```
> #2020/10/23(五) 109 學年第一學期 資料科學應用 R 作業(1)
> #學號: A107260093     姓名: 林芷妤
>
> # ex1.7(a)
> a<- LETTERS[1:5]
> rep(a,5:1)
 [1] "A" "A" "A" "A" "A" "B" "B" "B" "B" "C" "C" "C" "D" "D" "E"
>
> # ex1.7(b)
> letters[c(seq(2,26,2),seq(1,26,2))]
 [1] "b" "d" "f" "h" "j" "l" "n" "p" "r" "t" "v" "x" "z" "a" "c" "e" "g" "i"
[19] "k" "m" "o" "q" "s" "u" "w" "y"
>
> # ex1.7(c)
> x <- rep(c(1,-1),50)
> y <- 1:100
> require(MASS)
Loading required package: MASS
> fractions(x/y)
  [1]     1  -1/2   1/3  -1/4   1/5  -1/6   1/7  -1/8   1/9  -1/10
 [11]  1/11 -1/12  1/13 -1/14  1/15 -1/16  1/17 -1/18  1/19 -1/20
 [21]  1/21 -1/22  1/23 -1/24  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  1/37 -1/38  1/39 -1/40
 [41]  1/41 -1/42  1/43 -1/44  1/45 -1/46  1/47 -1/48  1/49 -1/50
 [51]  1/51 -1/52  1/53 -1/54  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  1/67 -1/68  1/69 -1/70
 [71]  1/71 -1/72  1/73 -1/74  1/75 -1/76  1/77 -1/78  1/79 -1/80
 [81]  1/81 -1/82  1/83 -1/84  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  1/97 -1/98  1/99 -
```

```
1/100
>
>
> # ex1.7(d)
> month.abb[c(seq(1,12,2),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)
> c <- math.score[seq(2,15,2)]
> mean(c)
[1] 46.71429
>
> # ex1.23(d)
> names(math.score)=seq(1, length(math.score))
> names(math.score[math.score >= 60])
[1] "2"    "6"    "7"    "11" "12" "13"
> length(math.score[math.score >= 60])
[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 <- factor(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 <- factor(sat, levels = c("非常滿意", "滿意", "普通", "非常不滿意"))
>
>
> # ex1.37(b)
> sat2 <- ordered(sat, levels = rev(levels(sat)))
```

```
> sat[sat2 >= "滿意"]
[1] 滿意         非常滿意 非常滿意 滿意         非常滿意
Levels: 非常滿意 滿意 普通 非常不滿意
> length(sat[sat2 >= "滿意"])
[1] 5
>
> # ex1.37(c)
> b <- index[age >= 40 & gender == "男"]
> mean(b, na.rm = T)
[1] 33.66667
>
>
> #加分作業 1
> h <- 1:5
> rep(h,1:5)
 [1] 1 2 2 3 3 3 4 4 4 4 5 5 5 5 5
>
> #加分作業 2
> j <- 5:1
> rep(j,1:5)
 [1] 5 4 4 3 3 3 2 2 2 2 1 1 1 1 1
>
> #加分作業 3
> rep(1:3,3)
```