RWorksheet_Quillo#3a

Carl

2023-10-04

```
LETTERS
```

```
##  [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
vecLetters <- LETTERS[c(1:11)]
vecLetters
```

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

```
#1.b
letCounter <- length(LETTERS)

oddLetters <- LETTERS[seq(letCounter) %% 2 == 1]
oddLetters
```

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

```
#1.c
vowLetters <- LETTERS[c(1,5,9,15,21)]
vowLetters
```

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

```
#1.d
letters
```

```
##  [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"
```

```
low5letters <- letters[c(22:26)]
low5letters
```

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

```
#1.e

low15to24 <- letters[c(15:24)]
low15to24
```

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

```
#2

#2.a
vecCity <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")

#2.b
```

```r
vecTemp <- c(42, 39, 34, 34, 30, 27)

#2.c

tempandCel <- data.frame("City" = vecCity, "Temp" = vecTemp)
tempandCel
```

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

```r
#2.d

names(tempandCel) <- c("City", "Temperature")


#2.e

str(tempandCel)
```

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

```r
#it displayed the outputwith the class, object, and variable.

#2.f

rowof34 <- tempandCel[3:4,]
rowof34
```

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

```r
#2.g

temMax <- tempandCel[which.max(tempandCel$Temperature),]
temMax
```

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

```r
temLow <- tempandCel[which.min(tempandCel$Temperature),]
temLow
```

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

```r
##MATRICES

#2 and 2a
```

```r
mat1 <- matrix(c(1:8,11:14),ncol = 4, nrow =3)
mat1
```

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

```r
#2b

mat2x <- mat1 * 2
mat2x
```

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

```r
#2c

mat2x <- mat1 * 2
mat2x
```

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

```r
#it was doubled or 2x

#2d

col3and4 <- mat2x[c(1,2),c(3,4)]
col3and4
```

```
##      [,1] [,2]
## [1,]   14   24
## [2,]   16   26
```

```r
#2e

newcol2and3r1 <- mat2x[3,c(3,4)]
newcol2and3r1
```

```
## [1] 22 28
```

```r
#2f
newcol2and3r3 <- mat2x[,4]
newcol2and3r3
```

```
## [1] 24 26 28
```

```r
#2g

dimnames(mat2x) <- list(c("isa","dalawa","tatlo"),c("uno","dos","tres","quatro"))
mat2x
```

```
##        uno dos tres quatro
## isa      2   8   14     24
## dalawa   4  10   16     26
```

```
## tatlo    6  12   22     28
```

```
#2h

mat1
```

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

```
dim(mat1) <- c(6,2)
mat1
```

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

```
#3a

randomNum <- array(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1),c(2,4,3))
randomNum
```

```
## , , 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
```

```
#3b

dim(randomNum)
```

```
## [1] 2 4 3
```

```
#3c

colnames(randomNum) <- c("A","B","C","D")
randomNum
```

```
## , , 1
##
##      A B C D
```

```
## [1,] 1 3 7 9
## [2,] 2 6 8 0
##
## , , 2
##
##      A B C D
## [1,] 3 5 1 3
## [2,] 4 1 2 6
##
## , , 3
##
##      A B C D
## [1,] 7 9 3 5
## [2,] 8 0 4 1
```

```
rownames(randomNum) <- c("a","b")
randomNum
```

```
## , , 1
##
##   A B C D
## a 1 3 7 9
## b 2 6 8 0
##
## , , 2
##
##   A B C D
## a 3 5 1 3
## b 4 1 2 6
##
## , , 3
##
##   A B C D
## a 7 9 3 5
## b 8 0 4 1
```

```
dimnames(randomNum)[[3]] <- c("1st-Dimensional Array", "2nd-Dimensional Array","3rd-Dimensional Array")
randomNum
```

```
## , , 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
```