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,]))

```
> 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"      "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. Get those elements that are common to both vectors

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

```
> intersect(vec1, vec2)
[1] "Merc 280"          "Merc 280C"         "Merc 450SE"        "Merc 450SL"        "Merc 450SLC"
[6] "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,]))

```
> setdiff(vec1, vec2)
[1] "Mazda RX4"         "Mazda RX4 Wag"     "Datsun 710"        "Hornet 4 Drive"    "Hornet Sportabout"
[6] "Valiant"           "Duster 360"        "Merc 240D"         "Merc 230"
> setdiff(vec2, vec1)
 [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. Test the equality of two character vectors

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

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