exercicio\_2.R

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library(data.table)  
library(dplyr)

##   
## Attaching package: 'dplyr'

## The following objects are masked from 'package:data.table':  
##   
## between, first, last

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

## The following objects are masked from 'package:base':  
##   
## intersect, setdiff, setequal, union

library(psych)  
  
base <- fread(input = paste0('mobile.csv'), header = T, na.strings = "NA", data.table = FALSE, dec = '.')  
amostra <- base[sample(nrow(base), size = 400),]  
  
amostra$price\_range <- recode(amostra$price\_range, `0`='0:BAIXO', `1`='1:MEDIO', `2`='2:CARO', `3`='3:MUITO-CARO')  
  
# cálculos da variável “battery\_power”  
summary(amostra$battery\_power) # média, mediana, percentil 25 e 75, mínimo e máximo

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 503.0 851.8 1244.5 1243.1 1617.0 1996.0

quantile(amostra$battery\_power, probs = 0.05) # percentil 5

## 5%   
## 573.75

quantile(amostra$battery\_power, probs = 0.95) # percentil 95

## 95%   
## 1926.1

# cálculos da variável “ram”  
summary(amostra$ram) # média, mediana, percentil 25 e 75, mínimo e máximo

## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 265 1108 2076 2101 3032 3998

quantile(amostra$ram, probs = 0.05) # percentil 5

## 5%   
## 466.35

quantile(amostra$ram, probs = 0.95) # percentil 95

## 95%   
## 3846.25

# cálculos da variável “battery\_power” categorizados por “price\_range”  
by(amostra$battery\_power, amostra$price\_range, summary)

## amostra$price\_range: 0:BAIXO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 503 825 1100 1162 1547 1994   
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 507 842 1254 1234 1600 1995   
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 503.0 871.2 1310.5 1272.4 1688.2 1996.0   
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 612.0 896.8 1323.5 1323.5 1727.0 1961.0

by(amostra$battery\_power, amostra$price\_range, quantile, probs = 0.05)

## amostra$price\_range: 0:BAIXO  
## [1] 535.2  
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## [1] 544.8  
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## [1] 615.5  
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## [1] 722.6

by(amostra$battery\_power, amostra$price\_range, quantile, probs = 0.95)

## amostra$price\_range: 0:BAIXO  
## [1] 1841.2  
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## [1] 1928.8  
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## [1] 1906  
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## [1] 1952.6

# cálculos da variável “ram” categorizados por “price\_range”  
by(amostra$ram, amostra$price\_range, summary)

## amostra$price\_range: 0:BAIXO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 294.0 489.0 690.0 728.5 905.0 1459.0   
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 265 1078 1587 1511 1903 2651   
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 1513 2572 3002 3002 3488 3998   
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## Min. 1st Qu. Median Mean 3rd Qu. Max.   
## 2355 3166 3458 3421 3624 3990

by(amostra$ram, amostra$price\_range, quantile, probs = 0.05)

## amostra$price\_range: 0:BAIXO  
## [1] 315.8  
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## [1] 531.6  
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## [1] 1965.5  
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## [1] 2839.9

by(amostra$ram, amostra$price\_range, quantile, probs = 0.95)

## amostra$price\_range: 0:BAIXO  
## [1] 1358.4  
## ------------------------------------------------------------   
## amostra$price\_range: 1:MEDIO  
## [1] 2359  
## ------------------------------------------------------------   
## amostra$price\_range: 2:CARO  
## [1] 3940.25  
## ------------------------------------------------------------   
## amostra$price\_range: 3:MUITO-CARO  
## [1] 3972.6