Assignment 01

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## Discriptive statistics

The data reviewed in this article is taken from the Brazillian Institute of Geography and Statistics (IBGE), and contains data from the Agriculture Census of 2017, the subject choosen was the production of milk for each city in the state of Pernambuco. Below, are the discriptive data from the choosen dataset:

summary(data)

## city n\_heads n\_milk\_cows l\_prod\_milk   
## Length:71 Min. : 318 Min. : 26.0 Min. : 14.0   
## Class :character 1st Qu.: 5290 1st Qu.: 386.2 1st Qu.: 657.5   
## Mode :character Median : 7288 Median : 781.5 Median : 1379.0   
## Mean : 9942 Mean : 1967.7 Mean : 5643.8   
## 3rd Qu.:11632 3rd Qu.: 2160.8 3rd Qu.: 4540.2   
## Max. :38415 Max. :11528.0 Max. :42042.0   
## NA's :1 NA's :1   
## n\_settlements n\_rep\_heads a\_pasture l\_prod\_milk/cow   
## Min. : 25.0 Min. : 88 Min. : 414.8 Min. : 274.1   
## 1st Qu.: 405.0 1st Qu.: 1096 1st Qu.: 3852.3 1st Qu.:1409.1   
## Median : 734.0 Median : 1735 Median : 7171.3 Median :1810.8   
## Mean : 824.3 Mean : 3049 Mean : 9251.0 Mean :2098.4   
## 3rd Qu.:1039.0 3rd Qu.: 3678 3rd Qu.:10277.1 3rd Qu.:2667.8   
## Max. :3217.0 Max. :15924 Max. :36697.7 Max. :9147.0   
## NA's :1   
## n\_heads/a   
## Min. :0.370   
## 1st Qu.:0.935   
## Median :1.150   
## Mean :1.231   
## 3rd Qu.:1.570   
## Max. :2.540   
##

The variable “city” indexes the data for each following variable, “n\_heads” tells the amount of head of cattle in the municipality, “n\_milk\_cows” is for the number of cows used to extract milk, “l\_prod\_milk” shows the production of milk in the city in liters, “n\_settlements” is for the number of settlements that part or all production is destined for milk production, “n\_rep\_heads” shows the number of cattle destined to reproduction (2 or more years of age), “a\_pasture” is for the number of the total area destined for pasture in the cities (hectare), “l\_prod\_milk/cow” shows the production of milk per cow (in liters), and finally, “n\_heads/a” shows the number of cattle heads per area of pasture.

## Boxplot of the data

pivot\_longer(data, cols =-city) %>%  
ggplot(., aes(y =value, x =name, fill =name)) + geom\_boxplot() +  
 custom\_theme() + labs(x ="", y ="", fill ="Variable") +  
 theme(axis.text.x =element\_blank())

## Warning: Removed 3 rows containing non-finite values (stat\_boxplot).

