

2020/12/04(五), 109 學年第一學期 資料科學應用 R 作業(5)

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(請依照規定)貼上執行程式碼及執行結果。

詳見: R 程式作業繳交方式

<http://www.hmwu.idv.tw/web/teaching/doc/R-how-homework.pdf>

> #2.4(a)

> for(i in 1:5){

+ cat(sequence(i),"\n")

+ }

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

>

>

> #2.4(b)

> for(i in 0:4){

+ cat(rep(" ", 5-i), (rep(i*2+1,i*2+1)), "\n")

+ }

1

3 3 3

5 5 5 5 5

7 7 7 7 7 7 7

9 9 9 9 9 9 9 9

>

>

> #2.5

> #建立矩陣

> dist.matrix <- matrix(0,7,7)

> rownames(dist.matrix) <- c("A","B", "C", "D", "E", "F", "G")

> colnames(dist.matrix) <- c("A","B", "C", "D", "E", "F", "G")

> dist.matrix

A B C D E F G

A 0 0 0 0 0 0 0

```

B 0 0 0 0 0 0 0
C 0 0 0 0 0 0 0
D 0 0 0 0 0 0 0
E 0 0 0 0 0 0 0
F 0 0 0 0 0 0 0
G 0 0 0 0 0 0 0
>
> #導入距離差距
> city <- c("A","B", "C", "D", "E", "F", "G")
> dist <- c(25, 49, 95, 178,264, 327, 373)
> for(k in c(25, 49, 95, 178,264, 327, 373)){
+   error <- abs(k - dist)
+   price <- ifelse((error <= 50), 100,
+                   ifelse((error >50) & (error <=300), (100+(error/50)*1),
+                   ifelse(error >300, 400,
+                           NA)
+                   )
+   )
+   cat(price, "\n")
+   dist.matrix[] <- price
+ }
100 100 101.4 103.06 104.78 400 400
100 100 100 102.58 104.3 105.56 400
101.4 100 100 101.66 103.38 104.64 105.56
103.06 102.58 101.66 100 101.72 102.98 103.9
104.78 104.3 103.38 101.72 100 101.26 102.18
400 105.56 104.64 102.98 101.26 100 100
400 400 105.56 103.9 102.18 100 100
>
> dist.matrix
      A      B      C      D      E      F      G
A 400.00 400.00 400.00 400.00 400.00 400.00 400.00
B 400.00 400.00 400.00 400.00 400.00 400.00 400.00
C 105.56 105.56 105.56 105.56 105.56 105.56 105.56
D 103.90 103.90 103.90 103.90 103.90 103.90 103.90
E 102.18 102.18 102.18 102.18 102.18 102.18 102.18
F 100.00 100.00 100.00 100.00 100.00 100.00 100.00
G 100.00 100.00 100.00 100.00 100.00 100.00 100.00

```

