RWorksheet_Lapso

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R Markdown

#USING VECTORS

```
LETTERS <- c("A","B","C","D","E","F", "G", "H", "I", "J", "K", "L", "M", "N", "O", "P", "Q", "R", "S",

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 <- c("a", "b", "c", "d", "e", "f", "g", "h", "i", "j", "k", "l", "m", "n", "o", "p", "q", "r",
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"
```

```
head(LETTERS, 11)
```

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

```
indices <- c(1,3,5,7,9,11,13,15,17,19,21,23,25)

oddNumLetters <- LETTERS[indices]
print(oddNumLetters)
```

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

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

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

```
tail(letters, 5)
```

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

```
centletters <- letters[16:23]
centletters
```

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

```
#withoutframe
city <- c("Tuguegarao City", "Manila", "Iloilo", "Tacloban", "Samal Island", "Davao City")
temp <- c(42, 39, 34, 34, 30, 27)

city
```

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

```
temp
```

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

```
AprilTempRes <- data.frame (
  city = c("Tuguegarao City", "Manila", "Iloilo", "Tacloban", "Samal Island", "Davao City"),
  temp = c(42, 39, 34, 34, 30, 27)
)
```

```
colnames(AprilTempRes) <- c("City", "Temperature")

print(AprilTempRes)
```

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

```
str(AprilTempRes)
```

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

```
rows <- AprilTempRes[c(3, 4),]
rows
```

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

```
AprilTempRes <- (city)
```

```
high_temp <- max(AprilTempRes)
low_temp <- min(AprilTempRes)

high_temp
```

```
## [1] "Tuguegarao City"
```

```
low_temp
```

```
## [1] "Davao City"
```

#MATRICES

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

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

```r
#2b
secMat <- firstMat * 2
secMat
```

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

```r
row2 <- secMat[2, ]
row2
```

```
## [1]  4 10 16 26
```

```r
colsthfr <- secMat[1:2, 3:4]
colsthfr
```

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

```r
colstwthr <- secMat[3, 2:3]
colstwthr
```

```
## [1] 12 22
```

```r
colsfr <- secMat[, 4]
colsfr
```

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

```r
colnames(secMat) <- c("uno", "dos", "tres", "quatro")
rownames(secMat) <- c("isa", "dalawa", "tatlo")
print(secMat)
```

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

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

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

#ARRAYS

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

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

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

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

```
#or

repEach <- rep(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1), each = 2)
repEach
```

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

```
arrRow <- array(repEach, dim = c(2, 4, 3))
arrRow
```

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

```
dim(arrRow)
```

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

```
dimnames(arrRow) <- list(c("a", "b"), c("A", "B", "C", "D"), c("1st-Dimensional Array", "2nd-Dimensional

print(arrRow)
```

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