DaigleInClassLab_Wk4D3.R

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Sun Feb 11 08:10:13 2018

```
## Daigle Wk4D3

# Exercise 1

mtcars
```

```
##                     mpg cyl  disp  hp drat    wt  qsec vs am gear carb
## Mazda RX4          21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4
## Mazda RX4 Wag      21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4
## Datsun 710         22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
## Hornet 4 Drive     21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
## Hornet Sportabout  18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
## Valiant            18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
## Duster 360         14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
## Merc 240D          24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
## Merc 230           22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
## Merc 280           19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
## Merc 280C          17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
## Merc 450SE         16.4   8 275.8 180 3.07 4.070 17.40  0  0    3    3
## Merc 450SL         17.3   8 275.8 180 3.07 3.730 17.60  0  0    3    3
## Merc 450SLC        15.2   8 275.8 180 3.07 3.780 18.00  0  0    3    3
## Cadillac Fleetwood 10.4   8 472.0 205 2.93 5.250 17.98  0  0    3    4
## Lincoln Continental 10.4  8 460.0 215 3.00 5.424 17.82  0  0    3    4
## Chrysler Imperial  14.7   8 440.0 230 3.23 5.345 17.42  0  0    3    4
## Fiat 128           32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1
## Honda Civic        30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2
## Toyota Corolla     33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1
## Toyota Corona      21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1
## Dodge Challenger   15.5   8 318.0 150 2.76 3.520 16.87  0  0    3    2
## AMC Javelin        15.2   8 304.0 150 3.15 3.435 17.30  0  0    3    2
## Camaro Z28         13.3   8 350.0 245 3.73 3.840 15.41  0  0    3    4
## Pontiac Firebird   19.2   8 400.0 175 3.08 3.845 17.05  0  0    3    2
## Fiat X1-9          27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1
## Porsche 914-2      26.0   4 120.3  91 4.43 2.140 16.70  0  1    5    2
## Lotus Europa       30.4   4  95.1 113 3.77 1.513 16.90  1  1    5    2
## Ford Pantera L     15.8   8 351.0 264 4.22 3.170 14.50  0  1    5    4
## Ferrari Dino       19.7   6 145.0 175 3.62 2.770 15.50  0  1    5    6
## Maserati Bora      15.0   8 301.0 335 3.54 3.570 14.60  0  1    5    8
## Volvo 142E         21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2
```

```
nrow(mtcars)
```

```
## [1] 32
```

```
which(row.names(mtcars) == "Cadillac Fleetwood")
```

```
## [1] 15
```

```
a <- which(row.names(mtcars) == "Cadillac Fleetwood")
```

```r
mtcars1 <- mtcars[1:a-1,]
mtcars2 <- mtcars[a:nrow(mtcars),]

mtcars2[,c("vs","am")] <- NULL
mtcars2[,c("vs","am")] <- NA
rbind(mtcars1,mtcars2)
```

```
##                    mpg cyl  disp  hp drat    wt  qsec vs am gear carb
## Mazda RX4         21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4
## Mazda RX4 Wag     21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4
## Datsun 710        22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
## Hornet 4 Drive    21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
## Hornet Sportabout 18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
## Valiant           18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
## Duster 360        14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
## Merc 240D         24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
## Merc 230          22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
## Merc 280          19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
## Merc 280C         17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
## Merc 450SE        16.4   8 275.8 180 3.07 4.070 17.40  0  0    3    3
## Merc 450SL        17.3   8 275.8 180 3.07 3.730 17.60  0  0    3    3
## Merc 450SLC       15.2   8 275.8 180 3.07 3.780 18.00  0  0    3    3
## Cadillac Fleetwood  10.4   8 472.0 205 2.93 5.250 17.98 NA NA    3    4
## Lincoln Continental 10.4   8 460.0 215 3.00 5.424 17.82 NA NA    3    4
## Chrysler Imperial   14.7   8 440.0 230 3.23 5.345 17.42 NA NA    3    4
## Fiat 128          32.4   4  78.7  66 4.08 2.200 19.47 NA NA    4    1
## Honda Civic       30.4   4  75.7  52 4.93 1.615 18.52 NA NA    4    2
## Toyota Corolla    33.9   4  71.1  65 4.22 1.835 19.90 NA NA    4    1
## Toyota Corona     21.5   4 120.1  97 3.70 2.465 20.01 NA NA    3    1
## Dodge Challenger  15.5   8 318.0 150 2.76 3.520 16.87 NA NA    3    2
## AMC Javelin       15.2   8 304.0 150 3.15 3.435 17.30 NA NA    3    2
## Camaro Z28        13.3   8 350.0 245 3.73 3.840 15.41 NA NA    3    4
## Pontiac Firebird  19.2   8 400.0 175 3.08 3.845 17.05 NA NA    3    2
## Fiat X1-9         27.3   4  79.0  66 4.08 1.935 18.90 NA NA    4    1
## Porsche 914-2     26.0   4 120.3  91 4.43 2.140 16.70 NA NA    5    2
## Lotus Europa      30.4   4  95.1 113 3.77 1.513 16.90 NA NA    5    2
## Ford Pantera L    15.8   8 351.0 264 4.22 3.170 14.50 NA NA    5    4
## Ferrari Dino      19.7   6 145.0 175 3.62 2.770 15.50 NA NA    5    6
## Maserati Bora     15.0   8 301.0 335 3.54 3.570 14.60 NA NA    5    8
## Volvo 142E        21.4   4 121.0 109 4.11 2.780 18.60 NA NA    4    2
```

```r
# Exercise 2
# Assigns mtcars3 the values in mtcars' columns 1 through to one column before the one named "wt", wher
mtcars3 <- mtcars[,1:(which(names(mtcars) == "wt"))-1]
mtcars4 <- mtcars[,which(names(mtcars) == "wt"):ncol(mtcars)]

name <- row.names(mtcars)

mtcars3 <- cbind(name, mtcars3)
mtcars4 <- cbind(name, mtcars4)

#This removes the names we assigned to each row and replaces them with the number of thier respectie ro
row.names(mtcars3) <- NULL
row.names(mtcars4) <- NULL
```

```r
# Creates a character vector with the first four letters of each row name in mtcars
a <- substr(row.names(mtcars), start = 1, stop = 4)
mtcars4 <- mtcars4[!(a == "Merc"),]
# Replaces mtcars4 with all the values of mtcars4 except those rows where the character vector is "Merc
mtcars4
```

```
##                   name    wt  qsec vs am gear carb
## 1            Mazda RX4 2.620 16.46  0  1    4    4
## 2        Mazda RX4 Wag 2.875 17.02  0  1    4    4
## 3           Datsun 710 2.320 18.61  1  1    4    1
## 4       Hornet 4 Drive 3.215 19.44  1  0    3    1
## 5    Hornet Sportabout 3.440 17.02  0  0    3    2
## 6              Valiant 3.460 20.22  1  0    3    1
## 7           Duster 360 3.570 15.84  0  0    3    4
## 15  Cadillac Fleetwood 5.250 17.98  0  0    3    4
## 16 Lincoln Continental 5.424 17.82  0  0    3    4
## 17   Chrysler Imperial 5.345 17.42  0  0    3    4
## 18            Fiat 128 2.200 19.47  1  1    4    1
## 19         Honda Civic 1.615 18.52  1  1    4    2
## 20      Toyota Corolla 1.835 19.90  1  1    4    1
## 21       Toyota Corona 2.465 20.01  1  0    3    1
## 22    Dodge Challenger 3.520 16.87  0  0    3    2
## 23         AMC Javelin 3.435 17.30  0  0    3    2
## 24          Camaro Z28 3.840 15.41  0  0    3    4
## 25    Pontiac Firebird 3.845 17.05  0  0    3    2
## 26           Fiat X1-9 1.935 18.90  1  1    4    1
## 27       Porsche 914-2 2.140 16.70  0  1    5    2
## 28        Lotus Europa 1.513 16.90  1  1    5    2
## 29      Ford Pantera L 3.170 14.50  0  1    5    4
## 30        Ferrari Dino 2.770 15.50  0  1    5    6
## 31       Maserati Bora 3.570 14.60  0  1    5    8
## 32          Volvo 142E 2.780 18.60  1  1    4    2
```

```r
mtcars_all <- merge(mtcars3, mtcars4, by = "name", all = TRUE)
# Merges mtcars3 and 4 by the column "name" where each is the same

# Exercise 3
mov <- "The Shining"
act <- c("Jack Nicholson", "Shelley Duvall", "Danny Lloyd", "Scatman Crothers", "Barry Nelso")
scores <- c(4.5, 4.0, 5.0)
sources <- c("IMDb1", "IMDb2", "IMDb3")
comments <- c("Best Horror Film I have ever seen", "A truly brilliant and scary film", "A masterpiece o
rev <- data.frame(scores, sources, comments)
# Creates a data.frame (like a database) of the scores, sources, and comments vectors (note they are no

shine_list <- list(mov, act, rev)

rm(mov, act, scores, comments, rev)
names(shine_list) <- c("moviename", "actors", "reviews")
shine_list[2]
```

```
## $actors
## [1] "Jack Nicholson"   "Shelley Duvall"   "Danny Lloyd"
## [4] "Scatman Crothers" "Barry Nelso"
```

```
shine_list[[2]][2]
```

```
## [1] "Shelley Duvall"
```

```
(shine_list[[3]][1])*5
```

```
##   scores
## 1   22.5
## 2   20.0
## 3   25.0
```

```
shine_list[[3]][3]
```

```
##                                comments
## 1     Best Horror Film I have ever seen
## 2      A truly brilliant and scary film
## 3 A masterpiece of psychological horror
```

```
yOR <- 1980
shining_list_new <- shine_list
shining_list_new$yearOfRelease <- yOR
shining_list_new
```

```
## $moviename
## [1] "The Shining"
##
## $actors
## [1] "Jack Nicholson"   "Shelley Duvall"   "Danny Lloyd"
## [4] "Scatman Crothers" "Barry Nelso"
##
## $reviews
##   scores sources                                comments
## 1    4.5   IMDb1     Best Horror Film I have ever seen
## 2    4.0   IMDb2      A truly brilliant and scary film
## 3    5.0   IMDb3 A masterpiece of psychological horror
##
## $yearOfRelease
## [1] 1980
```