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Computation Statistic – Class Q

Quiz – 17/3/2022

> #Number 1

> darr <- read.csv("C:/Users/darre/Documents/R/CompStat/quiz.csv",sep=";")

> darr

Year interest\_rate home\_price

1 1988 10,3 183800

2 1989 10,3 183200

3 1990 10,1 174900

4 1991 9,3 173500

5 1992 8,4 172900

6 1993 7,3 173200

7 1994 8,4 173200

8 1995 7,9 169700

9 1996 7,6 174500

10 1997 7,6 177900

11 1998 6,9 188100

12 1999 7,4 203200

13 2000 8,1 230200

14 2001 7,5 258200

15 2002 6,5 309800

16 2003 5,8 329800

> #Number 2

> attach(data)

> attach(darr)

The following object is masked \_by\_ .GlobalEnv:

interest\_rate

> n <- length(darr)

> for(i in 1:n){

+ if(interest\_rate > 9){

+ }}

Warning messages:

1: In if (interest\_rate > 9) { :

the condition has length > 1 and only the first element will be used

2: In if (interest\_rate > 9) { :

the condition has length > 1 and only the first element will be used

3: In if (interest\_rate > 9) { :

the condition has length > 1 and only the first element will be used

> for(i in 1:n){

+ if(interest\_rate[i] > 9){

+ print(darr[i,1])

+ }

+ }

[1] 1988

[1] 1989

[1] 1990

> n <- length(interest\_rate)

> for(i in 1:n){

+ if(interest\_rate[i] > 9){

+ print(darr[i,1])}}

[1] 1988

[1] 1989

[1] 1990

[1] 1991

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

Error in source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt") :

C:\Users\darre\Documents\R\CompStat\quiz\_no3.txt:7:15: unexpected ','

6: for(i in 1:n){

7: if(data[i] > 7,

^

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

Error in source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt") :

C:\Users\darre\Documents\R\CompStat\quiz\_no3.txt:19:0: unexpected end of input

17: result = as.data.frame(cbind(data,category))

18: list(result = result)

^

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

Error in source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt") :

C:\Users\darre\Documents\R\CompStat\quiz\_no3.txt:19:1: unexpected ')'

18: list(result = result)

19: )

^

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

> coding(interest\_rate)

$result

data V2 V3 V4 V5 V6 V7 V8 V9 V10 V11 V12 V13 V14 V15 V16

1 10.3 high high high high high low high high high high low low high low low

V17

1 low

Warning message:

In cbind(data, category) :

number of rows of result is not a multiple of vector length (arg 1)

> #number 1

> darr <- read.csv("C:/Users/darre/Documents/R/CompStat/quiz.csv",sep=";")

> darr

Year interest\_rate home\_price

1 1988 10.3 183800

2 1989 10.3 183200

3 1990 10.1 174900

4 1991 9.3 173500

5 1992 8.4 172900

6 1993 7.3 173200

7 1994 8.4 173200

8 1995 7.9 169700

9 1996 7.6 174500

10 1997 7.6 177900

11 1998 6.9 188100

12 1999 7.4 203200

13 2000 8.1 230200

14 2001 7.5 258200

15 2002 6.5 309800

16 2003 5.8 329800

> #Number 2

> > n <- length(interest\_rate)

Error: unexpected '>' in ">"

> > for(i in 1:n){

Error: unexpected '>' in ">"

> + if(interest\_rate[i] > 9){

+ + print(darr[i,1])}}

Error: unexpected '}' in:

"+ if(interest\_rate[i] > 9){

+ print(darr[i,1])}}"

> attach(data)

The following objects are masked from data (pos = 4):

berat, ï..usia, JK

> attach(darr)

The following object is masked \_by\_ .GlobalEnv:

interest\_rate

The following objects are masked from darr (pos = 4):

home\_price, interest\_rate, Year

> > n <- length(interest\_rate)

Error: unexpected '>' in ">"

> > for(i in 1:n){

Error: unexpected '>' in ">"

> + if(interest\_rate[i] > 9){

+ + print(darr[i,1])}}

Error: unexpected '}' in:

"+ if(interest\_rate[i] > 9){

+ print(darr[i,1])}}"

> n <- length(interest\_rate)

> for(i in 1:n)

+ {

+ if(interest\_rate[i]>9){

+ print(darr[i,1]}

Error: unexpected '}' in:

"if(interest\_rate[i]>9){

print(darr[i,1]}"

> n <- length(interest\_rate)

> for(i in 1:n){

+ if(interest\_rate[i]>9){

+ print(darr[i,1])}}

[1] 1988

[1] 1989

[1] 1990

[1] 1991

> #number 3

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

> coding(interest\_rate)

$result

data V2 V3 V4 V5 V6 V7 V8 V9 V10 V11 V12 V13 V14 V15 V16

1 10.3 high high high high high low high high high high low low high low low

V17

1 low

Warning message:

In cbind(data, category) :

number of rows of result is not a multiple of vector length (arg 1)

> interest\_rate

[1] 10.3 10.3 10.1 9.3 8.4 7.3 8.4 7.9 7.6 7.6 6.9 7.4 8.1 7.5 6.5

[16] 5.8

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

> coding(interest\_rate)

Error in coding(interest\_rate) : object 'categori' not found

> coding(interest\_rate)

Error in coding(interest\_rate) : object 'categori' not found

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

> coding(interest\_rate)

Error in coding(interest\_rate) : object 'categori' not found

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no3.txt")

> coding(interest\_rate)

$result

data V2

1 10.3 high

2 10.3 high

3 10.1 high

4 9.3 high

5 8.4 high

6 7.3 low

7 8.4 high

8 7.9 high

9 7.6 high

10 7.6 high

11 6.9 low

12 7.4 low

13 8.1 high

14 7.5 low

15 6.5 low

16 5.8 low

> source("C:\\Users\\darre\\Documents\\R\\CompStat\\quiz\_no4.R")

> #number 4a

> t\_test(interest\_rate,8,2,0.05)

H0 = mu <= 8

H1 = mu > 8

===========================

pvalue = 0.3981618

Decision = Fail to Reject H0

===========================

$t.test

[1] 0.2627423

$t.table

[1] 1.75305

$pvalue

[1] 0.3981618

> #number 4b

> t\_test(interest\_rate,8.2,1,0.05)

H0 = mu >= 8.2

H1 = mu < 8.2

===========================

pvalue = 0.3700932

Decision = Fail to Reject H0

===========================

$t.test

[1] -0.3378116

$t.table

[1] 1.75305

$pvalue

[1] 0.3700932

> #number 4a

> t\_test(interest\_rate,8,1,0.05)

H0 = mu >= 8

H1 = mu < 8

===========================

pvalue = 0.6018382

Decision = Fail to Reject H0

===========================

$t.test

[1] 0.2627423

$t.table

[1] 1.75305

$pvalue

[1] 0.6018382

> #number 4b

> t\_test(interest\_rate,8.2,2,0.05)

H0 = mu <= 8.2

H1 = mu > 8.2

===========================

pvalue = 0.6299068

Decision = Fail to Reject H0

===========================

$t.test

[1] -0.3378116

$t.table

[1] 1.75305

$pvalue

[1] 0.6299068

> #number 4c

> t\_test(home\_price,180000,3,0.05)

H0 = mu = 180000

H1 = mu =/ 180000

===========================

pvalue = 1.92853

Decision = Fail to Reject H0

===========================

$t.test

[1] 1.939609

$t.table

[1] 2.13145

$pvalue

[1] 1.92853

> #number 5

> vector <- c(rep(seq(1:3),20),1)

> vecctor

Error: object 'vecctor' not found

> vector

[1] 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2

[39] 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1 2 3 1

> A <- matrix(c(1,2,3,5,1,6,-2,-1,-3),byrow=T,ncol=3,nrow=3);A

[,1] [,2] [,3]

[1,] 1 2 3

[2,] 5 1 6

[3,] -2 -1 -3

> B <- matrix(c(1,0,2,0,2,0,1,0,-3),byrow=T,ncol=3,nrow=3);B

[,1] [,2] [,3]

[1,] 1 0 2

[2,] 0 2 0

[3,] 1 0 -3

> C <- A%\*%B

> c

function (...) .Primitive("c")

> C

[,1] [,2] [,3]

[1,] 4 4 -7

[2,] 11 2 -8

[3,] -5 -2 5

>

> number 7

Error: unexpected numeric constant in "number 7"

> #number 7

> x = matrix(nrow=25,ncol=1)

> for(i in 1:25)

+ {

+ x[i] = ((3^i)/i)+((2^i)/(i^2))

+ }

> y <- sum(x)

> y

[1] 51946077150

> x = matrix(nrow=25,ncol=1);x

[,1]

[1,] NA

[2,] NA

[3,] NA

[4,] NA

[5,] NA

[6,] NA

[7,] NA

[8,] NA

[9,] NA

[10,] NA

[11,] NA

[12,] NA

[13,] NA

[14,] NA

[15,] NA

[16,] NA

[17,] NA

[18,] NA

[19,] NA

[20,] NA

[21,] NA

[22,] NA

[23,] NA

[24,] NA

[25,] NA

>