

ACADGILD ASSIGNMENT 5.2

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

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

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

Answer:

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

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

```
union (vec1, vec2)
```

```
[1] "Mazda RX4" "Mazda RX4 Wag" "Datsun 710" "Hornet 4 Drive"
```

```
[5] "Hornet Sportabout" "Valiant" "Duster 360" "Merc 240D"
```

```
[9] "Merc 230" "Merc 280" "Merc 280C" "Merc 450SE"
```

```
[13] "Merc 450SL" "Merc 450SLC" "Cadillac Fleetwood" "Lincoln
```

```
Continental" [17] "Chrysler Imperial" "Fiat 128" "Honda Civic" "Toyota  
Corolla"
```

```
[21] "Toyota Corona" "Dodge Challenger" "AMC Javelin" "Camaro  
Z28"
```

```
[25] "Pontiac Firebird" "Fiat X1-9" "Porsche 914-2" "Lotus Europa"
```

```
[29] "Ford Pantera L" "Ferrari Dino" "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:

```
Intersect(vec1, vec2) [1] "Merc 280" "Merc 280C" "Merc 450SE" "Merc  
450SL"  
[5] "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:

```
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:

```
vec1 = c(rownames(mtcars[1:15,]))  
vec2 = c(rownames(mtcars[11:25,]))  
is.element(vec1,vec2)  
[1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE  
TRUE TRUE TRUE TRUE  
identical(vec1,vec2)  
[1] TRUE  
setequal(vec1,vec2)  
[1] TRUE
```

```
vec1 %in% vec2
[1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
TRUE TRUE TRUE TRUE
```

The screenshot shows the RStudio interface with the following components:

- Source Editor:** Contains R code for loading data and performing set operations. Line 20, `setdiff(vec1, vec2)`, is highlighted.
- Console:** Shows the execution of the code. It displays the union of two vectors, the result of `setdiff` (an empty character vector), and the output of `test` (which errors out). The final output is `vec1 %in% vec2`, which returns a vector of 16 `TRUE` values.
- Environment Pane:** Lists objects in the global environment: `slr` (12 obs. of 3 variables), `z` (150 obs. of 5 variables), `z2` (150 obs. of 4 variables), `my_div` (numeric), `my_sqrt` (numeric), `vec1` (character), and `vec2` (character).
- Files Pane:** Shows the file `mtcars` in the current project.

```
1 library(vec1)
2 library(mtcars)
3 library(readr)
4 mtcars <- read_csv("C:/Users/Rajesh Chowdary/Downloads/mtcars.csv")
5 vec1 = c(rownames(mtcars[1:15,]))
6 vec2 = c(rownames(mtcars[10:32,]))
7 union(vec1, vec2)
8 setdiff(vec1, vec2)
9 test(vec1, vec2)
10
11 vec1 = c(rownames(mtcars[1:15,]))
12 vec2 = c(rownames(mtcars[11:25,]))
13 is.element(vec1, vec2)
14 identical(vec1, vec2)
15 setequal(vec1, vec2)
16 vec1 %in% vec2
17 vec1 = c(rownames(mtcars[1:15,]))
18 vec2 = c(rownames(mtcars[10:32,]))
19 setdiff(vec2, vec1)
20 setdiff(vec1, vec2)
```

```
> vec2 = c(rownames(mtcars[10:32,]))
> union(vec1, vec2)
[1] "1" "2" "3" "4" "5" "6" "7" "8" "9" "10" "11" "12" "13" "14" "15" "16"
[17] "17" "18" "19" "20" "21" "22" "23"
> setdiff(vec1, vec2)
character(0)
> test(vec1, vec2)
Error in test(vec1, vec2) : could not find function "test"
> vec1 = c(rownames(mtcars[1:15,]))
> vec2 = c(rownames(mtcars[11:25,]))
> is.element(vec1, vec2)
[1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
> identical(vec1, vec2)
[1] TRUE
> setequal(vec1, vec2)
[1] TRUE
> vec1 %in% vec2
```