#2020/10/23(五),109 學年第一學期 資料科學應用 R 作業(1)
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```
> #a(1.7)
> rep(LETTERS[1:5], seq(5, 1, -1))
[1] "A" "A" "A" "A" "A" "B" "B" "B" "B" "C" "C"
[12] "C" "D" "D" "E"
> #b(1.7)
> c(letters[seq(2, 26, 2)], letters[seq(1, 25, 2)])
[1] "b" "d" "f" "h" "j" "l" "n" "p" "r" "t" "v"
[12] "x" "z" "a" "c" "e" "g" "i" "k" "m" "o" "q"
[23] "s" "u" "w" "y"
> #c(1.7)
> require(mass)
Loading required package: mass
Warning message:
In library(package, lib.loc = lib.loc, character.only = TRUE, logical.return = TRUE,  :
  there is no package called ‘mass’
> b <- rep(c(1,-1),50)
> c <- 1:100
> fractions(b/c)
  [1]     1   -1/2    1/3   -1/4    1/5   -1/6
  [7]   1/7   -1/8    1/9  -1/10   1/11  -1/12
[13]   1/13  -1/14   1/15  -1/16   1/17  -1/18
[19]   1/19  -1/20   1/21  -1/22   1/23  -1/24
[25]   1/25  -1/26   1/27  -1/28   1/29  -1/30
[31]   1/31  -1/32   1/33  -1/34   1/35  -1/36
[37]   1/37  -1/38   1/39  -1/40   1/41  -1/42
[43]   1/43  -1/44   1/45  -1/46   1/47  -1/48
[49]   1/49  -1/50   1/51  -1/52   1/53  -1/54
[55]   1/55  -1/56   1/57  -1/58   1/59  -1/60
[61]   1/61  -1/62   1/63  -1/64   1/65  -1/66
[67]   1/67  -1/68   1/69  -1/70   1/71  -1/72
[73]   1/73  -1/74   1/75  -1/76   1/77  -1/78
[79]   1/79  -1/80   1/81  -1/82   1/83  -1/84
[85]   1/85  -1/86   1/87  -1/88   1/89  -1/90
[91]   1/91  -1/92   1/93  -1/94   1/95  -1/96
[97]   1/97  -1/98   1/99 -1/100
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```
> #d(1.7)
> c(month.abb[1:12][seq(1, 12, 2)], month.abb[2:12][seq(1, 11, 2)])
[1] "Jan" "Mar" "May" "Jul" "Sep" "Nov" "Feb"
[8] "Apr" "Jun" "Aug" "Oct" "Dec"
> #a(1.23)
> X<- c(43, 94, 20, 8, 46, 72, 93, 8, 28, 33, 79, 60, 93, 52, 8)
> #b(1.23)
> length (X)
[1] 15
> #c(1.23)
> (X[1:15][seq(2, 15, 2)])
[1] 94  8 72  8 33 60 52
> mean((X[1:15][seq(2, 15, 2)]))
[1] 46.71429
> #d(1.23)
> id <- 1:length(X)
> cat(pass.id<- id[X>= 60])
2 6 7 11 12 13
> length(pass.id)
[1] 6
> D<- c(54, 64, 75, 21, 66, 49, 25, 72, 50, 72)
> gender <- c("女", "男", "男", "女", "女", "男", "男", "女", "男", "女")
> index <- c(86, 30, NA, 43, 35, 42, 31, 7, 29, 80)
> sat <- c("滿意", "非常滿意", "非常不滿意", "非常滿意", "普通", "非常不滿意", "
普通", "滿意", "普通", "非常滿意")
> #a(1.37)
> A<- factor(sat, levels = c("非常不滿意", "普通", "滿意", "非常滿意"), ordered =
TRUE)
> A
[1] 滿意       非常滿意   非常不滿意 非常滿意
[5] 普通       非常不滿意 普通       滿意
[9] 普通       非常滿意
4 Levels: 非常不滿意 < 普通 < ... < 非常滿意
> #b(1.37)
> F<- (1:length(A))[A>="滿意"]
> length(F)
[1] 5
```

```
> #c(1.37)
> i <- index[age >= 40 & gender == "男"]
> mean(i, na.rm = TRUE)
[1] 33.66667
```