

ASSIGNMENT 5.2

5. 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,]))
```

Answer: Union of two vectors **vec1** and **vec2**

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

Output:

```
1 #union of vec1 and vec2
2 vec1 = c(rownames(mtcars[1:15,]))
3 vec1
4 vec2 = c(rownames(mtcars[10:32,]))
5 vec2
6 union(vec1,vec2)
```

6:17 (Top Level) R Script

Console Terminal x

~/MyRFiles/

```
[1] "Mazda RX4"      "Mazda RX4 Wag"    "Datsun 710"
[4] "Hornet 4 Drive" "Hornet Sportabout" "Valiant"
[7] "Duster 360"     "Merc 240D"        "Merc 230"
[10] "Merc 280"       "Merc 280C"        "Merc 450SE"
[13] "Merc 450SL"     "Merc 450SLC"      "Cadillac Fleetwood"
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
[1] "Merc 280"       "Merc 280C"        "Merc 450SE"
[4] "Merc 450SL"     "Merc 450SLC"      "Cadillac Fleetwood"
[7] "Lincoln Continental" "Chrysler Imperial" "Fiat 128"
[10] "Honda Civic"    "Toyota Corolla"   "Toyota Corona"
[13] "Dodge Challenger" "AMC Javelin"      "Camaro Z28"
[16] "Pontiac Firebird" "Fiat X1-9"        "Porsche 914-2"
[19] "Lotus Europa"   "Ford Pantera L"   "Ferrari Dino"
[22] "Maserati Bora"  "Volvo 142E"
> union(vec1,vec2)
[1] "Mazda RX4"      "Mazda RX4 Wag"    "Datsun 710"
[4] "Hornet 4 Drive" "Hornet Sportabout" "Valiant"
[7] "Duster 360"     "Merc 240D"        "Merc 230"
[10] "Merc 280"       "Merc 280C"        "Merc 450SE"
[13] "Merc 450SL"     "Merc 450SLC"      "Cadillac Fleetwood"
[16] "Lincoln Continental" "Chrysler Imperial" "Fiat 128"
[19] "Honda Civic"    "Toyota Corolla"   "Toyota Corona"
[22] "Dodge Challenger" "AMC Javelin"      "Camaro Z28"
[25] "Pontiac Firebird" "Fiat X1-9"        "Porsche 914-2"
[28] "Lotus Europa"   "Ford Pantera L"   "Ferrari Dino"
[31] "Maserati Bora"  "Volvo 142E"
```

2. Get those elements that are common to both vectors

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

Answer: Using **intersect** function, we can find the common elements of the vectors

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

Output:

```
8 #Common elements  
9 vec1 = c(rownames(mtcars[1:15,]))  
10 vec2 = c(rownames(mtcars[10:32,]))  
11 intersect(vec1,vec2)
```

9:1 (Top Level) R Script

onsole Terminal x

/MyRFiles/

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

1]	"Merc 280"	"Merc 280C"	"Merc 450SE"
4]	"Merc 450SL"	"Merc 450SLC"	"Cadillac Fleetwood"

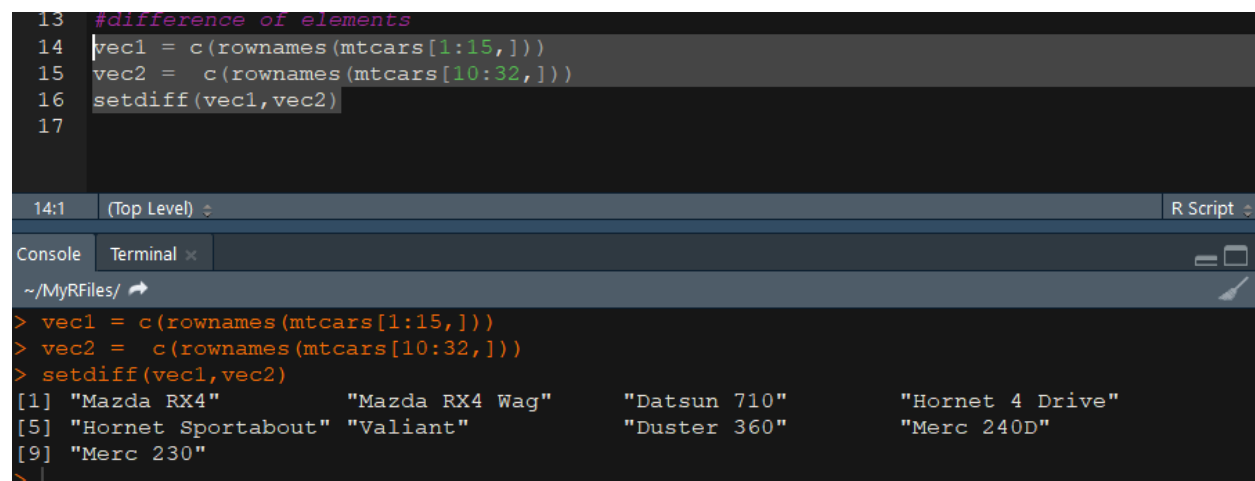
3. Get the difference of the elements between two character vectors.

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

Answer: Using the function `'setdiff(x,y)'`, we can get the difference between the character vectors

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

Output:



```
13 #difference of elements  
14 vec1 = c(rownames(mtcars[1:15,]))  
15 vec2 = c(rownames(mtcars[10:32,]))  
16 setdiff(vec1,vec2)  
17
```

14:1 (Top Level) R Script

Console Terminal

~/MyRFiles/

```
> vec1 = c(rownames(mtcars[1:15,]))  
> vec2 = c(rownames(mtcars[10:32,]))  
> setdiff(vec1,vec2)  
[1] "Mazda RX4"          "Mazda RX4 Wag"      "Datsun 710"         "Hornet 4 Drive"  
[5] "Hornet Sportabout" "Valiant"            "Duster 360"        "Merc 240D"  
[9] "Merc 230"  
>
```

4. Test the equality of two character vectors

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

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

Answer: *Using `setequal(x,y)`, we can determine the equality of the character vectors.*

Output:

```
18 #equality of character vectors
19 setequal(vec1,vec2)
20 |
20:1 (Top Level) R Script
Console Terminal x
~/MyRFiles/
> #equality of character vectors
> setequal(vec1,vec2)
[1] FALSE
> |
```

Answer: `setequal(x,y)` is used to see the equality of the character vectors.

```
18 #equality of character vectors
19 setequal(vec1,vec2)
20 |
20:1 (Top Level) R Script
Console Terminal x
~/MyRFiles/
> #equality of character vectors
> setequal(vec1,vec2)
[1] FALSE
> |
```

Note: R script is attached for the problems above the repository.