Graded lab 2

**LOADING FILE**

rm(list = ls())

setwd("/BME/Sem 2/Biostat/Class8")

pathname<-"C:/BME/Sem 2/Biostat/Class8"

f<-read.csv("C:/BME/Sem 2/Biostat/Class8/input.csv")

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Description automatically generated

**INSPECT AND DESCRIBE THE DATASET AND THE INCLUDED PARAMETERS**

library(dplyr)

library(plyr)

library(Rmisc)

f<-read.csv("input.csv")

head(f)

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The file has information on patient age, gender, ID and most importantly information on systolic and diastolic blood pressure. The summary of the data is –

summary(f)

A close up of text on a white background

Description automatically generated

**what are the confidence intervals in the overall population, males (coded as '1') and females (coded as '2')?**

The 95 % conﬁdence interval for the overall population can be calculated for SBP as

CI(f$SBP, ci=0.95)

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The 95 % conﬁdence interval for the overall population can be calculated for DBP as

CI(f$DBP, ci=0.95)

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**TEST**

male<-f[which(f$gender==1),]

female<-f[which(f$gender==2),]

**COMPARE MALES AND FEMALES IN TERMS BLOOD PRESSURES FROM THE BLOOD PRESSURE OF 120/80 MMHG (SBP/DBP) – ARE THEY SIGNIFICANTLY DIFFERENT?**

**Comparing SBP for male and female**

Null hypothesis:

There is No signiﬁcant diﬀerence in the blood pressure between male and female.

2-sided t test applied-

t.test(male$SBP,female$SBP)

A picture containing bird

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Conclusion-

The result shows that the SBP is significantly diﬀerent between male and female

**COMPARING DBP FOR MALE AND FEMALE**

Null hypothesis:

There is No signiﬁcant diﬀerence in the blood pressure between male and female.

2-sided t test applied-

t.test(male$DBP,female$DBP)

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Conclusion-

The result shows that the DBP is significantly diﬀerent between male and female.

**Compare the blood pressures in those older than 60 (males and females separately) from the blood pressure of 120/80 mmHg (SBP/DBP) – do they significantly differ in these sample populations?**

First creating datasets

male\_older\_60<-male[which(male$age>60),]

male\_younger\_60<-male[which(male$age<=60),]

female\_older\_60<-female[which(female$age>60),]

female\_younger\_60<-female[which(female$age<=60),]

**SBP in male**

**Null hypothesis:**

There is no signiﬁcant diﬀerence in the blood pressure between male greater than 60 and younger.

2 sided t-test applied

t.test(male\_older\_60$SBP,male\_younger\_60$SBP)

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Result

There is a signiﬁcant diﬀerence in the blood pressure between male greater than 60 and younger.

**DBP in male**

Null hypothesis:

There is no signiﬁcant diﬀerence in the blood pressure between male greater than 60 and younger.

2 sided t-test applied

t.test(male\_older\_60$DBP,male\_younger\_60$DBP)

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Result

There is signiﬁcant diﬀerence in the blood pressure between male greater than 60 and younger.

**SBP in female**

Null hypothesis:

There is no signiﬁcant diﬀerence in the blood pressure between female greater than 60 and younger.

2 sided t-test applied

t.test(female\_older\_60$SBP,female\_younger\_60$SBP)

A screenshot of a cell phone

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Result

There is signiﬁcant diﬀerence in the blood pressure between female greater than 60 and younger

**DBP in female**

Null hypothesis:

There is no signiﬁcant diﬀerence in the blood pressure between female greater than 60 and younger.

2 sided t-test applied

t.test(female\_older\_60$DBP,female\_younger\_60$DBP)

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Result

There is signiﬁcant diﬀerence in the blood pressure between female greater than 60 and younger