RWorksheet_Lumauag#3a

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```
#1
#a
first11Letter <- letters[1:11]
first11Letter
```

```
##  [1] "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k"
```

```
#b
oddNumberedList <- LETTERS[seq(1, 26, 2)]
oddNumberedList
```

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

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

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

```
#d
LastLetter <- letters[22:26]
LastLetter
```

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

```
#2

#a
city <- c("Tugegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")
#b
temp <- c(42, 39, 34, 34, 30, 27)

#c
CityTemp <- data.frame(city, temp)

#d
names(CityTemp) <- c("City", "Temperature")
CityTemp
```

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

```
#e
str(CityTemp)
```

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

```
#f
CityTemp[3:4, ]
```

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

```
#g
CityTemp[which.max(CityTemp$Temperature), ]
```

```
##             City Temperature
## 1 Tugegarao City          42
```

```
CityTemp[which.min(CityTemp$Temperature), ]
```

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

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

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

```
#b
matrx2 <- matrx*2
matrx2
```

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

```r
#c
matrx[2, ]
```

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

```r
#d
matrx[1:2, 3:4]
```

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

```r
#e
matrx[3, 2:3]
```

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

```r
#f
matrx[ ,4]
```

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

```r
#g
rownames(matrx) <- c("isa", "dalawa", "tatlo")
colnames(matrx) <- c("uno", "dos", "tres", "quatro")
matrx
```

```
##        uno dos tres quatro
## isa      1   4    7     12
## dalawa   2   5    8     13
## tatlo    3   6   11     14
```

```r
#h
dim(matrx) <- c(6, 2)
matrx
```

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

```r
array1 <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1)
array2 <- rep(array1, each = 2)
arraydim <- array(array2, dim = c(2, 4, 3))
array2
```

```
##  [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
```

```
arraydim
```

```
## , , 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
```

```
dimnames(arraydim) <- list(
  c("a", "b"),
  LETTERS[1:4],
  c("1st-Dimensional Array", "2nd-Dimensional Array",
    "3rd-Dimensional Array")
)
arraydim
```

```
## , , 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
```