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> #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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>
> #ex1.7(a)
> rep(LETTERS[1:5], seq(from=5, to=1))
[1] "A" "A" "A" "A" "A" "B" "B" "B" "B" "C" "C" "C" "D" "D" "E"
>
> #ex1.7 (b)
> c(letters[1:26][seq(from=2, to=26, by=2)], letters[1:25][seq(from=1, to=25, by=2)])
[1] "b" "d" "f" "h" "j" "l" "n" "p" "r" "t" "v" "x" "z" "a" "c" "e" "g" "i" "k"
[20] "m" "o" "q" "s" "u" "w" "y"
>
> #ex1.7 (c)
> x<-1:100
> y<-rep(c(1,-1),50)
> fractions(y/x)
[1] 1 -1/2 1/3 -1/4 1/5 -1/6 1/7 -1/8 1/9 -
1/10 1/11
[12] -1/12 1/13 -1/14 1/15 -1/16 1/17 -1/18 1/19 -1/20
1/21 -1/22
[23] 1/23 -1/24 1/25 -1/26 1/27 -1/28 1/29 -1/30 1/31 -
1/32 1/33
[34] -1/34 1/35 -1/36 1/37 -1/38 1/39 -1/40 1/41 -1/42
1/43 -1/44
[45] 1/45 -1/46 1/47 -1/48 1/49 -1/50 1/51 -1/52 1/53 -
1/54 1/55
[56] -1/56 1/57 -1/58 1/59 -1/60 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 1/73 -1/74 1/75 -
1/76 1/77
[78] -1/78 1/79 -1/80 1/81 -1/82 1/83 -1/84 1/85 -1/86
1/87 -1/88
[89] 1/89 -1/90 1/91 -1/92 1/93 -1/94 1/95 -1/96 1/97 -
1/98 1/99
[100] -1/100
> require(mass)
Loading required package: mass
Warning message:

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In library(package, lib.loc = lib.loc, character.only = TRUE, logical.return = TRUE,  :
  there is no package called 'mass'
> #ex1.7 (d)
> c(month.abb[1:11][seq(1,11,2)],month.abb[1:12][seq(2,12,2)])
[1] "Jan" "Mar" "May" "Jul" "Sep" "Nov" "Feb" "Apr" "Jun" "Aug" "Oct" "Dec"
>
> #ex1.23(a)
> math.score<-c(43,94,20,8,46,72,93,8,28,33,79,60,93,52,8)
>
> #ex1.23(b)
> length(math.score)
[1] 15
>
> #ex1.23(c)
> mean (math.score[seq(1,15,2)])
[1] 51.25
> #ex1.23(d)
> id<-1:length(math.score)
> happy<-id[math.score>=60]
> length(happy)
[1] 6
> #ex1.37(a)
> age<-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")
> sat.ordered<- factor(sat , levels=c("非常不滿意","普通","滿意","非常滿意",
),ordered=T)
> sat.ordered
[1] 滿意          非常滿意    非常不滿意 非常滿意    普通          非常不滿
意 普通
[8] 滿意          普通          非常滿意
Levels: 非常不滿意 < 普通 < 滿意 < 非常滿意
>
> #ex1.37(b)
> sad<-(1:length(sat.ordered))[sat.ordered>="滿意"]
> length(sad)

```

```
[1] 5
>
> #ex1.37(c)
> angry <- index[age > 40 & gender == "男"]
> mean(angry,na.rm=T)
[1] 33.66667
>
```