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> #2020/11/20(五), 109 學年第一學期 資料科學應用 R 作業(3)
> #學號: A107260008   姓名: 林玥澔
> #ex.1.25(a)
> library(readxl)
> g <- read_excel("R-score.xlsx", skip = 1)
New names:
* `0.15` -> `0.15...6`
* `0.15` -> `0.15...7`
> head(g, 5)
# A tibble: 5 x 10
     No 系級          學號 姓名     `0.1` `0.15...6` `0.15...7` `0.2` `0.4` `10 分`
  <dbl> <chr>        <dbl> <chr>    <dbl>       <dbl>       <dbl> <dbl> <dbl>
<dbl>
1     1 統計系 1 32578012 周小如      55          95         100   100    86
10
2     2 統計系 1 32578014 周抒如      30          65          70   100    94
10
3     3 會計系 1 32578016 林育安      10           5          25    10    77
10
4     4 會計系 1 32578018 林育辰      10          20          45    40    87
10
5     5 會計系 1 32578020 黃季晴       5          15          20    25    86
 0
> #ex1.25(b)
> str(g)
tibble [13 × 10] (S3: tbl_df/tbl/data.frame)
 $ No          : num [1:13] 1 2 3 4 5 6 7 8 9 10 ...
 $ 系級        : chr [1:13] "統計系 1" "統計系 1" "會計系 1" "會計系 1" ...
 $ 學號        : num [1:13] 32578012 32578014 32578016 32578018 32578020 ...
 $ 姓名        : chr [1:13] "周小如" "周抒如" "林育安" "林育辰" ...
 $ 0.1         : num [1:13] 55 30 10 10 5 10 25 55 10 15 ...
 $ 0.15...6: num [1:13] 95 65 5 20 15 35 50 45 15 5 ...
 $ 0.15...7: num [1:13] 100 70 25 45 20 60 40 75 55 30 ...
 $ 0.2         : num [1:13] 100 100 10 40 25 0 60 100 55 45 ...
 $ 0.4         : num [1:13] 86 94 77 87 86 77 87 79 87 76 ...
 $ 10 分       : num [1:13] 10 10 10 10 0 0 10 10 4 7 ...
> names(g) <- c("NO","系級", "學號", "姓名","小考 1","小考 2","小考 3", "作業","期
末考", "點名")
```

```
> mean(g$"小考 1")
[1] 25
> mean(g$"小考 2")
[1] 36.15385
> mean(g$"小考 3")
[1] 51.15385
> mean(g$"期末考")
[1] 77.23077
> sd(g$"小考 1")
[1] 18.37117
> sd(g$"小考 2")
[1] 33.05008
> sd(g$"小考 3")
[1] 26.7047
> sd(g$"期末考")
[1] 23.89963
> #ex1.25(c)
> no <- (g$"學號")
> score <- g$"小考 1"*0.1+q$"小考 2"*0.15+q$"小考 3"*0.15+q$"作業"*0.2+q$"期末考"*0.4
> y <- list(g$"學號", score)
> y
[[1]]
 [1] 32578012 32578014 32578016 32578018 32578020 32578022 32578026 32578028
 [9] 32578030 32474226 32475032 32578002 32578004

[[2]]
 [1] 89.15 80.85 38.30 53.55 45.15 46.05 62.80 75.10 57.30 46.15 36.95 85.75 20.25

> bd <- data.frame(no , score)
> bd
         no score
1  32578012 89.15
2  32578014 80.85
3  32578016 38.30
4  32578018 53.55
5  32578020 45.15
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6    32578022 46.05
7    32578026 62.80
8    32578028 75.10
9    32578030 57.30
10 32474226 46.15
11 32475032 36.95
12 32578002 85.75
13 32578004 20.25
> class(bd)
[1] "data.frame"
> #ex.1.29
> l <- read_excel("R-score.xlsx", skip = 1)
New names:
* `0.15` -> `0.15...6`
* `0.15` -> `0.15...7`
> w <- read.table("20140714-weather.txt", header = T, encoding = "utf-8")
> k <- read.csv("weather_delays14.csv", header = T)
> str(y)
List of 2
  $ : num [1:13] 32578012 32578014 32578016 32578018 32578020 ...
  $ : num [1:13] 89.2 80.8 38.3 53.6 45.1 ...
> str(t)
'data.frame':    29 obs. of    6 variables:
  $ locationName: chr    "基隆" "淡水" "板橋" "竹子湖" ...
  $ lat                : num    25.1 25.2 25 25.2 24.8 ...
  $ lon                : num    122 121 121 122 121 ...
  $ stationId      : chr    "466940" "466900" "466880" "466930" ...
  $ TEMP               : num    29.1 28.5 29 25.2 29.8 29.4 29.2 27.8 22.8 14.4 ...
  $ ELEV               : int    27 19 10 607 34 84 7 11 1015 2413 ...
> head(l, 5)
# A tibble: 5 x 10
        No  系級              學號  姓名      `0.1` `0.15...6` `0.15...7` `0.2` `0.4` `10 分`
   <dbl> <chr>          <dbl> <chr>    <dbl>          <dbl>          <dbl> <dbl> <dbl>
<dbl>
1         1  統計系 1 32578012  周小如       55              95              100      100
86          10
2         2  統計系 1 32578014  周抒如       30              65               70      100
94          10
```

```
3        3  會計系 1 32578016  林育安       10              5             25       10
77         10
4        4  會計系 1 32578018  林育辰       10             20             45       40
87         10
5        5  會計系 1 32578020  黃季晴        5             15             20       25
86          0
> tail(l, 5)
# A tibble: 5 x 10
       No  系級          學號  姓名     `0.1` `0.15...6` `0.15...7` `0.2` `0.4` `10 分`
   <dbl> <chr>        <dbl> <chr>    <dbl>       <dbl>       <dbl> <dbl> <dbl>
<dbl>
1        9  統計系 1 32578030  黎奕璇       10             15             55       55
87          4
2       10  會計系 1 32474226  蕭偲賢       15              5             30       45
76          7
3       11  會計系 1 32475032  謝涵融       35             10              5        0
78         10
4       12  會計系 1 32578002  羅順霓       50            100             65      100
90         10
5       13  統計系 1 32578004  顧瀚薇       15             10             75       30
0          10
> head(w, 5)
   locationName       lat        lon stationId TEMP ELEV
1            基隆 25.1348 121.7321    466940 29.1   27
2            淡水 25.1656 121.4400    466900 28.5   19
3            板橋 24.9993 121.4338    466880 29.0   10
4          竹子湖 25.1650 121.5363    466930 25.2  607
5            新竹 24.8300 121.0061    467571 29.8   34
> tail(w, 5)
    locationName       lat        lon stationId TEMP ELEV
25           臺北 25.0396 121.5067    466920 30.4    5
26           臺南 22.9952 120.1970    467410 30.0   41
27           金門 24.4074 118.2893    467110 28.4   48
28           馬祖 26.1694 119.9232    467990 28.0   98
29           新屋 25.0067 121.0475    467050 29.3   21
> head(k, 5)
   year month day dep_time arr_time carrier tailnum flight origin dest
1 2014     1   1     1733     2024      AA  N3HPAA    199    JFK
```

```
ORD
2 2014    1    1    1718    1840    B6   N324JB    1734    JFK   BTV
3 2014    1    1     624     946    DL   N3751B     479    JFK   ATL
4 2014    1    1     910    1203    DL   N910DL    1174    LGA   PBI
5 2014    1    1    1850    2052    MQ   N1EAMQ    2839    LGA
STL
   carrier_delay weather_delay nas_delay aircraft_delay
1              0             7        51              11
2              0            18         6               0
3              0             9        45               0
4              0            52         0               0
5              0            35        12               0
> tail(k ,5)
      year month day dep_time arr_time carrier tailnum flight origin dest
4655 2014    10  26     1135     1451      VX  N836VA    409    JFK
LAX
4656 2014    10  27     1042     1416      VX  N642VA    187    EWR
SFO
4657 2014    10  29     1507     1808      DL  N321NB   1923    LGA
MIA
4658 2014    10  31     1500     1751      DL  N338NB   1685    LGA
MCO
4659 2014    10  31     1323     1502      AA  N3KNAA    329    LGA
ORD
      carrier_delay weather_delay nas_delay aircraft_delay
4655             5            11         0              0
4656            12             9         0              0
4657             0            81         0              0
4658             0            28         0              0
4659             0           113         4              0
> #ex.2.10
> score <- sample(1:100, 50, replace = TRUE)
> s <- c(score)
> s
 [1] 59 98 28 49 52 34 71 61 92 10 81 48 68 22 53 38  2 53 43 13 46 39 99 92  7 82
[27] 94  7 51 26 78 17  1 51 53 94 57 59 20 29 78 66 75 81 28 70 12 83 41 74
> if(any(s > 95)) cat("老師請同學吃飯") else cat("老師很生氣")
老師請同學吃飯
```

```
> #ex.2.21(a)
> m <- read.csv("score02.csv",header = T, encoding = "utf-8")
> head(m, 7)
        學號 期中考 期末考
1 410072106     80     60
2 410073023     50     73
3 410079062     45     35
4 410079090     77     54
5 410079118     62     54
6 410079120     67     45
7 410079121     72     78
> str(m)
'data.frame':   94 obs. of  3 variables:
 $ 學號  : int  410072106 410073023 410079062 410079090 410079118
410079120 410079121 410172016 410172027 410172103 ...
 $ 期中考: int  80 50 45 77 62 67 72 62 82 92 ...
 $ 期末考: int  60 73 35 54 54 45 78 75 95 66 ...
> names(m) <- c("id", "mid", "final")
> a <- m$mid
> b <- m$final
> id <- (m$id)
> for( i in 1:94){
+     if(a[i] < b[i])
+         cat(id[i], "")
+ }
410073023 410079121 410172016 410172027 410173072 410173136 410174210
410273014 410273016 410273042 410273048 410273062 410273067 410273073
410273076 410273108 410273116 410275016 410275029 410275051 410279018
410279049 410279054 410279063 410279075 49981011
> count <- 0
> for( i in 1:94){
+     if(a[i] >= 60 & b[i] >= 60)
+         count <- count+1
+ }
> cat(count)
38
> count <- 0
> for( i in 1:94){
```

```
+      if(a[i] >= 60 & b[i] < 60)
+          count <- count+1
+ }
> cat(count)
32
> count <- 0
> for( i in 1:94){
+      if(a[i] < 60 & b[i] >= 60)
+          count <- count+1
+ }
> cat(count)
9
> count <- 0
> for( i in 1:94){
+      if(a[i] < 60 & b[i] < 60)
+          count <- count+1
+ }
> cat(count)
15
> mean.score<- (u$mid + u$final)/2
> sort(mean.score, decreasing = TRUE)
 [1] 100.0 100.0  96.5  92.5  92.0  91.0  88.5  88.0  88.0  87.0  86.0  86.0
85.0
[14]  85.0  84.0  83.0  82.5  81.5  81.0  79.0  79.0  78.5  78.0  77.5
77.5  77.5
[27]  77.5  77.0  77.0  76.5  75.5  75.0  75.0  75.0  74.0  73.5  73.0
70.0  69.5
[40]  69.0  68.5  68.5  68.5  68.5  68.5  68.0  65.5  65.5  65.0  64.0
64.0  63.5
[53]  63.5  63.0  62.5  62.5  62.5  61.5  61.5  61.0  60.5  59.0  58.5
58.0  57.5
[66]  57.5  57.0  56.5  56.0  56.0  56.0  55.0  54.0  53.5  52.0  51.0
51.0  51.0
[79]  50.0  49.5  49.0  48.5  47.5  45.5  45.0  44.5  43.0  42.5  40.0
37.0  35.0
[92]  26.5  26.5  23.0
>
>
```