> 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

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

> mtcars1 <- mtcars[1:a-1,]

> mtcars2 <- mtcars[a:nrow(mtcars),]

> mtcars2[,c("vs", "am")] <- NULL

> mtcars2[,c("vs", "am")] <- NA

> mtcars\_f <- rbind(mtcars1, mtcars2)

> rm(a)

> rm(list=ls())

> ncol(mtcars)

[1] 11

> b <- which(names(mtcars) == "wt")

> mtcars3 <- mtcars[,1:b-1]

> mtcars4 <- mtcars[,b:ncol(mtcars)]

> name <- row.names(mtcars)

> mtcars3 <- cbind(name, mtcars3)

> mtcars4 <- cbind(name, mtcars4)

> row.names(mtcars3) <- NULL

> row.names(mtcars4) <- NULL

> mtcars3

name mpg cyl disp hp drat

1 Mazda RX4 21.0 6 160.0 110 3.90

2 Mazda RX4 Wag 21.0 6 160.0 110 3.90

3 Datsun 710 22.8 4 108.0 93 3.85

4 Hornet 4 Drive 21.4 6 258.0 110 3.08

5 Hornet Sportabout 18.7 8 360.0 175 3.15

6 Valiant 18.1 6 225.0 105 2.76

7 Duster 360 14.3 8 360.0 245 3.21

8 Merc 240D 24.4 4 146.7 62 3.69

9 Merc 230 22.8 4 140.8 95 3.92

10 Merc 280 19.2 6 167.6 123 3.92

11 Merc 280C 17.8 6 167.6 123 3.92

12 Merc 450SE 16.4 8 275.8 180 3.07

13 Merc 450SL 17.3 8 275.8 180 3.07

14 Merc 450SLC 15.2 8 275.8 180 3.07

15 Cadillac Fleetwood 10.4 8 472.0 205 2.93

16 Lincoln Continental 10.4 8 460.0 215 3.00

17 Chrysler Imperial 14.7 8 440.0 230 3.23

18 Fiat 128 32.4 4 78.7 66 4.08

19 Honda Civic 30.4 4 75.7 52 4.93

20 Toyota Corolla 33.9 4 71.1 65 4.22

21 Toyota Corona 21.5 4 120.1 97 3.70

22 Dodge Challenger 15.5 8 318.0 150 2.76

23 AMC Javelin 15.2 8 304.0 150 3.15

24 Camaro Z28 13.3 8 350.0 245 3.73

25 Pontiac Firebird 19.2 8 400.0 175 3.08

26 Fiat X1-9 27.3 4 79.0 66 4.08

27 Porsche 914-2 26.0 4 120.3 91 4.43

28 Lotus Europa 30.4 4 95.1 113 3.77

29 Ford Pantera L 15.8 8 351.0 264 4.22

30 Ferrari Dino 19.7 6 145.0 175 3.62

31 Maserati Bora 15.0 8 301.0 335 3.54

32 Volvo 142E 21.4 4 121.0 109 4.11

> 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

8 Merc 240D 3.190 20.00 1 0 4 2

9 Merc 230 3.150 22.90 1 0 4 2

10 Merc 280 3.440 18.30 1 0 4 4

11 Merc 280C 3.440 18.90 1 0 4 4

12 Merc 450SE 4.070 17.40 0 0 3 3

13 Merc 450SL 3.730 17.60 0 0 3 3

14 Merc 450SLC 3.780 18.00 0 0 3 3

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

> b <- substr(row.names(mtcars), 1, 4)

> mtcars4 <- mtcars4[!(b == "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

> mtcars\_all <- merge(mtcars3, mtcars4, by = "name", all = TRUE)

> mtcars\_all

name mpg cyl disp hp drat wt qsec vs am gear carb

1 AMC Javelin 15.2 8 304.0 150 3.15 3.435 17.30 0 0 3 2

2 Cadillac Fleetwood 10.4 8 472.0 205 2.93 5.250 17.98 0 0 3 4

3 Camaro Z28 13.3 8 350.0 245 3.73 3.840 15.41 0 0 3 4

4 Chrysler Imperial 14.7 8 440.0 230 3.23 5.345 17.42 0 0 3 4

5 Datsun 710 22.8 4 108.0 93 3.85 2.320 18.61 1 1 4 1

6 Dodge Challenger 15.5 8 318.0 150 2.76 3.520 16.87 0 0 3 2

7 Duster 360 14.3 8 360.0 245 3.21 3.570 15.84 0 0 3 4

8 Ferrari Dino 19.7 6 145.0 175 3.62 2.770 15.50 0 1 5 6

9 Fiat 128 32.4 4 78.7 66 4.08 2.200 19.47 1 1 4 1

10 Fiat X1-9 27.3 4 79.0 66 4.08 1.935 18.90 1 1 4 1

11 Ford Pantera L 15.8 8 351.0 264 4.22 3.170 14.50 0 1 5 4

12 Honda Civic 30.4 4 75.7 52 4.93 1.615 18.52 1 1 4 2

13 Hornet 4 Drive 21.4 6 258.0 110 3.08 3.215 19.44 1 0 3 1

14 Hornet Sportabout 18.7 8 360.0 175 3.15 3.440 17.02 0 0 3 2

15 Lincoln Continental 10.4 8 460.0 215 3.00 5.424 17.82 0 0 3 4

16 Lotus Europa 30.4 4 95.1 113 3.77 1.513 16.90 1 1 5 2

17 Maserati Bora 15.0 8 301.0 335 3.54 3.570 14.60 0 1 5 8

18 Mazda RX4 21.0 6 160.0 110 3.90 2.620 16.46 0 1 4 4

19 Mazda RX4 Wag 21.0 6 160.0 110 3.90 2.875 17.02 0 1 4 4

20 Merc 230 22.8 4 140.8 95 3.92 NA NA NA NA NA NA

21 Merc 240D 24.4 4 146.7 62 3.69 NA NA NA NA NA NA

22 Merc 280 19.2 6 167.6 123 3.92 NA NA NA NA NA NA

23 Merc 280C 17.8 6 167.6 123 3.92 NA NA NA NA NA NA

24 Merc 450SE 16.4 8 275.8 180 3.07 NA NA NA NA NA NA

25 Merc 450SL 17.3 8 275.8 180 3.07 NA NA NA NA NA NA

26 Merc 450SLC 15.2 8 275.8 180 3.07 NA NA NA NA NA NA

27 Pontiac Firebird 19.2 8 400.0 175 3.08 3.845 17.05 0 0 3 2

28 Porsche 914-2 26.0 4 120.3 91 4.43 2.140 16.70 0 1 5 2

29 Toyota Corolla 33.9 4 71.1 65 4.22 1.835 19.90 1 1 4 1

30 Toyota Corona 21.5 4 120.1 97 3.70 2.465 20.01 1 0 3 1

31 Valiant 18.1 6 225.0 105 2.76 3.460 20.22 1 0 3 1

32 Volvo 142E 21.4 4 121.0 109 4.11 2.780 18.60 1 1 4 2

> rm(b, name)

> rm(list=ls())

> 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 of psychological horror")

> rev <- data.frame(scores, sources, comments)

> shine\_list <- list(mov, act, rev)

> rm(mov, act, scores, comments, rev)

> names(shine\_list) <- list("moviename", "actors", "reviews")

> shine\_list[[2]]

[1] "Jack Nicholson" "Shelley Duvall" "Danny Lloyd" "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

> shine\_list$year <- 1980

> rm(sources)

> rm(list=ls())