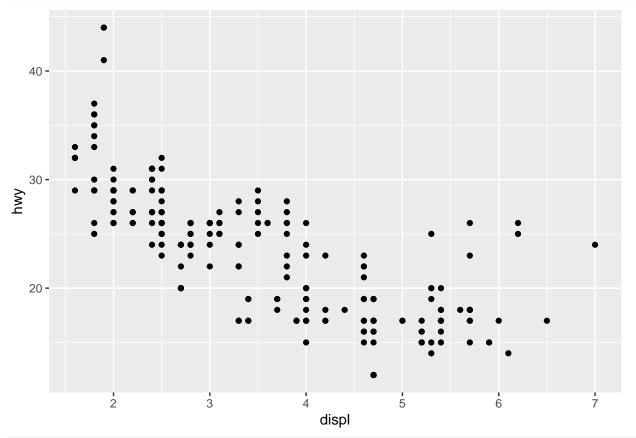# Cap2

```r
#VERIFICAR SE O PACOTE ESTÁ CARREGADO
pacotesRequisitados = c("tidyverse", "dplyr")
for(p in pacotesRequisitados){
  if(!require(
    p, character.only = TRUE
  ))
    install.packages(p)
  library(p,character.only = TRUE)
}
```

```
## Carregando pacotes exigidos: tidyverse

## -- Attaching core tidyverse packages ----------------------- tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.4
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.4.4     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.0
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```r
#basic programming

1/200*30
```

```
## [1] 0.15
```

```r
(59+73+2)/3
```

```
## [1] 44.66667
```

```r
sin(pi/2)
```

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

```r
x <- 3*4
#alt - <-
x
```

```
## [1] 12
```

```r
esteÉUmNomeMuitoLongo <- 2.5


r_rocks <- 2^3
r_rocks
```

```
## [1] 8
```

```r
ggplot(data = mpg) +
  geom_point(mapping = aes(
```

```
    x = displ, y = hwy
  ))
```



```
filter(mpg, cyl == 8)
```

```
## # A tibble: 70 x 11
##    manufacturer model      displ  year  cyl trans  drv     cty   hwy fl    class
##    <chr>        <chr>      <dbl> <int> <int> <chr>  <chr> <int> <int> <chr> <chr>
##  1 audi         a6 quattro   4.2  2008     8 auto~  4        16    23 p     mids~
##  2 chevrolet    c1500 sub~   5.3  2008     8 auto~  r        14    20 r     suv
##  3 chevrolet    c1500 sub~   5.3  2008     8 auto~  r        11    15 e     suv
##  4 chevrolet    c1500 sub~   5.3  2008     8 auto~  r        14    20 r     suv
##  5 chevrolet    c1500 sub~   5.7  1999     8 auto~  r        13    17 r     suv
##  6 chevrolet    c1500 sub~   6    2008     8 auto~  r        12    17 r     suv
##  7 chevrolet    corvette     5.7  1999     8 manu~  r        16    26 p     2sea~
##  8 chevrolet    corvette     5.7  1999     8 auto~  r        15    23 p     2sea~
##  9 chevrolet    corvette     6.2  2008     8 manu~  r        16    26 p     2sea~
## 10 chevrolet    corvette     6.2  2008     8 auto~  r        15    25 p     2sea~
## # i 60 more rows
```

```
#filter(diadond, carat >3)
```