Rworksheet_Sanceda#3

2024-09-30

```
#1.
#a.

    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"
```

```
    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"
```

```
    Lttrs <- LETTERS[1:11]
    Lttrs
```

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

```
#b.

    oddletters <- LETTERS[seq(1, 26 ,2)]
    oddletters
```

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

```
#c.

    vowels <- LETTERS[c(1, 5, 9, 15, 21)]
    vowels
```

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

```
#d.

    last5 <- tail(letters, 5)
    last5
```

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

```r
#e.

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

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

```r
#2.
#a.

    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"
```

```r
#b.

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

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

```r
#c.

    hahaha <- data.frame(City, apriltemp)
    hahaha
```

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

```r
#d.

    names(hahaha) <- c("City", "Temperature")
    hahaha
```

```
##              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(hahaha)
```

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

```r
#f.

    hahaha[3:4, ]
```

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

```r
#g.

    hahaha[which.max(hahaha$Temperature),]
```

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

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

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

```r
#Matrices

#a.

    mx <- matrix(c(1,2,3,4,5,6,7,8,11,12,13,14), nrow = 3, ncol = 4)
    mx
```

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

```r
#b.

    mtrx <- mx * 2
    mtrx
```

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

```r
#c.

    mx[2,]
```

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

```r
#d.

    mx[1:2, 3:4]
```

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

```r
#e.

    mx[3, 2:3]
```

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

```r
#f.

    mx[, 4]
```

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

```r
#g.

    rownames(mx) <- c("Isa", "Dalawa", "Tatlo")
    colnames(mx) <- c("Uno", "Dos", "Tres", "Quatro")
    mx
```

```
##        Uno Dos Tres Quatro
## Isa      1   4    7     12
## Dalawa   2   5    8     13
## Tatlo    3   6   11     14
```

```r
#h.

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

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

```r
#Arrays

#a.

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

```
## , , 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
#b.

      dim(nArray)
```

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

```r
      #My array has 3 dimensions

#c.

      dimnames(nArray)[[1]] <- c("a", "b")
      dimnames(nArray)[[2]] <- c("A", "B", "C", "D")
      dimnames(nArray)[[3]] <- c("1st - Dimensional Array", "2nd - Dimensional Array", "3rd - Dimensiona
      nArray
```

```
## , , 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
```