Across platforms for data manipulation

Sample dataset: mtcars (it already exists in the R installation)

```
mtcars <- data(mtcars)
```

Goal: Arrange the dataset in descending order of horse power, select the observations with more than 4 cylinders (> 4, not >= 4), exclude the "vs" column, create a new column where you convert miles per gallon to km per litre (multiply miles per gallon by 0.354) and group observations by transmission type (automatic = 0, manual = 1)

$ + [] + which()

```
cars.ord <- mtcars[order(-mtcars$hp),]
cars.4 <- cars.ord[which(cars.ord$cyl > 4),]
cars.lc <- subset(cars.4, select = -vs)
cars.mc <- cbind(cars.lc, kml = cars.lc$mpg*0.354)
mean(cars.mc$mpg[which(cars.mc$am == 0)])
sd(cars.mc$mpg[which(cars.mc$am == 0)])
mean(cars.mc$mpg[which(cars.mc$am == 1)])
sd(cars.mc$mpg[which(cars.mc$am == 1)])
[1] 16.06875
[1] 3.08193
[1] 18.5
[1]  2.893095
```

with() + [] + subset()

```
cars.ord <- with(mtcars, mtcars[order(-hp),])
cars.4 <- subset(cars.ord, cyl > 4)
cars.lc <- subset(cars.4, select = -vs)
cars.mc <- with(cars.lc, cbind(cars.lc, kml = mpg*0.354))
with(cars.mc, aggregate(mpg, by = list(am), FUN = mean))
with(cars.mc, aggregate(mpg, by = list(am), FUN = sd))
  Group.1        x
1       0 16.06875
2       1 18.50000

  Group.1        x
1       0 3.081930
2       1 2.893095
```

%>% + {dplyr}

```
mtcars %>%
    arrange(desc(hp)) %>%
    filter(cyl > 4) %>%
    select(-vs) %>%
    mutate(kml = mpg*0.354) %>%
    group_by(am) %>%
    summarise(mpg.m = mean(mpg), mpg.sd = sd(mpg))
# A tibble: 2 x 3
     am mpg.m mpg.sd
  <dbl> <dbl>  <dbl>
1  0     16.1   3.08
2  1.00  18.5   2.89
```