Assignment 7.1

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| #7.1 |
|  | #1)Histogram for all variables in a dataset mtcars. Write a program to create histograms for all columns. |
|  | library(reshape2) |
|  | head(melt(mtcars)) |
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|  | library(ggplot2) |
|  | ggplot(data = melt(mtcars), mapping = aes(x = value)) + |
|  | geom\_histogram(bins = 10) + facet\_wrap(~variable, scales = 'free\_x') |
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|  | ###### OR |
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|  | install.packages("purrr") |
|  | install.packages("tidyr") |
|  | library(purrr) |
|  | library(tidyr) |
|  | library(ggplot2) |
|  |  |
|  | mtcars %>% |
|  | keep(is.numeric) %>% |
|  | gather() %>% |
|  | ggplot(aes(value)) + |
|  | facet\_wrap(~ key,scales = "free") + |
|  | geom\_histogram() |
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|  |  |
|  | #or it can be done individually |
|  | #Histogram for all variables in a dataset mtcars |
|  | hist(mtcars$mpg ,xlab = "Mpg", ylab = "Frequency",main="Histogram of Mpg",col="red") |
|  | hist(mtcars$cyl ,xlab = "cyl", ylab = "Frequency",main="Histogram of cyl",col="blue") |
|  | hist(mtcars$disp ,xlab = "disp", ylab = "Frequency",main="Histogram of disp",col="yellow") |
|  | hist(mtcars$hp ,xlab = "hp", ylab = "Frequency",main="Histogram of hp",col="darkblue") |
|  | hist(mtcars$drat ,xlab = "drat", ylab = "Frequency",main="Histogram of drat",col="pink") |
|  | hist(mtcars$wt ,xlab = "wt", ylab = "Frequency",main="Histogram of wt",col="purple") |
|  | hist(mtcars$qsec ,xlab = "qsec", ylab = "Frequency",main="Histogram of qsec",col="blue") |
|  | hist(mtcars$vs ,xlab = "vs", ylab = "Frequency",main="Histogram of vs",col="green") |
|  | hist(mtcars$am ,xlab = "am", ylab = "Frequency",main="Histogram of am",col="grey") |
|  | hist(mtcars$gear ,xlab = "gear", ylab = "Frequency",main="Histogram of gear",col="blue") |
|  | hist(mtcars$carb ,xlab = "carb", ylab = "Frequency",main="Histogram of carb",col="red") |
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|  | #2)Check the probability distribution of all variables in mtcars |
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|  | library(ggplot2) |
|  |  |
|  | mtcars %>% |
|  | keep(is.numeric) %>% |
|  | gather() %>% |
|  | ggplot(aes(value)) + |
|  | facet\_wrap(~ key,scales = "free") + |
|  | stat\_density() |
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|  |  |
|  | #we can do using geom\_density function |
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|  | #or alternate way |
|  | #or just do freq=FALSE and get the Probability Distribution/Density of our variables |
|  | hist(mtcars$mpg ,freq = F,xlab = "Mpg", ylab = "Probability Distribution/Density",main="Histogram of Mpg",col="red") |
|  | hist(mtcars$cyl ,freq = F,xlab = "cyl", ylab = "Probability Distribution/Density",main="Histogram of cyl",col="blue") |
|  | hist(mtcars$disp ,freq = F,xlab = "disp", ylab = "Probability Distribution/Density",main="Histogram of disp",col="yellow") |
|  | hist(mtcars$hp ,freq = F,xlab = "hp", ylab = "Probability Distribution/Density",main="Histogram of hp",col="darkblue") |
|  | hist(mtcars$drat ,freq = F,xlab = "drat", ylab = "Probability Distribution/Density",main="Histogram of drat",col="pink") |
|  | hist(mtcars$wt ,freq = F,xlab = "wt", ylab = "Probability Distribution/Density",main="Histogram of wt",col="purple") |
|  | hist(mtcars$qsec ,freq = F,xlab = "qsec", ylab = "Probability Distribution/Density",main="Histogram of qsec",col="blue") |
|  | hist(mtcars$vs ,freq = F,xlab = "vs", ylab = "Probability Distribution/Density",main="Histogram of vs",col="green") |
|  | hist(mtcars$am ,freq = F,xlab = "am", ylab = "Probability Distribution/Density",main="Histogram of am",col="grey") |
|  | hist(mtcars$gear ,freq = F,xlab = "gear", ylab = "Probability Distribution/Density",main="Histogram of gear",col="blue") |
|  | hist(mtcars$carb ,freq = F,xlab = "carb", ylab = "Probability Distribution/Density",main="Histogram of carb",col="red") |
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|  | #Problem 3 |
|  | #3. Write a program to create boxplot for all variables. |
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|  | library(ggplot2) |
|  | library(reshape) |
|  | m1 <- melt(mtcars) |
|  | ggplot(m1,aes(x = variable,y = value)) + facet\_wrap(~variable) + geom\_boxplot() |
|  |  |
|  |  |
|  | #or it can be done individually |
|  |  |
|  | boxplot(mtcars$mpg ,xlab = "Box plot", ylab = "Mpg",main="Box plot of Mpg",horizontal = T,col="red") |
|  | boxplot(mtcars$cyl ,xlab = "Box plot", ylab = "cyl",main="Box plot of cyl",horizontal = T,col="blue") |
|  | boxplot(mtcars$disp ,xlab = "Box plot", ylab = "disp",main="Box plot of disp",horizontal = T,col="yellow") |
|  | boxplot(mtcars$hp ,xlab = "Box plot", ylab = "hp",main="Box plot of hp",horizontal = T,col="darkblue") |
|  | boxplot(mtcars$drat ,xlab = "Box plot", ylab = "drat",main="Box plot of drat",horizontal = T,col="pink") |
|  | boxplot(mtcars$wt ,xlab = "Box plot", ylab = "wt",main="Box plot of wt",horizontal = T,col="purple") |
|  | boxplot(mtcars$qsec ,xlab = "Box plot", ylab = "qsec",main="Box plot of qsec",horizontal = T,col="blue") |
|  | boxplot(mtcars$vs ,xlab = "Box plot", ylab = "vs",main="Box plot of vs",horizontal = T,col="green") |
|  | boxplot(mtcars$am ,xlab = "Box plot", ylab = "am",main="Box plot of am",horizontal = T,col="grey") |
|  | boxplot(mtcars$gear ,xlab = "Box plot", ylab = "gear",main="Box plot of gear",horizontal = T,col="blue") |
|  | boxplot(mtcars$carb ,xlab = "Box plot", ylab = "carb",main="Box plot of carb",horizontal = T,col="red") |
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