practica1

2022-07-07

```
mtcars[order(mtcars$gear,mtcars$mpg),]
```

```
##                      mpg cyl  disp  hp drat    wt  qsec vs am gear carb
## 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
## Camaro Z28          13.3   8 350.0 245 3.73 3.840 15.41  0  0    3    4
## Duster 360          14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
## Chrysler Imperial   14.7   8 440.0 230 3.23 5.345 17.42  0  0    3    4
## Merc 450SLC         15.2   8 275.8 180 3.07 3.780 18.00  0  0    3    3
## AMC Javelin         15.2   8 304.0 150 3.15 3.435 17.30  0  0    3    2
## Dodge Challenger    15.5   8 318.0 150 2.76 3.520 16.87  0  0    3    2
## 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
## Valiant             18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
## Hornet Sportabout   18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
## Pontiac Firebird    19.2   8 400.0 175 3.08 3.845 17.05  0  0    3    2
## Hornet 4 Drive      21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
## Toyota Corona       21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1
## Merc 280C           17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
## Merc 280            19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
## 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
## Volvo 142E          21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2
## Datsun 710          22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
## Merc 230            22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
## Merc 240D           24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
## Fiat X1-9           27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1
## Honda Civic         30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2
## Fiat 128            32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1
## Toyota Corolla      33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1
## Maserati Bora       15.0   8 301.0 335 3.54 3.570 14.60  0  1    5    8
## 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
## 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
```

```
library(dplyr)
```

```
##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##     filter, lag

## The following objects are masked from 'package:base':
##
```

```
##     intersect, setdiff, setequal, union
```

```
arrange(.data=mtcars,mtcars$gear,mtcars$mpg)
```

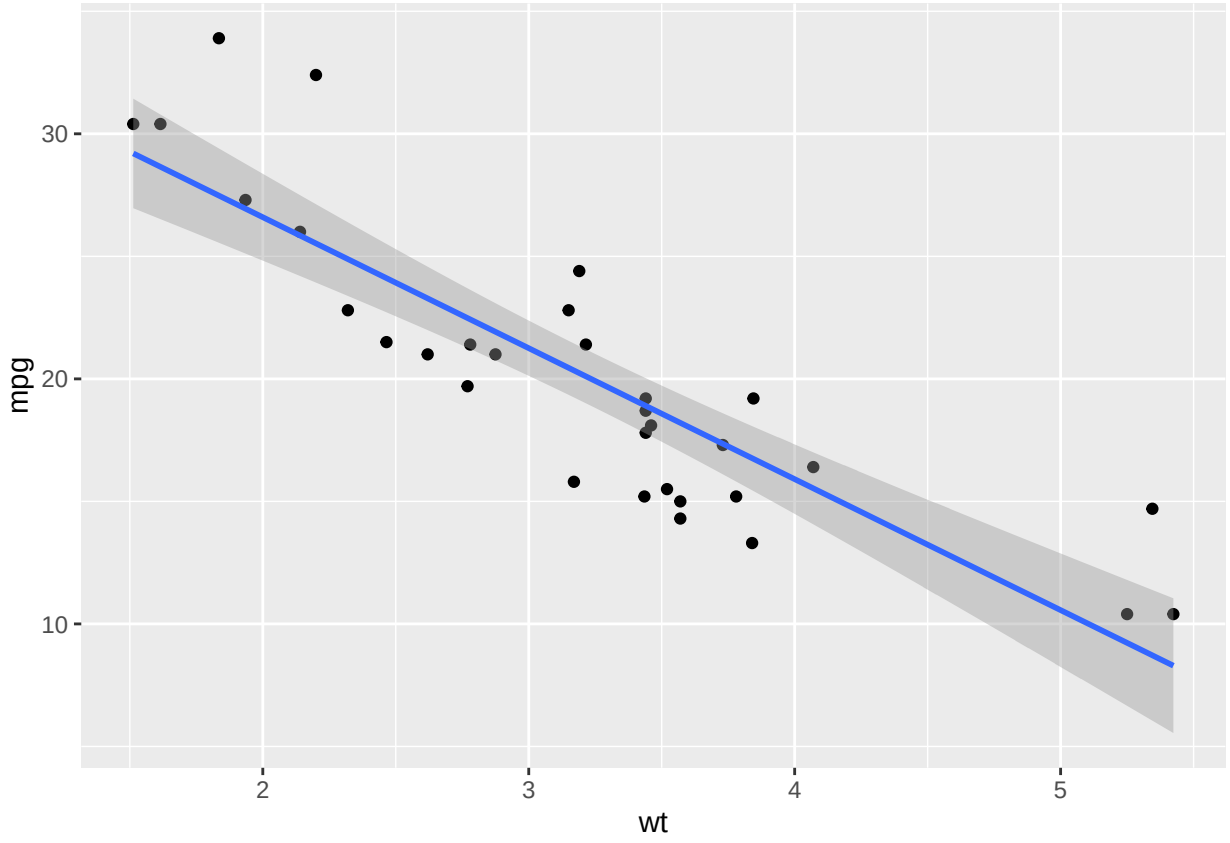
```
##                      mpg cyl  disp  hp drat    wt  qsec vs am gear carb
## Cadillac Fleetwood  10.4   8 472.0 205 2.93 5.250 17.98  0  0    3    4
## Lincoln Continental 10.4   8 460.0 215 3.00 5.424 17.82  0  0    3    4
## Camaro Z28          13.3   8 350.0 245 3.73 3.840 15.41  0  0    3    4
## Duster 360          14.3   8 360.0 245 3.21 3.570 15.84  0  0    3    4
## Chrysler Imperial   14.7   8 440.0 230 3.23 5.345 17.42  0  0    3    4
## Merc 450SLC         15.2   8 275.8 180 3.07 3.780 18.00  0  0    3    3
## AMC Javelin         15.2   8 304.0 150 3.15 3.435 17.30  0  0    3    2
## Dodge Challenger    15.5   8 318.0 150 2.76 3.520 16.87  0  0    3    2
## 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
## Valiant             18.1   6 225.0 105 2.76 3.460 20.22  1  0    3    1
## Hornet Sportabout   18.7   8 360.0 175 3.15 3.440 17.02  0  0    3    2
## Pontiac Firebird    19.2   8 400.0 175 3.08 3.845 17.05  0  0    3    2
## Hornet 4 Drive      21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1
## Toyota Corona       21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1
## Merc 280C           17.8   6 167.6 123 3.92 3.440 18.90  1  0    4    4
## Merc 280            19.2   6 167.6 123 3.92 3.440 18.30  1  0    4    4
## 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
## Volvo 142E          21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2
## Datsun 710          22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1
## Merc 230            22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2
## Merc 240D           24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2
## Fiat X1-9           27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1
## Honda Civic         30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2
## Fiat 128            32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1
## Toyota Corolla      33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1
## Maserati Bora       15.0   8 301.0 335 3.54 3.570 14.60  0  1    5    8
## 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
## 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
```

```
small_mtcars <-
mtcars %>%
arrange(gear) %>%
slice(1:10)
small_mtcars
```

```
##                      mpg cyl  disp  hp drat    wt  qsec vs am gear carb
## 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 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
```

```
library(ggplot2)
ggplot(mtcars, aes(x = wt, y = mpg)) +
geom_point() +
geom_smooth(method = lm)
```

```
## `geom_smooth()` using formula 'y ~ x'
```




```
#install.packages("pacman")
library(pacman)
```

```
## Warning: package 'pacman' was built under R version 4.2.1
```

```
p_load(ggplot2, ggthemes, dplyr, readr)
```

```
chilean_exports <- "year,product,export,percentage
2006,copper,4335009500,81
2006,others,1016726518,19
2007,copper,9005361914,86
2007,others,1523085299,14
2008,copper,6907056354,80
2008,others,1762684216,20
2009,copper,10529811075,81
2009,others,2464094241,19
2010,copper,14828284450,85
2010,others,2543015596,15
2011,copper,15291679086,82
2011,others,3447972354,18
```

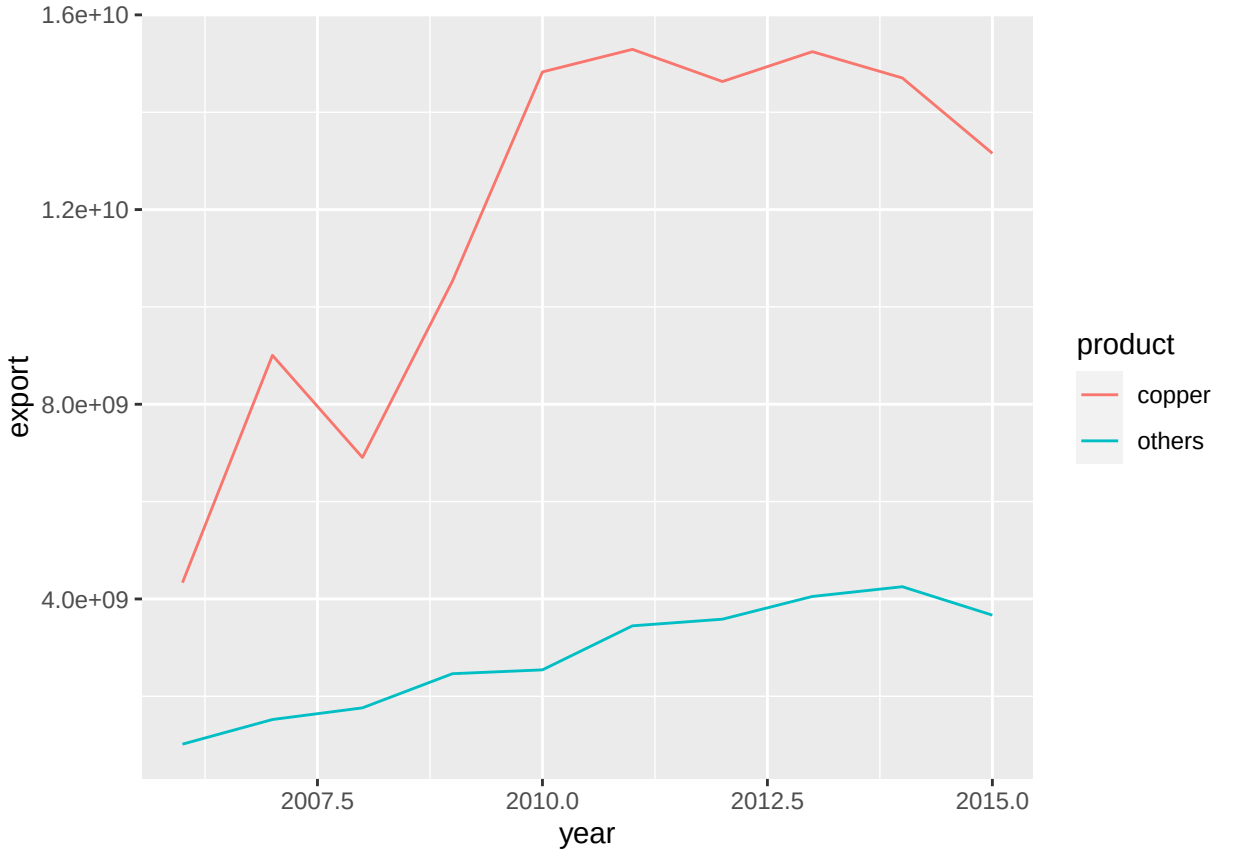
```
2012,copper,14630686732,80
2012,others,3583968218,20
2013,copper,15244038840,79
2013,others,4051281128,21
2014,copper,14703374241,78
2014,others,4251484600,22
2015,copper,13155922363,78
2015,others,3667286912,22"
exports_data <- read_csv(chilean_exports)
```

```
## Rows: 20 Columns: 4
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr (1): product
## dbl (3): year, export, percentage
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
exports_data
```

```
## # A tibble: 20 x 4
##     year product      export percentage
##    <dbl> <chr>         <dbl>      <dbl>
##  1  2006 copper   4335009500         81
##  2  2006 others   1016726518         19
##  3  2007 copper   9005361914         86
##  4  2007 others   1523085299         14
##  5  2008 copper   6907056354         80
##  6  2008 others   1762684216         20
##  7  2009 copper  10529811075         81
##  8  2009 others   2464094241         19
##  9  2010 copper  14828284450         85
## 10  2010 others   2543015596         15
## 11  2011 copper  15291679086         82
## 12  2011 others   3447972354         18
## 13  2012 copper  14630686732         80
## 14  2012 others   3583968218         20
## 15  2013 copper  15244038840         79
## 16  2013 others   4051281128         21
## 17  2014 copper  14703374241         78
## 18  2014 others   4251484600         22
## 19  2015 copper  13155922363         78
## 20  2015 others   3667286912         22
```

```
p1 <- ggplot(aes(y = export, x = year, colour = product), data = exports_data) +
geom_line()
p1
```




```
library(reticulate)
```

```
## Warning: package 'reticulate' was built under R version 4.2.1
```

```
reticulate::conda_install(packages = "numpy")
```

```
## + "C:/Users/jipm1/AppData/Local/r-miniconda/condabin/conda.bat" "install" "--yes" "--name" "r-reticul
```

```
import numpy as np
```

```
library(readxl)
CEP<-read_excel("D:/CEP_sep-oct_2017.xlsx",sheet=2)
head(CEP)
```

```
## # A tibble: 6 x 220
##   VOTACION_1 VOTACIO~1 VOTAC~2 VOTAC~3  SV_1  SV_2 MB_P1_1 MB_P1_2 MB_P1_3 MB_P2
##        <dbl>     <dbl>   <dbl>   <dbl> <dbl> <dbl>   <dbl>   <dbl>   <dbl> <dbl>
## 1         10         4       4       4     8     3       3       5       7     1
## 2          2         3       3       3    10     5      10       1       2     2
## 3          8         5       1       5    10    10      11      10       7     4
## 4          7         2       2       2     8     5       7      12       6     3
## 5          7         2       2       2     5     5      13       1      11     2
## 6          7         2       2       2     9     5      11       1       5     2
## # ... with 210 more variables: MB_P3 <dbl>, MB_P4 <dbl>, MB_P5 <dbl>,
## #   MB_P6 <dbl>, MB_P7 <dbl>, MB_P8 <dbl>, MB_P9 <dbl>, MB_P10 <dbl>,
## #   MB_P11 <dbl>, MB_P12 <dbl>, MB_P12A <dbl>, MB_P13 <dbl>, MB_P13A <dbl>,
## #   MB_P14 <dbl>, MB_P14A <dbl>, MB_P15_A <dbl>, MB_P15_B <dbl>,
## #   MB_P15_C <dbl>, MB_P15_D <dbl>, MB_P15_E <dbl>, MB_P15_F <dbl>,
```

```
## #   MB_P15_G <dbl>, MB_P15_H <dbl>, MB_P15_I <dbl>, MB_P15_J <dbl>,
## #   MB_P15_K <dbl>, MB_P15_L <dbl>, MB_P15_M <dbl>, MB_P15_N <dbl>, ...
## # i Use `colnames()` to see all variable names
```

```
library(dplyr)
CEP1=select(CEP,pond=POND,sexo=SEXO,
            region=REGION,edad=DS_P2_EXACTA,
           satisfaccion_vida=SV_1,satisfaccion_chilenos=SV_2,eval_econ=MB_P2 )
CEP1
```

```
## # A tibble: 1,424 x 7
##     pond  sexo region  edad satisfaccion_vida satisfaccion_chilenos eval_econ
##    <dbl> <dbl>  <dbl> <dbl>             <dbl>                 <dbl>     <dbl>
##  1 1.34      2     13    18                 8                     3         1
##  2 1.27      2      1    57                10                     5         2
##  3 0.605     2     14    25                10                    10         4
##  4 1.03      2     13    37                 8                     5         3
##  5 0.675     2     14    50                 5                     5         2
##  6 0.292     2      8    60                 9                     5         2
##  7 0.694     2      9    66                 9                     5         4
##  8 1.34      2     13    19                 6                     8         2
##  9 0.787     2      7    34                 6                     7         3
## 10 1.03      2     13    39                10                    10         3
## # ... with 1,414 more rows
## # i Use `print(n = ...)` to see more rows
```

```
class(CEP1$sexo)
```

```
## [1] "numeric"
```

```
table(CEP1$sexo)
```

```
##
##   1   2
## 553 871
```

```
library(dplyr)
CEP2<-mutate(CEP1, sexo_chr = dplyr::recode(CEP1$sexo, '1' = "hombre", '2' = "mujer"))
table(CEP2$sexo_chr)
```

```
##
## hombre  mujer
##    553    871
```

```
CEP3 <- mutate(CEP2, sexo_factor = factor(CEP2$sexo,
                                          labels = c("Hombre", "Mujer")))
```

```
class(CEP3$sexo_factor)
```

```
## [1] "factor"
```

```
table(CEP3$region)
```

```
##
##   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15
##  24  57  24  52 150  82  94 192  98  69   5  17 501  39  20
```

```
library(knitr)
kable(table(CEP3$region))
```

Var1	Freq
1	24
2	57
3	24
4	52
5	150
6	82
7	94
8	192
9	98
10	69
11	5
12	17
13	501
14	39
15	20

```
class(CEP3$region)
```

```
## [1] "numeric"
```

```
library(car)
```

```
## Warning: package 'car' was built under R version 4.2.1
```

```
## Loading required package: carData
```

```
## Warning: package 'carData' was built under R version 4.2.1
```

```
##
## Attaching package: 'car'
```

```
## The following object is masked from 'package:dplyr':
##
##     recode
```

```
CEP <- mutate(CEP3, region_factor = car::recode(CEP3$region, "1:12 = 1; 13 = 2; 14:15 = 1"))
```

```
class(CEP$region_factor)
```

```
## [1] "numeric"
```