

> #2020/12/18(五), 109 學年第一學期 資料科學應用 R 作業(6)

> #學號:A107260024 姓名:游閔超

>

> # ex2.30(a)

> my.data <- read.table("answer.txt",header = TRUE)

> head(my.data, 5)

	Student	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
1	s1	C	D	D	A	D	A	B	C	C	B
2	s2	B	D	B	D	D	A	C	D	B	B
3	s3	B	A	A	B	D	A	C	B	C	B
4	s4	B	D	B	A	B	C	C	D	C	B
5	s5	B	D	D	D	A	C	C	D	A	B

> # ex2.30(b)

> ans <- c("B", "D", "B", "D", "D", "A", "C", "D", "C", "B")

> s <- c("A", "D", "B", "D", "B", "A", "B", "D", "C", "B")

> correct.item <- which(s == ans)

> n.correct <- length(correct.item) * 10

> correct.item

[1] 2 3 4 6 8 9 10

> n.correct

[1] 70

>

> # ex2.30(c)

> options(max.print=999999)

> my.data1 <- t(my.data)

> answer <- data.frame(matrix(0,1,192))

>

> ans1 <- t(ans)

> ans2 <- t(ans1)

> for (i in 1:10){

+ for(j in 1:192){

+ correct.item1 <- which(my.data1[2:(i+1), j] == ans2[1:i,])

+ SS <- length(correct.item1) * 10

+ answer[,j] <- SS

+ }

```

+ }
> answer <- t(answer)
> my.data2 <- cbind(my.data , answer)
> score.table <- my.data2[,12]
> table(score.table)
score.table
  0  10  20  30  40  50  60  70  80  90 100
  3  10   9  11  19  23  28  40  30  12   7
>
>
> # ex2.30(d)
> P <- order(my.data2$answer, decreasing = TRUE)
> topID <- which(my.data2$answer >= 75)
> lowID <- which(my.data2$answer <= 25)
> n.topID <- length(topID)
> n.lowID <- length(lowID)
> rownames(answer)[topID]
[1] "X2"   "X12"  "X16"  "X19"  "X20"  "X21"  "X24"  "X25"  "X27"
[10] "X31"  "X41"  "X43"  "X44"  "X47"  "X50"  "X52"  "X54"  "X55"
[19] "X66"  "X69"  "X73"  "X79"  "X80"  "X81"  "X86"  "X95"  "X96"
[28] "X108" "X110" "X112" "X123" "X125" "X128" "X129" "X131" "X135"
[37] "X136" "X139" "X143" "X146" "X152" "X157" "X159" "X165" "X171"
[46] "X187" "X189" "X190" "X192"
> rownames(answer)[lowID]
[1] "X17"  "X32"  "X65"  "X71"  "X74"  "X82"  "X87"  "X90"  "X97"
[10] "X105" "X107" "X120" "X132" "X142" "X160" "X161" "X163" "X168"
[19] "X169" "X174" "X177" "X178"
> n.topID
[1] 49
> n.lowID
[1] 22
>

```