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

```
> # 2020/12/4
>
> # ex2.4(a)
> for(i in 1:5){
+     for(j in 1:i){
+         cat(j)
+     }
+     cat('\n')
+     }
1
12
123
1234
12345
>
> # ex2.4(b)
> j = 1
> for(i in 4:0){
+     for(j in j){
+         cat(rep(" ",each = i))
+         cat(rep((j), (each = j)))
+         j = j + 2
+     }
+     cat("\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 9
>
> # ex2.50
>
> p <- c("a", "b", "c", "d", "e", "f", "g")
> S <- ifelse(p == "a", 25,
+                ifelse(p == "b", 49,
+                        ifelse(p == "c", 95,
+                                ifelse(p == "d", 178,
+                                        ifelse(p == "e", 264,
+                                                ifelse(p == "f", 327,
+                                                        ifelse(p == "g", 373,
NA)))))))
>
> a <- matrix(0, nrow = 7 ,ncol = 7)
> for(i in 1:7){
+     for(j in 1:7){
+         m <- S[i] - S[j]
+         N <- ifelse(m < 0,(-m),m)
+         X <- (N - 50) + 100
+         o <-ifelse(50 >= N, 100,
+                     ifelse(300 >= N & N >50, X,
+                             ifelse(N > 300, 400, NA)))
+         a[i,j] <- o
+     }
+ }
>
> rownames(a) <- c("A", "B", "C", "D", "E", "F", "G")
> colnames(a) <- c("A", "B", "C", "D", "E", "F", "G")
> a
    A   B   C   D   E   F   G
A 100 100 120 203 289 400 400
B 100 100 100 179 265 328 400
C 120 100 100 133 219 282 328
D 203 179 133 100 136 199 245
E 289 265 219 136 100 113 159
F 400 328 282 199 113 100 100
G 400 400 328 245 159 100 100
```

\>