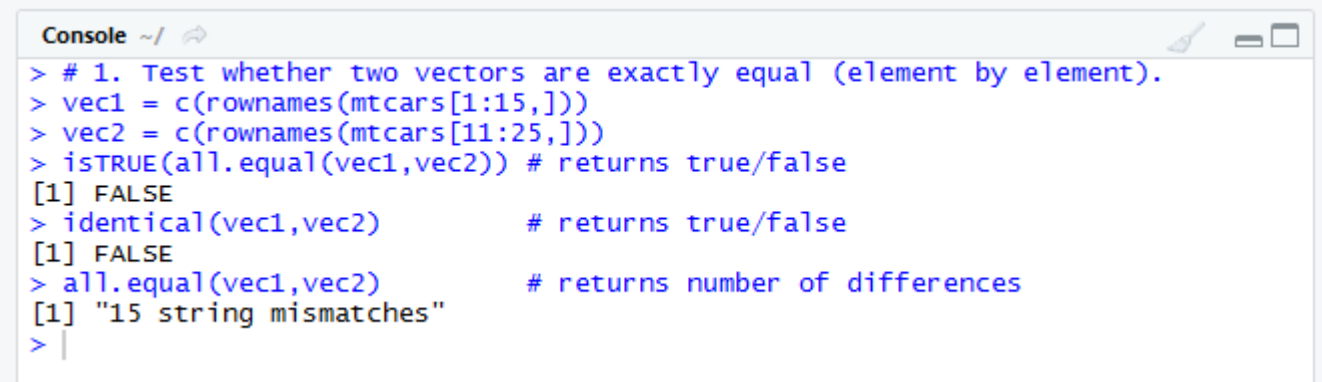
1. **Test whether two vectors are exactly equal (element by element).**

The R-script for the given problem is as follows:

```
vec1 = c(rownames(mtcars[1:15,]))
vec2 = c(rownames(mtcars[11:25,]))


isTRUE(all.equal(vec1,vec2)) # returns true/false
identical(vec1,vec2)         # returns true/false
all.equal(vec1,vec2)         # returns number of differences
```

The output of the R-Script (from Console window) is given as follows :



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

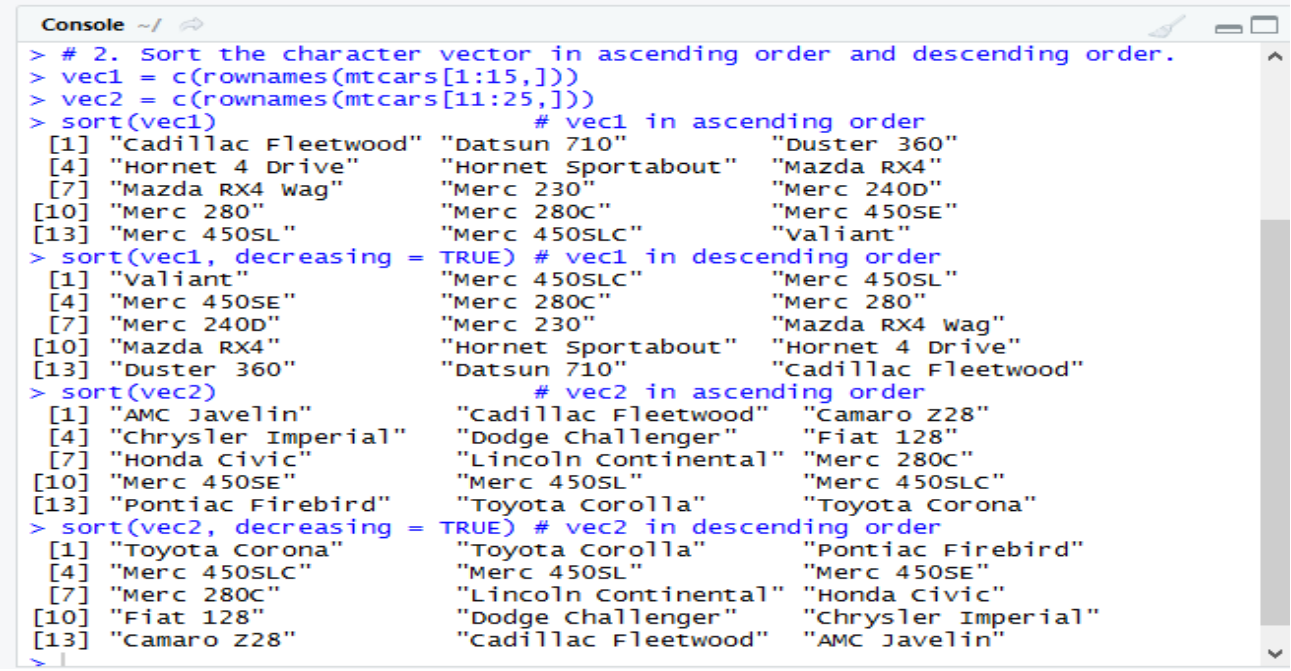
The R-script for the given problem is as follows:

```
vec1 = c(rownames(mtcars[1:15,]))
vec2 = c(rownames(mtcars[11:25,]))

sort(vec1)                  # vec1 in ascending order
sort(vec1, decreasing = TRUE) # vec1 in descending order

sort(vec2)                  # vec2 in ascending order
sort(vec2, decreasing = TRUE) # vec2 in descending order
```

The output of the R-Script (from Console window) is given as follows :



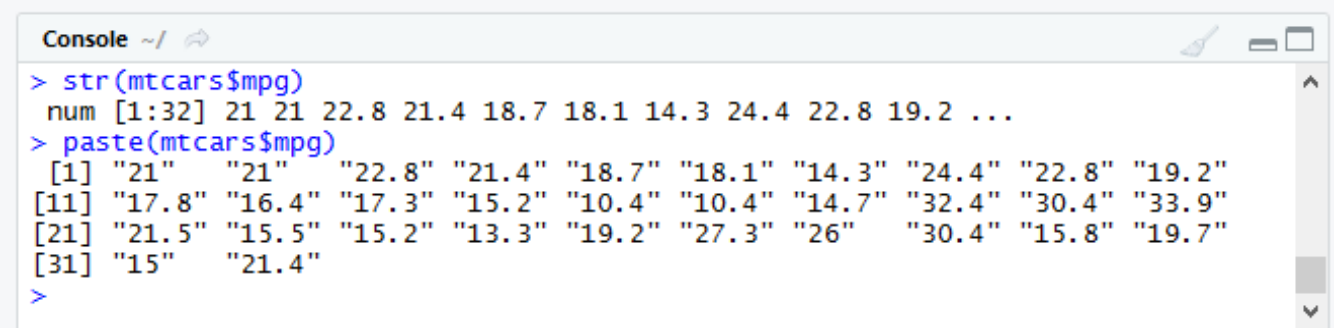
```
Console ~/
> # 2. Sort the character vector in ascending order and descending order.
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[11:25,]))
> sort(vec1)                  # vec1 in ascending order
 [1] "Cadillac Fleetwood" "Datsun 710"         "Duster 360"
 [4] "Hornet 4 Drive"     "Hornet Sportabout"  "Mazda RX4"
 [7] "Mazda RX4 Wag"      "Merc 230"           "Merc 240D"
[10] "Merc 280"           "Merc 280C"          "Merc 450SE"
[13] "Merc 450SL"         "Merc 450SLC"        "Valiant"
> sort(vec1, decreasing = TRUE) # vec1 in descending order
 [1] "Valiant"            "Merc 450SLC"        "Merc 450SL"
 [4] "Merc 450SE"         "Merc 280C"          "Merc 280"
 [7] "Merc 240D"          "Merc 230"           "Mazda RX4 Wag"
[10] "Mazda RX4"          "Hornet Sportabout"  "Hornet 4 Drive"
[13] "Duster 360"         "Datsun 710"         "Cadillac Fleetwood"
> sort(vec2)                  # vec2 in ascending order
 [1] "AMC Javelin"          "Cadillac Fleetwood"  "Camaro Z28"
 [4] "Chrysler Imperial"    "Dodge Challenger"    "Fiat 128"
 [7] "Honda Civic"          "Lincoln Continental" "Merc 280C"
[10] "Merc 450SE"           "Merc 450SL"          "Merc 450SLC"
[13] "Pontiac Firebird"     "Toyota Corolla"      "Toyota Corona"
> sort(vec2, decreasing = TRUE) # vec2 in descending order
 [1] "Toyota Corona"        "Toyota Corolla"      "Pontiac Firebird"
 [4] "Merc 450SLC"          "Merc 450SL"          "Merc 450SE"
 [7] "Merc 280C"            "Lincoln Continental" "Honda Civic"
[10] "Fiat 128"             "Dodge Challenger"    "Chrysler Imperial"
[13] "Camaro Z28"           "Cadillac Fleetwood"  "AMC Javelin"
>
```

3. Major difference between str() and paste()

The R-script for the given problem is as follows:

```
str(mtcars$mpg)
paste(mtcars$mpg)
```

The output of the R-Script (from Console window) is given as follows :



4. Introduce a separator when concatenating the strings.

The R-script for the given problem is as follows:

```
paste(rownames(mtcars[1,]), rownames(mtcars[2,]), sep = " ")
paste(rownames(mtcars[1,]), rownames(mtcars[4,]), sep = ",")
paste(rownames(mtcars[2,]), rownames(mtcars[1,]), sep = "--")
paste(rownames(mtcars[3,]), rownames(mtcars[10,]), sep = "$")
paste("Welcome","JK",sep=" @ ")
paste("Jobin","9","3",sep="_")
```

The output of the R-Script (from Console window) is given as follows :