Vectors-Operations.R

Rishika

2020-05-08

# 1) Output of the following code:  
x <- c(1:5)  
y <- c(3,6)  
x\*y

## Warning in x \* y: longer object length is not a multiple of shorter object  
## length

## [1] 3 12 9 24 15

# 2) Output of the following code:  
sample(1:50,4)

## [1] 8 50 21 35

# 3)   
  
income <- c(24674.49, 6606.46, 8621.41, 9175.41, 8058.65, 8105.44, 11496.28, 9766.09,  
 10305.32, 14379.96, 10713.97, 15433.50)  
  
expenses <- c(32161.82, 4695.07, 12319.20, 12089.72, 7658.57, 1840.20, 3285.73, 5821.12,  
 6976.93, 16618.61, 10054.37, 3803.96)  
  
months <- month.abb  
  
names(income) <- months  
names(expenses) <- months  
  
profit <- income - expenses  
  
tax\_amt <- 0.30 \* profit   
  
profit\_after\_tax <- profit - tax\_amt  
names(profit\_after\_tax) <- months  
  
profit\_margin <- profit\_after\_tax / income  
  
mean\_profit\_after\_tax <- mean(profit\_after\_tax)  
  
good\_months <- profit\_after\_tax > mean\_profit\_after\_tax  
good\_months\_names <- months[good\_months]  
  
bad\_months <- profit\_after\_tax < mean\_profit\_after\_tax  
bad\_months\_names <- months[bad\_months]  
  
best\_month <- profit\_after\_tax == max(profit\_after\_tax)  
best\_month\_name <- months[best\_month]  
  
worst\_month <- profit\_after\_tax == min(profit\_after\_tax)  
worst\_month\_name <- months[worst\_month]  
  
# # Under the 3rd bit, print the following:  
# 1) Profit for each month  
profit

## Jan Feb Mar Apr May Jun Jul Aug   
## -7487.33 1911.39 -3697.79 -2914.31 400.08 6265.24 8210.55 3944.97   
## Sep Oct Nov Dec   
## 3328.39 -2238.65 659.60 11629.54

# 2) Profit after tax for each month  
profit\_after\_tax

## Jan Feb Mar Apr May Jun Jul Aug   
## -5241.131 1337.973 -2588.453 -2040.017 280.056 4385.668 5747.385 2761.479   
## Sep Oct Nov Dec   
## 2329.873 -1567.055 461.720 8140.678

# 3) Profit margin for each month  
profit\_margin

## Jan Feb Mar Apr May Jun   
## -0.21241092 0.20252495 -0.30023546 -0.22233524 0.03475222 0.54107710   
## Jul Aug Sep Oct Nov Dec   
## 0.49993433 0.28276199 0.22608449 -0.10897492 0.04309514 0.52746804

# 4) Average profit margin  
avg\_profit\_margin <- mean(profit\_margin)  
avg\_profit\_margin

## [1] 0.1261451

# 5) Average profit after tax  
mean\_profit\_after\_tax

## [1] 1167.348

# 6) Names of good months and names of bad months  
good\_months\_names

## [1] "Feb" "Jun" "Jul" "Aug" "Sep" "Dec"

bad\_months\_names

## [1] "Jan" "Mar" "Apr" "May" "Oct" "Nov"

# 7) Name of best month and name of worst month  
paste("Best month: ",best\_month\_name)

## [1] "Best month: Dec"

paste("Worst month: ",worst\_month\_name)

## [1] "Worst month: Jan"