1) Downloading R and R Studio

2) Installing the Packages in R

3) Four Window Panes of R

4) Importing the data into R

5) Attach command

6) Working in inbuilt dataframe of R

#Descriptive Statistics in R

mtcars

attach(mtcars)

apply(mtcars,2,mean)

apply(mtcars,2,median)

apply(mtcars,2,mode)

aggregate(mpg~am, FUN=mean)

aggregate(mpg~am, FUN=median)

aggregate(mpg~am, FUN=sd)

aggregate(mpg~am + vs, FUN=mean)

summary(mtcars)

library(psych)

describeBy(mpg,am)

library(stargazer)

stargazer(mtcars, type= "text" , title= "Descriptive Statistics", digits=1)

stargazer(mtcars, type= "text" , title= "Descriptive Statistics", digits=1, flip=TRUE)

library(summarytools)

library(ellipsis)

summarytools::descr(mtcars)

summarytools::freq(am)

summarytools::ctable(am,vs)

summarytools::dfSummary(mtcars)

#Graphical Representation of the Data

library(lattice)

Orange

attach(Orange)

densityplot(~circumference)

tree.f<-factor(Tree,levels=c(1,2,3,4,5),labels=c("1Tree","2Tree", "3Tree","4Tree","5Tree"))

bwplot(~age|tree.f)

dotplot(age~circumference|tree.f)

barchart(circumference~tree.f)

levelplot(tree.f~circumference\*age)

cloud(age~circumference\*Tree|tree.f)

library(DataExplorer)

plot\_histogram(mtcars)

#Dashboards in R

library(esquisse)

esquisse::esquisser(mtcars)

CO2

#Inferential Statistics in R

# Performs one sample t test (two tailed)

# HO: Mean is 30

# H1: Mean is not equal to 30

attach(CO2)

t.test(uptake, mu=30)

# Performs one sample t test (one tailed)

# HO: Mean is 30

# H1: Mean is less than 30

t.test(uptake, mu=30, alternative = "less", conf.level=0.95)

# Performs independent sample t test for equal variances

# HO: mean uptake of CO2 of Quebec = mean uptake of CO2 of Mississippi

# H1: mean uptake of CO2 of Quebec ≠ mean uptake of CO2 of Mississippi

# assume equal variances

t.test(uptake~Type, mu=0, alt='two.sided', conf=0.95, paired=FALSE)

# Performs dependent sample t test for equal variances

# HO: mean uptake of CO2 before chilling = mean uptake of CO2 of after chilling

# H1: mean uptake of CO2 before chilling ≠ mean uptake of after chilling

# assume equal variances

t.test(uptake~Treatment, mu=0, alt='two.sided', conf=0.95, paired=TRUE)

#import electricity

attach(electricity)

fit<-aov(consumption~city)

summary(fit)

tapply(consumption, city, mean)

TukeyHSD(fit)

plot(TukeyHSD(fit))

fit1<-aov(consumption~city\*status)

TukeyHSD(fit1)

plot(TukeyHSD(fit1))

7) Rcommander

8) Output Generation