Rworksheet.Sabando#3a.Rmd

Samantha L. Sabando

2025-10-13

```
let<-LETTERS[1:26]
let
```

```
##  [1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S"
## [20] "T" "U" "V" "W" "X" "Y" "Z"
```

```
#[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y
#[26] "Z"

let_small <- letters[1:26]
let_small
```

```
##  [1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s"
## [20] "t" "u" "v" "w" "x" "y" "z"
```

```
#A first eleven
eleven<-LETTERS[1:11]
eleven
```

```
##  [1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K"
```

```
#[1]"A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K"

#B odd_letters
odd<-LETTERS[seq(1,26, by=2)]
odd
```

```
##  [1] "A" "C" "E" "G" "I" "K" "M" "O" "Q" "S" "U" "W" "Y"
```

```
#[1]"A" "C" "E" "G" "I" "K" "M" "O" "Q" "S" "U" "W" "Y"

#C vowels
vowels<-LETTERS[LETTERS%in% c("A","E","I","O","U")]
vowels
```

```
## [1] "A" "E" "I" "O" "U"
```

```
#[1] "A" "E" "I" "O" "U"

#D last5
last_5<-letters[22:26]
last_5
```

```
## [1] "v" "w" "x" "y" "z"
```

```
#"v" "w" "x" "y" "z"

#E letters between 15 and 24
```

```
let_between<-letters[15:24]
let_between
```

```
##  [1] "o" "p" "q" "r" "s" "t" "u" "v" "w" "x"
```

```
#"o" "p" "q" "r" "s" "t" "u" "v" "w" "x"
```

```
#A weather
city<-c("Tuguegarao City","Manila","Iloilo City","Tacloban","Samal Island","Davao City")
city
```

```
## [1] "Tuguegarao City" "Manila"          "Iloilo City"     "Tacloban"
## [5] "Samal Island"    "Davao City"
```

```
#[1] "Tuguegarao"   "City"         "Manila"       "Iloilo City"  "Tacloban"     "Samal Island"
#[7] "Davao City"

#B temp
temp<-c(42,39,34,34,30,27)
temp
```

```
## [1] 42 39 34 34 30 27
```

```
#[1] 42 39 34 34 30 27

#C weather
weather<-data.frame(city, temp)
weather
```

```
##              city temp
## 1 Tuguegarao City   42
## 2          Manila   39
## 3     Iloilo City   34
## 4        Tacloban   34
## 5    Samal Island   30
## 6      Davao City   27
```

```
#output
#Tuguegarao City      42
#Manila              39
#Iloilo City          34
#Tacloban             34
#Samal Island         30
#Davao City         27

#D names
names(weather)<-c("City", "Temperature")
weather
```

```
##              City Temperature
## 1 Tuguegarao City          42
## 2          Manila          39
## 3     Iloilo City          34
## 4        Tacloban          34
## 5    Samal Island          30
## 6      Davao City          27
```

```r
#E str
str(weather)
```

```
## 'data.frame':    6 obs. of  2 variables:
##  $ City       : chr  "Tuguegarao City" "Manila" "Iloilo City" "Tacloban" ...
##  $ Temperature: num  42 39 34 34 30 27
```

```r
#  City        Temperature
#3 Iloilo City       34
#4 Tacloban          34

#F
weather[3:4, ]
```

```
##          City Temperature
## 3 Iloilo City          34
## 4    Tacloban          34
```

```r
#        City Temperature
#3 Iloilo City          34
#4    Tacloban          34

#G highest to lowest
weather[which.max(weather$Temperature), ]
```

```
##              City Temperature
## 1 Tuguegarao City          42
```

```r
weather[which.min(weather$Temperature), ]
```

```
##         City Temperature
## 6 Davao City          27
```

```r
#output highest
#             City Temperature
#1 Tuguegarao City          42

#output lowest
#         City Temperature
#6 Davao City          27
```

```r
#A
m <- matrix(c(1:8, 11:14), nrow = 3, ncol = 4)
m
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    1    4    7   12
## [2,]    2    5    8   13
## [3,]    3    6   11   14
```

```r
# [,1] [,2] [,3] [,4]
#[1,]    1    4    7   12
#[2,]    2    5    8   13
#[3,]    3    6   11   14

#B
m2 <- m * 2
m2
```

```
##      [,1] [,2] [,3] [,4]
## [1,]    2    8   14   24
## [2,]    4   10   16   26
## [3,]    6   12   22   28
```

```
#[,1] [,2] [,3] [,4]
#[1,]    2    8   14   24
#[2,]    4   10   16   26
#[3,]    6   12   22   28

#C
m[2, ]
```

```
## [1]  2  5  8 13
```

```
#[1]  2  5  8 13
-366
```

```
## [1] -366
```

```
#D
m[1:2, 3:4]
```

```
##      [,1] [,2]
## [1,]    7   12
## [2,]    8   13
```

```
#[1,]    7   12
#[2,]    8   13

#E
m[3, 2:3]
```

```
## [1]  6 11
```

```
#[1]  6 11

#F
m[, 4]
```

```
## [1] 12 13 14
```

```
#[1] 12 13 14

#G
rownames(m2) <- c("isa", "dalawa", "tatlo")
colnames(m2) <- c("uno", "dos", "tres", "quatro")
m2
```

```
##        uno dos tres quatro
## isa      2   8   14     24
## dalawa   4  10   16     26
## tatlo    6  12   22     28
```

```
# uno dos tres quatro
#isa      2   8   14     24
#dalawa   4  10   16     26
#tatlo    6  12   22     28

#H
```

```r
dim(m) <- c(6, 2)
m
```

```
##      [,1] [,2]
## [1,]    1    7
## [2,]    2    8
## [3,]    3   11
## [4,]    4   12
## [5,]    5   13
## [6,]    6   14
```

```r
#[,1] [,2]
#[1,]    1    7
#[2,]    2    8
#[3,]    3   11
#[4,]    4   12
#[5,]    5   13
#[6,]    6   14
```

```r
#A
values <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1)
values_repeated <- rep(values, 2)

arr <- array(values_repeated, dim = c(2, 4, 3))
arr
```

```
## , , 1
##
##      [,1] [,2] [,3] [,4]
## [1,]    1    3    7    9
## [2,]    2    6    8    0
##
## , , 2
##
##      [,1] [,2] [,3] [,4]
## [1,]    3    5    1    3
## [2,]    4    1    2    6
##
## , , 3
##
##      [,1] [,2] [,3] [,4]
## [1,]    7    9    3    5
## [2,]    8    0    4    1
```

```r
#, , 1

#     [,1] [,2] [,3] [,4]
#[1,]    1    3    7    9
#[2,]    2    6    8    0

#, , 2
#
#    [,1] [,2] [,3] [,4]
#[1,]    3    5    1    3
#[2,]    4    1    2    6
```

```
#, , 3

#    [,1] [,2] [,3] [,4]
#[1,]    7    9    3    5
#[2,]    8    0    4    1

#B
length(dim(arr))
```

```
## [1] 3
```

```
#[1] 3

#C
rownames(arr) <- letters[1:2]
colnames(arr) <- LETTERS[1:4]
dimnames(arr)[[3]] <- c("1st-Dimensional Array", "2nd-Dimensional Array", "3rd-Dimensional Array")

arr
```

```
## , , 1st-Dimensional Array
##
##   A B C D
## a 1 3 7 9
## b 2 6 8 0
##
## , , 2nd-Dimensional Array
##
##   A B C D
## a 3 5 1 3
## b 4 1 2 6
##
## , , 3rd-Dimensional Array
##
##   A B C D
## a 7 9 3 5
## b 8 0 4 1
```

```
#, , 1st-Dimensional Array

#  A B C D
#A 1 3 7 9
#B 2 6 8 0

#, , 2nd-Dimensional Array

#  A B C D
#A 3 5 1 3
#B 4 1 2 6

#, , 3rd-Dimensional Array

#  A B C D
#A 7 9 3 5
#B 8 0 4 1
```