T2, Segunda parte

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Exploracion de la base de datos mtcars

a) Averigue cuales son sus variables y que significan.

b) Obtenga sus estadisticas basicas

```
##       mpg             cyl             disp             hp       
##  Min.   :10.40   Min.   :4.000   Min.   : 71.1   Min.   : 52.0  
##  1st Qu.:15.43   1st Qu.:4.000   1st Qu.:120.8   1st Qu.: 96.5  
##  Median :19.20   Median :6.000   Median :196.3   Median :123.0  
##  Mean   :20.09   Mean   :6.188   Mean   :230.7   Mean   :146.7  
##  3rd Qu.:22.80   3rd Qu.:8.000   3rd Qu.:326.0   3rd Qu.:180.0  
##  Max.   :33.90   Max.   :8.000   Max.   :472.0   Max.   :335.0  
##       drat             wt             qsec             vs        
##  Min.   :2.760   Min.   :1.513   Min.   :14.50   Min.   :0.0000  
##  1st Qu.:3.080   1st Qu.:2.581   1st Qu.:16.89   1st Qu.:0.0000  
##  Median :3.695   Median :3.325   Median :17.71   Median :0.0000  
##  Mean   :3.597   Mean   :3.217   Mean   :17.85   Mean   :0.4375  
##  3rd Qu.:3.920   3rd Qu.:3.610   3rd Qu.:18.90   3rd Qu.:1.0000  
##  Max.   :4.930   Max.   :5.424   Max.   :22.90   Max.   :1.0000  
##        am              gear            carb      
##  Min.   :0.0000   Min.   :3.000   Min.   :1.000  
##  1st Qu.:0.0000   1st Qu.:3.000   1st Qu.:2.000  
##  Median :0.0000   Median :4.000   Median :2.000  
##  Mean   :0.4062   Mean   :3.688   Mean   :2.812  
##  3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:4.000  
##  Max.   :1.0000   Max.   :5.000   Max.   :8.000
```

c) Obtenga un dataframe de mtcars donde incluya las observaciones donde mpg > 19.20

```
##                  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
## 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
## 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
## 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
## Ferrari Dino   19.7   6 145.0 175 3.62 2.770 15.50  0  1    5    6
## Volvo 142E     21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2
```

d) Obtenga las estadisticas del dataframe del inciso "c)"

```
##       mpg             cyl             disp             hp       
##  Min.   :19.70   Min.   :4.000   Min.   : 71.10   Min.   : 52.00  
##  1st Qu.:21.40   1st Qu.:4.000   1st Qu.: 87.05   1st Qu.: 66.00  
##  Median :22.80   Median :4.000   Median :120.30   Median : 95.00  
##  Mean   :25.09   Mean   :4.533   Mean   :125.30   Mean   : 94.27  
##  3rd Qu.:28.85   3rd Qu.:5.000   3rd Qu.:145.85   3rd Qu.:110.00  
##  Max.   :33.90   Max.   :6.000   Max.   :258.00   Max.   :175.00  
##       drat             wt             qsec             vs        
##  Min.   :3.080   Min.   :1.513   Min.   :15.50   Min.   :0.0000  
##  1st Qu.:3.735   1st Qu.:2.038   1st Qu.:16.96   1st Qu.:0.5000  
##  Median :3.900   Median :2.465   Median :18.61   Median :1.0000  
##  Mean   :3.952   Mean   :2.442   Mean   :18.60   Mean   :0.7333  
##  3rd Qu.:4.095   3rd Qu.:2.828   3rd Qu.:19.68   3rd Qu.:1.0000  
##  Max.   :4.930   Max.   :3.215   Max.   :22.90   Max.   :1.0000  
##        am              gear            carb      
##  Min.   :0.0000   Min.   :3.000   Min.   :1.000  
##  1st Qu.:0.5000   1st Qu.:4.000   1st Qu.:1.000  
##  Median :1.0000   Median :4.000   Median :2.000  
##  Mean   :0.7333   Mean   :4.067   Mean   :2.133  
##  3rd Qu.:1.0000   3rd Qu.:4.000   3rd Qu.:2.000  
##  Max.   :1.0000   Max.   :5.000   Max.   :6.000
```

e) Al dataframe del inciso c), agregue una nueva variable donde todos los valores sean igual a "Mexico"

```
##                 mpg cyl  disp  hp drat    wt  qsec vs am gear carb "Mexico"
## Mazda RX4      21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4   Mexico
## Mazda RX4 Wag  21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4   Mexico
## Datsun 710     22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1   Mexico
## Hornet 4 Drive 21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1   Mexico
## Merc 240D      24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2   Mexico
## Merc 230       22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2   Mexico
## Fiat 128       32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1   Mexico
## Honda Civic    30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2   Mexico
## Toyota Corolla 33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1   Mexico
## Toyota Corona  21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1   Mexico
## Fiat X1-9      27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1   Mexico
## Porsche 914-2  26.0   4 120.3  91 4.43 2.140 16.70  0  1    5    2   Mexico
## Lotus Europa   30.4   4  95.1 113 3.77 1.513 16.90  1  1    5    2   Mexico
## Ferrari Dino   19.7   6 145.0 175 3.62 2.770 15.50  0  1    5    6   Mexico
## Volvo 142E     21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2   Mexico
```

f) Usando el dataframe del inciso "c)", sume el numero 2 a todos los valores de la variable hp

```
##  [1] 112 112  95 112  64  97  68  54  67  99  68  93 115 177 111
```

```
##                  mpg cyl  disp  hp drat    wt  qsec vs am gear carb mfil2
## Mazda RX4       21.0   6 160.0 110 3.90 2.620 16.46  0  1    4    4   112
## Mazda RX4 Wag   21.0   6 160.0 110 3.90 2.875 17.02  0  1    4    4   112
## Datsun 710      22.8   4 108.0  93 3.85 2.320 18.61  1  1    4    1    95
## Hornet 4 Drive 21.4   6 258.0 110 3.08 3.215 19.44  1  0    3    1   112
## Merc 240D       24.4   4 146.7  62 3.69 3.190 20.00  1  0    4    2    64
## Merc 230        22.8   4 140.8  95 3.92 3.150 22.90  1  0    4    2    97
## Fiat 128        32.4   4  78.7  66 4.08 2.200 19.47  1  1    4    1    68
## Honda Civic     30.4   4  75.7  52 4.93 1.615 18.52  1  1    4    2    54
## Toyota Corolla 33.9   4  71.1  65 4.22 1.835 19.90  1  1    4    1    67
## Toyota Corona   21.5   4 120.1  97 3.70 2.465 20.01  1  0    3    1    99
## Fiat X1-9       27.3   4  79.0  66 4.08 1.935 18.90  1  1    4    1    68
## Porsche 914-2   26.0   4 120.3  91 4.43 2.140 16.70  0  1    5    2    93
## Lotus Europa    30.4   4  95.1 113 3.77 1.513 16.90  1  1    5    2   115
## Ferrari Dino    19.7   6 145.0 175 3.62 2.770 15.50  0  1    5    6   177
## Volvo 142E      21.4   4 121.0 109 4.11 2.780 18.60  1  1    4    2   111
```

g) Compruebe que efectivamente, la diferencia entre las variables hp y “hp que se le sumo 2”, es efectivamente 2

```
##  [1] 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
```