Darren Kang Wan Chee

5003201184

CompStat – Class Q

MidTerm – 30/3/2022

R version 4.1.3 (2022-03-10) -- "One Push-Up"

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Platform: x86\_64-w64-mingw32/x64 (64-bit)

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Type 'q()' to quit R.

> #number 1

> a <- rep(seq(1:3),20);a

[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

> vector <- c(a,1);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

>

> #number 2

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

Error in matrix(c(1, 1, 3, 5, 2, 6, -2, -1, -3), asrow = T, nrow = 3, :

unused argument (asrow = T)

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

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

[1,] 1 1 3

[2,] 5 2 6

[3,] -2 -1 -3

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

Error: object 'B' not found

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

Error: object 'B' not found

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

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

[1,] 1 0 2

[2,] 0 2 0

[3,] 1 0 -3

> C <- A%\*%B

> C

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

[1,] 4 2 -7

[2,] 11 4 -8

[3,] -5 -2 5

>

> #number 3

> for(i in 1:25){

+ total <- ((2^i)/i)+((3^i)/(i^2))

+ }

> total

[1] 1357003952

> for(i in 1:25){

+ total <- ((2^i)/i)+((3^i)/(i^2))

+ hasil <- sum(total)

+ }

> hasil

[1] 1357003952

> total <- matrix(nrow=25,ncol=1)

> for(i in 1:25){

+ total[i] <- ((2^i)/i)+((3^i)/(i^2))

+ hasil <- sum(total)

+ }

> hasil

[1] 2129170437

>

>

> #number 4

> data <- read.csv("C:/Users/Mahasiswa/Downloads/dataETS.csv",sep=";");data

Daerah.Sales.Promotion.Outlet.Region

1 JAKARTA,205,26,159,1

2 TANGERANG,206,28,164,1

3 BEKASI,254,35,198,1

4 BOGOR,246,31,184,1

5 BANDUNG,201,21,150,1

6 SEMARANG,291,49,208,2

7 SOLO,234,30,184,2

8 YOGYA,209,30,154,2

9 SURABAYA,204,24,149,3

10 PURWOKERTO,216,31,175,3

11 MADIUN,245,32,192,3

12 TUBAN,286,47,201,3

13 MALANG,312,54,248,3

14 KUDUS,265,40,166,2

15 PEKALONGAN,322,42,287,2

16 GRESIK ,315,30,170,3

17 BLITAR,244,32,128,3

18 SUKABUMI,345,23,135,1

19 MALANG,255,34,155,3

20 BLITAR,270,35,167,3

21 SIDOARJO,264,35,170,3

22 BREBES,270,42,121,2

23 BATU,205,50,200,3

24 INDRAMAYU,219,32,188,1

25 LAMONGAN,280,44,154,3

26 PURWAKERTA,300,36,175,1

27 MAKASAR,380,50,200,4

28 BALIKPAPAN,400,52,212,4

29 PALEMBANG,376,45,187,4

30 PALU,350,42,175,4

31 MEDAN,325,46,210,4

32 RIAU,339,38,145,4

33 PADANG,315,32,157,4

> data <- read.csv("C:/Users/Mahasiswa/Downloads/dataETS.csv",sep=",");data

Daerah Sales Promotion Outlet Region

1 JAKARTA 205 26 159 1

2 TANGERANG 206 28 164 1

3 BEKASI 254 35 198 1

4 BOGOR 246 31 184 1

5 BANDUNG 201 21 150 1

6 SEMARANG 291 49 208 2

7 SOLO 234 30 184 2

8 YOGYA 209 30 154 2

9 SURABAYA 204 24 149 3

10 PURWOKERTO 216 31 175 3

11 MADIUN 245 32 192 3

12 TUBAN 286 47 201 3

13 MALANG 312 54 248 3

14 KUDUS 265 40 166 2

15 PEKALONGAN 322 42 287 2

16 GRESIK 315 30 170 3

17 BLITAR 244 32 128 3

18 SUKABUMI 345 23 135 1

19 MALANG 255 34 155 3

20 BLITAR 270 35 167 3

21 SIDOARJO 264 35 170 3

22 BREBES 270 42 121 2

23 BATU 205 50 200 3

24 INDRAMAYU 219 32 188 1

25 LAMONGAN 280 44 154 3

26 PURWAKERTA 300 36 175 1

27 MAKASAR 380 50 200 4

28 BALIKPAPAN 400 52 212 4

29 PALEMBANG 376 45 187 4

30 PALU 350 42 175 4

31 MEDAN 325 46 210 4

32 RIAU 339 38 145 4

33 PADANG 315 32 157 4

>

> #number 4 regression using bootstrap

> attach(data)

> source("C:\\Users\\Mahasiswa\\Desktop\\boot\_reg\_4b.txt")

> boot\_reg(Sales,Outlet,Promotion,20,1000)

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

Hasil rata rata bootstrap= 154.7398 & -0.142887 & 4.007107

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

Decision\_a = Reject H0

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

Decision\_b1 = Reject H0

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

Decision\_b2 = Reject H0

$a\_boot

[1] 154.7398

$Lower\_Bound\_a

[1] 151.6106

$Upper\_Bound\_a

[1] 157.869

$b1\_boot

[1] -0.142887

$Lower\_Bound\_b1

[1] -0.1606228

$Upper\_Bound\_b1

[1] -0.1251513

$b2\_boot

[1] 4.007107

$Lower\_Bound\_b2

[1] 3.93434

$Upper\_Bound\_b2

[1] 4.079874

>

> #number 4a testing mean

>

> #number 4b regression parameters using OLS

> source("C:\\Users\\Mahasiswa\\Desktop\\multiple\_regression\_4b.txt")

> multiple\_regression(Sales,Outlet,Promotion)

$Intercept

(Intercept)

150.02

$b1

x1

-0.06498035

$b2

x2

3.759151

> #number 4a testing mean

> source("C:\\Users\\Mahasiswa\\Desktop\\test\_mean\_4a.txt")

> data

Daerah Sales Promotion Outlet Region

1 JAKARTA 205 26 159 1

2 TANGERANG 206 28 164 1

3 BEKASI 254 35 198 1

4 BOGOR 246 31 184 1

5 BANDUNG 201 21 150 1

6 SEMARANG 291 49 208 2

7 SOLO 234 30 184 2

8 YOGYA 209 30 154 2

9 SURABAYA 204 24 149 3

10 PURWOKERTO 216 31 175 3

11 MADIUN 245 32 192 3

12 TUBAN 286 47 201 3

13 MALANG 312 54 248 3

14 KUDUS 265 40 166 2

15 PEKALONGAN 322 42 287 2

16 GRESIK 315 30 170 3

17 BLITAR 244 32 128 3

18 SUKABUMI 345 23 135 1

19 MALANG 255 34 155 3

20 BLITAR 270 35 167 3

21 SIDOARJO 264 35 170 3

22 BREBES 270 42 121 2

23 BATU 205 50 200 3

24 INDRAMAYU 219 32 188 1

25 LAMONGAN 280 44 154 3

26 PURWAKERTA 300 36 175 1

27 MAKASAR 380 50 200 4

28 BALIKPAPAN 400 52 212 4

29 PALEMBANG 376 45 187 4

30 PALU 350 42 175 4

31 MEDAN 325 46 210 4

32 RIAU 339 38 145 4

33 PADANG 315 32 157 4

> attach(data)

The following objects are masked from data (pos = 3):

Daerah, Outlet, Promotion, Region, Sales

> testing(Sales,Region)

Result = False

> source("C:\\Users\\Mahasiswa\\Desktop\\test\_mean\_4a.txt")

> testing(Sales,Region)

Result = False

$mean\_region4

[1] 355

$mean\_region123

[1] 256.2692

>