# 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,]))

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| > ##1. Obtain the elements of the union between two character vectors.  > vec1 = c(rownames(mtcars[1:15,]))  > vec2 = c(rownames(mtcars[10:32,]))  > #we use union function  > #The union of two sets is everything in the two sets taken together,  > #but counting elements only once that are common to both sets:  > vec1 = c(rownames(mtcars[1:15,]))  > vec1  [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" |
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1. Get those elements that are common to both vectors.

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

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

#we use intersect function

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

> vec1

[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"

> intersect(vec1,vec2)

[1] "Merc 280" "Merc 280C" "Merc 450SE"

[4] "Merc 450SL" "Merc 450SLC" "Cadillac Fleetwood"

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

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

#the difference between two sets is order-dependent.

#It is the material that is in the first named set,

#that is not in the second named set.

#Thus setdiff(A,B) gives a different answer than setdiff(B,A)

setdiff(vec1,vec2)

setdiff(vec2,vec1)

#Another Method

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

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

# elements of vec1 which are not in vec2

vec1[!vec1%in%vec2]

# elements of vec2 which are not in vec1

vec2[!vec2%in%vec1]

#elements which are not common in vec1 and 2

union(vec1[!vec1%in%vec2],vec2[!vec2%in%vec1])

1. Test the quality of two character vectors.

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

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

#\*so in question it is given wrong so actually it is equality rather than quality

#perform set operations

#some of functions by which we can test

is.element(vec1,vec2)

identical(vec1,vec2)

setequal(vec1,vec2)

vec1 %in% vec2