



**ACADGILD**

# SESSION 5: Data Management Using R

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Assignment 2

## PROBLEM STATEMENT

1. obtain the elements of the union between two character vectors.

```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[10:32,]))
```

2. Get those elements that are common to both vectors

```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[10:32,]))
```

3. Get the difference of the elements between two character vectors.

```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[10:32,]))
```

4. Test the equality of two character vectors

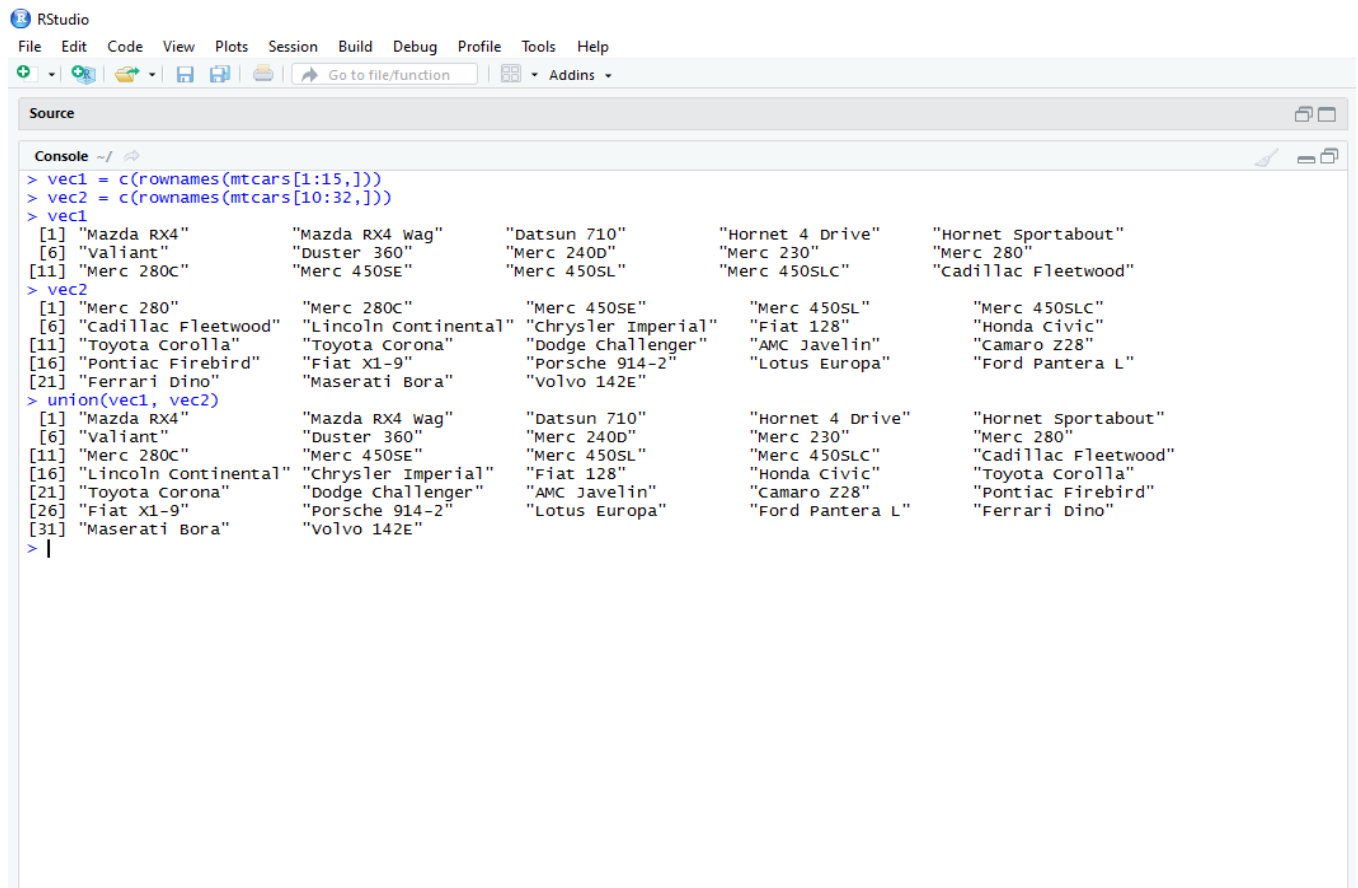
```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[11:25,]))
```

## SOLUTION :

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

```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[10:32,]))  
vec1  
vec2  
union(vec1, vec2)    # the union between two character vectors.
```

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



```
RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins
Source
Console ~/
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[10:32,]))
> vec1
[1] "Mazda RX4" "Mazda RX4 wag" "Datsun 710" "Hornet 4 Drive" "Hornet Sportabout"
[6] "Valiant" "Duster 360" "Merc 240D" "Merc 230" "Merc 280"
[11] "Merc 280C" "Merc 450SE" "Merc 450SL" "Merc 450SLC" "Cadillac Fleetwood"
> vec2
[1] "Merc 280" "Merc 280C" "Merc 450SE" "Merc 450SL" "Merc 450SLC"
[6] "Cadillac Fleetwood" "Lincoln Continental" "Chrysler Imperial" "Fiat 128" "Honda Civic"
[11] "Toyota Corolla" "Toyota Corona" "Dodge Challenger" "AMC Javelin" "Camaro Z28"
[16] "Pontiac Firebird" "Fiat X1-9" "Porsche 914-2" "Lotus Europa" "Ford Pantera L"
[21] "Ferrari Dino" "Maserati Bora" "Volvo 142E"
> union(vec1, vec2)
[1] "Mazda RX4" "Mazda RX4 wag" "Datsun 710" "Hornet 4 Drive" "Hornet Sportabout"
[6] "Valiant" "Duster 360" "Merc 240D" "Merc 230" "Merc 280"
[11] "Merc 280C" "Merc 450SE" "Merc 450SL" "Merc 450SLC" "Cadillac Fleetwood"
[16] "Lincoln Continental" "Chrysler Imperial" "Fiat 128" "Honda Civic" "Toyota Corolla"
[21] "Toyota Corona" "Dodge Challenger" "AMC Javelin" "Camaro Z28" "Pontiac Firebird"
[26] "Fiat X1-9" "Porsche 914-2" "Lotus Europa" "Ford Pantera L" "Ferrari Dino"
[31] "Maserati Bora" "Volvo 142E"
> |
```

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

```
vec1 = c(rownames(mtcars[1:15,]))
vec2 = c(rownames(mtcars[10:32,]))

intersect(vec1,vec2)      # names of common elements
which(vec1 %in% vec2)    # Index of common elements
```

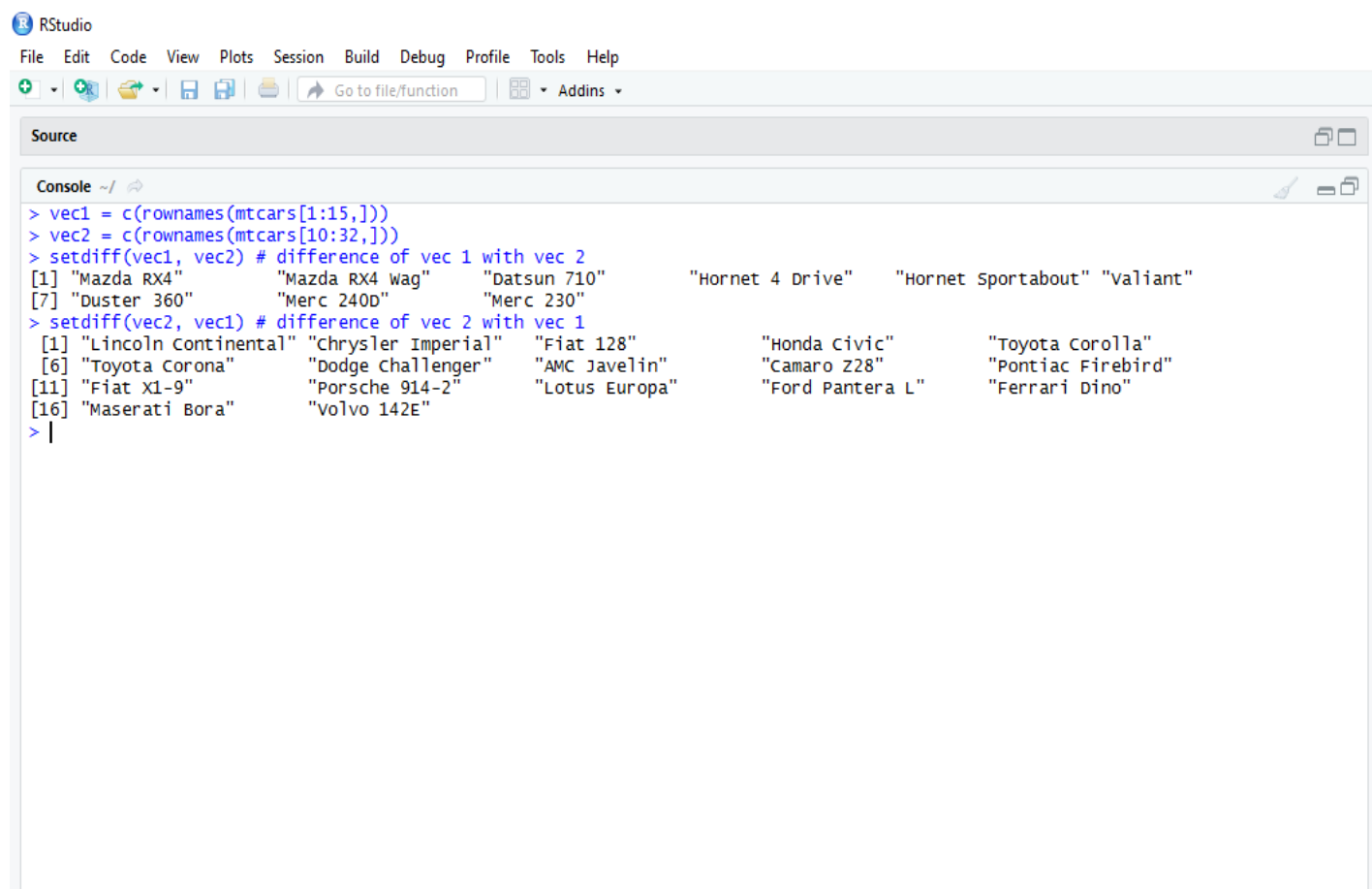
**The output of the R-Script (from Console window) is given as follows:**

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[10:32,]))
> intersect(vec1,vec2)      # names of common elements
[1] "Merc 280" "Merc 280C" "Merc 450SE"
"Merc 450SL" "Merc 450SLC"
[6] "Cadillac Fleetwood"
> which(vec1 %in% vec2)    # Index of common elements
[1] 10 11 12 13 14 15
```

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

```
vec1 = c(rownames(mtcars[1:15,]))
vec2 = c(rownames(mtcars[10:32,]))
setdiff(vec1, vec2) # difference of vec 1 with vec 2
setdiff(vec2, vec1) # difference of vec 2 with vec 1
```

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



The screenshot shows the RStudio interface with the Console window open. The console displays the following output:

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[10:32,]))
> setdiff(vec1, vec2) # difference of vec 1 with vec 2
[1] "Mazda RX4"          "Mazda RX4 wag"      "Datsun 710"          "Hornet 4 Drive"      "Hornet Sportabout" "Valiant"
[7] "Duster 360"         "Merc 240D"          "Merc 230"
> setdiff(vec2, vec1) # difference of vec 2 with vec 1
[1] "Lincoln Continental" "Chrysler Imperial"  "Fiat 128"            "Honda Civic"          "Toyota Corolla"
[6] "Toyota Corona"      "Dodge Challenger"   "AMC Javelin"         "Camaro Z28"           "Pontiac Firebird"
[11] "Fiat X1-9"          "Porsche 914-2"      "Lotus Europa"        "Ford Pantera L"       "Ferrari Dino"
[16] "Maserati Bora"      "Volvo 142E"
> |
```

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

```
vec1 = c(rownames(mtcars[1:15,]))
vec2 = c(rownames(mtcars[11:25,]))
setequal(vec1, vec2) # is vec1 equal to vec 2
# OR
setequal( union(vec1, vec2), c(setdiff(vec1, vec2), intersect(vec1, vec2),
setdiff(vec1, vec2)))
```

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

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[11:25,]))
> setequal(vec1, vec2) # is vec1 equal to vec 2
[1] FALSE
> # OR
> setequal( union(vec1, vec2), c(setdiff(vec1, vec2), intersect(vec1, vec2),
  setdiff(vec1, vec2)))
[1] FALSE
>
```