统软 01-1400012141

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第七章练习

```
d.class <- read.csv("class.csv", header = TRUE, stringsAsFactors = FALSE)
name <- d.class[, "name"]
age <- d.class[, "age"]
# 1
age[c(3, 5, 7)]
```

```
## [1] 14 12 11
```

```
# 2
age[age >= 15]
```

```
## [1] 15 15 15 16 15
```

```
# 3
age[which(name == "Mary")]
```

```
## [1] 15
```

```
age[which(name == "James")]
```

```
## [1] 12
```

```
# 4
agel = age[c(-which(name == "Mary"), -which(name == "James"))]
print(agel)
```

```
##  [1] 13 13 14 12 12 11 15 14 14 14 15 13 12 16 12 11 15
```

```
# 5
reverse_map <- function(x) {
    y = match(seq(length(x)), x)
}
test <- sample.int(8)
print(test)
```

```
## [1] 5 8 3 4 6 1 7 2
```

```
print(reverse_map(test))
```

```
## [1] 6 8 3 4 1 5 7 2
```

第九章练习

```
library(lubridate)
```

```
##
## Attaching package: 'lubridate'
```

```
## The following object is masked from 'package:base':
##
##     date
```

```
dates.tab <- read.csv("dates.csv", header = TRUE)
date1 <- dates.tab[, " 出生日期"]
date2 <- dates.tab[, " 发病日期"]
# 1
date1 <- as.POSIXct(date1)
date2 <- as.POSIXct(date2)
# 2
print(year(date1))
```

```
##  [1] 1941 1972 1932 1947 1943 1940 1947 2005 1961 1949
```

```
# 3
print(floor((date2 - date1)/dyears(1)))
```

```
##  [1] 65 34 74 59 63 67 59  1 45 58
```

```
# 4
Sys.setlocale("LC_TIME", "C")
```

```
## [1] "C"
```

```
print(as.character(date2, format = "%b%y"))
```

```
##  [1] "Jan07" "Jan07" "Jan07" "Jan07" "Jan07" "Jan07" "Jan07" "Jan07"
##  [9] "Jan07" "Jan07"
```

```
# 5
f <- function(date_str) {
    Sys.setlocale("LC_TIME", "C")
    tmp <- as.POSIXct(paste("01", date_str, sep = ""), format = "%d%b%y")
    y = as.numeric(substring(date_str, 4))
    if (y <= 20) {
        update(tmp, year = 2000 + y)
    } else {
        update(tmp, year = 1900 + y)
    }
}
f("OCT19")
```

```
## [1] "2019-10-01 CST"
```

```
f("FEB22")
```

```
## [1] "1922-02-01 JWST"
```

```
# 6
g <- function(data_POSIXct) {
    Sys.setlocale("LC_TIME", "C")
    as.character(data_POSIXct, format = "%b%y")
}
date1[1]
```

```
## [1] "1941-03-08 JST"
```

```
g(date1[1])
```

```
## [1] "Mar41"
```

```
date1[8]
```

```
## [1] "2005-04-14 CST"
```

```
g(date1[8])
```

```
## [1] "Apr05"
```

```
# 7
Age <- function(birth, work) {
    floor((work - birth)/dyears(1))
}
Age(date1[1], date1[8])
```

```
## [1] 64
```

第十章作业

```
sex <- as.factor(d.class[, "sex"])
# 1
table(sex)
```

```
## sex
##  F  M
##  9 10
```

```
# 2
tapply(age, sex, max)
```

```
##  F  M
## 15 16
```

```
# 3
library(forcats)
fct_recode(sex, Female = "F", Male = "M")
```

```
##  [1] Female Female Female Female Female Female Female Female Female Male
## [11] Male   Male   Male   Male   Male   Male   Male   Male   Male
## Levels: Female Male
```