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> #2020/12/25(五) 109 學年第一學期 資料科學應用 HW7
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> # 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")
> sss <- c("A", "D", "B", "D", "B", "A", "B", "D", "C", "B")
> correct.item <- which(sss == 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,])
+     aa <- length(correct.item1) * 10
+     answer[,j] <- aa
+   }
+ }
> 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)
> o <- 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"  "X31"
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[11] "X41"  "X43"  "X44"  "X47"  "X50"  "X52"  "X54"  "X55"  "X66"  "X69"
[21] "X73"  "X79"  "X80"  "X81"  "X86"  "X95"  "X96"  "X108" "X110" "X112"
[31] "X123" "X125" "X128" "X129" "X131" "X135" "X136" "X139" "X143" "X146"
[41] "X152" "X157" "X159" "X165" "X171" "X187" "X189" "X190" "X192"
> rownames(answer)[lowID]
 [1] "X17"  "X32"  "X65"  "X71"  "X74"  "X82"  "X87"  "X90"  "X97"  "X105"
[11] "X107" "X120" "X132" "X142" "X160" "X161" "X163" "X168" "X169" "X174"
[21] "X177" "X178"
> n.topID
[1] 49
> n.lowID
[1] 22
>
>
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