Lista 2: Fundamentos Estatísticos para Ciência dos Dados

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1.
```
gMean=function(x){
          L <- length(x)
          p <- prod(x)
          if(any(x<0))
                    warning("Valor(es) negativo(s) no vetor")
          return(p^(1/L))
}
```

2.
   - $x < -apply(data, 2, gMean)$
   - $stdDev < -apply(data, 2, sd)$
   - $s < -apply(data, 1, sum)$
   - $which(data\$X.1 > 3\&data\$X.20 < 3)$
     Apareceram 102 linhas
   - $colnames(data) < -paste("Var", 1 : 25, sep =)$

3.
   - $boxplot(iris\$Sepal.Length, iris\$Sepal.Width, iris\$Petal.Length, iris\$Petal.Width,$
   -
```
par(mfrow=c(2,2))
boxplot(Sepal.Length ~ Species,data = iris)
boxplot(Sepal.Width ~ Species,data = iris)
boxplot(Petal.Length ~ Species,data = iris)
boxplot(Petal.Width ~ Species,data = iris

par(mfrow=c(2,3))
hist(iris\$Sepal.Length)
hist(iris\$Sepal.Width)
hist(iris\$Petal.Length)
hist(iris\$Petal.Wis)
hist(iris\$Petal.Width)
```

4.
   -
   -
```
m<-apply(attitude,2,mean)
m
     rating  complaints  privileges    learning
raises     critical     advance
   64.63333    66.60000    53.13333    56.36667    64.63333
74.76667    42.93333

cut(attitude$complaints,breaks = c(0,60,80,100), labels = c("b
 [1] bad  okay okay okay okay bad  okay okay good okay bad
bad  okay good okay good good bad  okay bad  bad
okay
[23] okay bad  bad  okay okay bad  good good
Levels: bad okay good
```

- ```
  x<-cut(attitude$complaints,breaks = c(0,60,80,100), labels = c("bad",
  boxplot(rating ~ x,data=attitude)
  ```

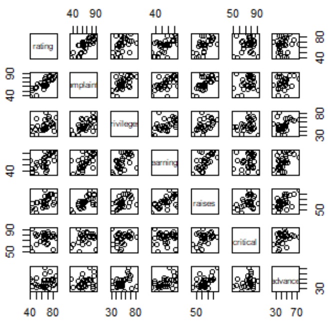

Figura 1: plot(attitude)
  ```

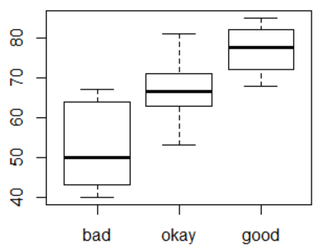

Figura 2: rating x complaints