

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

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> #2.30(a)

> data <- read.table("data/answer.txt", header=TRUE, sep="\t")

> head(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

>

>

> #2.30(b)

> correct.answer <- as.factor(c("B", "D", "B", "D", "D", "A", "C", "D", "C", "B"))

> student.answer <- as.factor(c("A", "D", "B", "D", "B", "A", "B", "D", "C", "B"))

> student.score <- which(student.answer, student.answer)

Error in which(student.answer, student.answer) : 'which' 的引數不是邏輯值

> student.answer[student.score]

[1] A D B D B A B D C B

Levels: A B C D

>

> #2.30(c)

>

>

>

>

> #2.30(d)

>

>

>

>

> #2.30(e)

>

>

>

```

> #2.30(f)
>
>
>
> #2.51(a)
> text <- ("AAABBBCCCC")
> a <- gregexpr("A", text)
> length(a[[1]])
[1] 3
> b <- gregexpr("B", text)
> length(b[[1]])
[1] 3
> c <- gregexpr("C", text)
> length(c[[1]])
[1] 4
> paste0(length(a[[1]]), "A", length(b[[1]]), "B", length(c[[1]]), "C")
[1] "3A3B4C"
>
> #2.51(b)
> test <- "3A3B4C"
> cat(test, substr(rep("AAABBBCCCC", 11), 1:11, 1:11))
3A3B4C A A A B B B C C C C >
> #2.52
> compress <- function(x){
+   for(i in LETTERS){
+     gregexpr(x, i)
+     z <- paste0(length(gregexpr(x, i)), gregexpr(x, i))
+   }
+   cat(z, "")
+ }
> compress("ABAABBAABCCCAC")
1-1 > y <- "abcdgh"
> length(gregexpr("c", y))
[1] 1
>
>
>
> #5.2(a)

```

```
> probability <- function(x){  
+  
+   set.seed(123456)  
+   z <- factorial(10) / factorial(x)  
  
+   cat("一袋中有 6 顆白球 4 顆紅球，隨機從中抽取 3 球的機率:", z, "\n")  
+ }  
> probability(3)
```

一袋中有 6 顆白球 4 顆紅球，隨機從中抽取 3 球的機率: 604800

```
>  
> #5.2(b)  
>  
>  
>  
>  
>  
> #5.2(c)  
>
```