ACADGILD

SESSION 5: Data Management Using R

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,]))

R-Script

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"         "Horne
t 4 Drive"      "Hornet Sportabout"  "Valiant"
 [7] "Duster 360"         "Merc 240D"          "Merc 230"           "Merc
280"              "Merc 280C"          "Merc 450SE"
[13] "Merc 450SL"         "Merc 450SLC"        "Cadillac Fleetwood"
```

R-snapshot

```
[1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"      "Hornet 4 Drive"     "Hornet Sportabout"  "Valiant"

 [7] "Duster 360"         "Merc 240D"          "Merc 230"        "Merc 280"           "Merc 280C"          "Merc 450SE"

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

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

```
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
 [1] "Merc 280"           "Merc 280C"          "Merc 450SE"         "Me
rc 450SL"        "Merc 450SLC"        "Cadillac Fleetwood"
 [7] "Lincoln Continental" "Chrysler Imperial"  "Fiat 128"           "Ho
nda Civic"        "Toyota Corolla"     "Toyota Corona"
[13] "Dodge Challenger"   "AMC Javelin"        "Camaro Z28"         "Po
ntiac Firebird"   "Fiat X1-9"          "Porsche 914-2"
[19] "Lotus Europa"       "Ford Pantera L"     "Ferrari Dino"       "Ma
serati Bora"      "Volvo 142E"
```


Output:

union(vec1,vec2)

```
> union(vec1,vec2)
 [1] "Mazda RX4"           "Mazda RX4 Wag"      "Datsun 710"         "Ho
rnet 4 Drive"     "Hornet Sportabout"  "Valiant"
 [7] "Duster 360"         "Merc 240D"          "Merc 230"           "Me
rc 280"           "Merc 280C"          "Merc 450SE"
[13] "Merc 450SL"         "Merc 450SLC"        "Cadillac Fleetwood" "Li
ncoln Continental" "Chrysler Imperial"  "Fiat 128"
[19] "Honda Civic"        "Toyota Corolla"     "Toyota Corona"      "Do
dge Challenger"   "AMC Javelin"        "Camaro Z28"
[25] "Pontiac Firebird"   "Fiat X1-9"          "Porsche 914-2"      "Lo
tus Europa"       "Ford Pantera L"     "Ferrari Dino"
[31] "Maserati Bora"      "Volvo 142E"
```

Problem Statement

2. Get those elements that are common to both vectors

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

R-Script

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"         "Horne
t 4 Drive"      "Hornet Sportabout"  "Valiant"
 [7] "Duster 360"         "Merc 240D"          "Merc 230"           "Merc
280"           "Merc 280C"          "Merc 450SE"
[13] "Merc 450SL"         "Merc 450SLC"        "Cadillac Fleetwood"
```

R-snapshot

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

```
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
 [1] "Merc 280"           "Merc 280C"          "Merc 450SE"         "Me
rc 450SL"        "Merc 450SLC"        "Cadillac Fleetwood"
 [7] "Lincoln Continental" "Chrysler Imperial"  "Fiat 128"           "Ho
nda Civic"       "Toyota Corolla"     "Toyota Corona"
[13] "Dodge Challenger"   "AMC Javelin"        "Camaro Z28"         "Po
ntiac Firebird"  "Fiat X1-9"          "Porsche 914-2"
[19] "Lotus Europa"       "Ford Pantera L"     "Ferrari Dino"       "Ma
serati Bora"     "Volvo 142E"
```

Output:

intersect(vec1,vec2)

```
> intersect(vec1, vec2)
[1] "Merc 280"            "Merc 280C"           "Merc 450SE"          "Merc 4
50SL"           "Merc 450SLC"         "Cadillac Fleetwood"
```

```
>
> intersect(vec1,vec2)
[1] "Merc 280"        "Merc 280C"        "Merc 450SE"        "Merc 450SL"        "Merc 450SLC"        "Cadillac Fleetw
ood"
```

Problem Statement

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

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

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

R-Script

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"           "Mazda RX4 Wag"       "Datsun 710"          "Horne
t 4 Drive"      "Hornet Sportabout"  "Valiant"
 [7] "Duster 360"          "Merc 240D"           "Merc 230"            "Merc
280"           "Merc 280C"           "Merc 450SE"
[13] "Merc 450SL"          "Merc 450SLC"         "Cadillac Fleetwood"
```

R-snapshot

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"        "Hornet 4 Drive"    "Hornet Sportabout"  "Valiant"

 [7] "Duster 360"         "Merc 240D"         "Merc 230"          "Merc 280"          "Merc 280C"          "Merc 450SE"

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

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

```
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
 [1] "Merc 280"             "Merc 280C"            "Merc 450SE"           "Me
rc 450SL"              "Merc 450SLC"          "Cadillac Fleetwood"
 [7] "Lincoln Continental"  "Chrysler Imperial"    "Fiat 128"             "Ho
nda Civic"             "Toyota Corolla"       "Toyota Corona"
[13] "Dodge Challenger"     "AMC Javelin"          "Camaro Z28"           "Po
ntiac Firebird"        "Fiat X1-9"            "Porsche 914-2"
[19] "Lotus Europa"         "Ford Pantera L"       "Ferrari Dino"         "Ma
serati Bora"           "Volvo 142E"
```

```
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
 [1] "Merc 280"            "Merc 280C"          "Merc 450SE"        "Merc 450SL"       "Merc 450SLC"        "Cadillac
Fleetwood"
 [7] "Lincoln Continental" "Chrysler Imperial"  "Fiat 128"          "Honda Civic"      "Toyota Corolla"     "Toyota Co
rona"
[13] "Dodge Challenger"    "AMC Javelin"        "Camaro Z28"        "Pontiac Firebird" "Fiat X1-9"          "Porsche 9
14-2"
[19] "Lotus Europa"        "Ford Pantera L"     "Ferrari Dino"      "Maserati Bora"    "Volvo 142E"
```

Output:

setdiff(vec1,vec2)

```
> setdiff(vec1, vec2)
[1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"        "Hornet 4
Drive"    "Hornet Sportabout" "Valiant"
[7] "Duster 360"         "Merc 240D"         "Merc 230"
```

```
> setdiff(vec1,vec2)
[1] "Mazda RX4"          "Mazda RX4 Wag"     "Datsun 710"        "Hornet 4 Drive"    "Hornet Sportabout" "Valiant"
[7] "Duster 360"         "Merc 240D"         "Merc 230"
```

setdiff(vec2,vec1)

```
> setdiff(vec2, vec1)
 [1] "Lincoln Continental" "Chrysler Imperial"   "Fiat 128"            "Ho
nda Civic"           "Toyota Corolla"      "Toyota Corona"
 [7] "Dodge Challenger"    "AMC Javelin"         "Camaro Z28"          "Po
ntiac Firebird"      "Fiat X1-9"           "Porsche 914-2"
[13] "Lotus Europa"        "Ford Pantera L"      "Ferrari Dino"        "Ma
serati Bora"         "Volvo 142E"
```

Problem Statement

4. Test the quality of two character vectors

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

R-Script

```
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"           "Mazda RX4 Wag"       "Datsun 710"          "Horne
t 4 Drive"       "Hornet Sportabout"   "Valiant"
 [7] "Duster 360"          "Merc 240D"           "Merc 230"            "Merc
280"             "Merc 280C"           "Merc 450SE"
[13] "Merc 450SL"          "Merc 450SLC"         "Cadillac Fleetwood"
```

R-snapshot

```
[1] TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE TRUE
> vec1 = c(rownames(mtcars[1:15,]))
> vec1
 [1] "Mazda RX4"           "Mazda RX4 Wag"       "Datsun 710"          "Hornet 4 Drive"      "Hornet Sportabout"   "Valiant"

 [7] "Duster 360"          "Merc 240D"           "Merc 230"            "Merc 280"            "Merc 280C"           "Merc 450SE"

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

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

```
> vec2 = c(rownames(mtcars[10:32,]))
> vec2
 [1] "Merc 280"          "Merc 280C"          "Merc 450SE"          "Me
rc 450SL"          "Merc 450SLC"       "Cadillac Fleetwood"
 [7] "Lincoln Continental" "Chrysler Imperial"  "Fiat 128"           "Ho
nda Civic"          "Toyota Corolla"     "Toyota Corona"
[13] "Dodge Challenger"   "AMC Javelin"        "Camaro Z28"          "Po
ntiac Firebird"    "Fiat X1-9"          "Porsche 914-2"
[19] "Lotus Europa"       "Ford Pantera L"     "Ferrari Dino"        "Ma
serati Bora"       "Volvo 142E"
```


Output:

is.element(vec1,vec2)

```
> is.element(vec1, vec2)
 [1] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE  TRUE  TRUE  TR
UE  TRUE  TRUE  TRUE
```

identical(vec1,vec2)

```
> identical(vec1, vec2)
[1] FALSE
```

setequal(vec1,vec2)

```
> setequal(vec1, vec2)
[1] FALSE
```

vec1 %in% vec2

```
> vec1 %in% vec2
 [1] FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE FALSE  TRUE  TRUE  TR
UE  TRUE  TRUE  TRUE
```