RWorksheet_Aposaga#3a

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1.

a.

```
first11Let <- LETTERS[1:11]
first11Let
```

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

b.

```
oddnumLet <- LETTERS[seq(1, 26, by = 2)]
oddnumLet
```

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

c.

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

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

d.

```
lastLet <- letters[22:26]
lastLet
```

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

e.

```
letter15to24 <- letters[15:24]
letter15to24
```

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

2.

a.

```
city <- c("Tugue-garao 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 Tugue-garao 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  "Tugue-garao 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 Tugue-garao City          42
```

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

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

MATRIX 2. a.

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

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

b.

```
matr2 <- matr*2
matr2
```

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

c.

```
matr[2,]
```

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

d.

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

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

e.

```
matr[3, 2:3]
```

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

f.

```
matr[,4]
```

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

g.

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

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

h.

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

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

ARRAYS 3. a.

```
numericVal <- rep(c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1), 2)
numArray <- array(numericVal, dim = c(2, 4, 3))
numArray
```

```
## , , 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.

```
dim(numArray)
```

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

c.

```
dimnames(numArray) <- list(
  c('a', 'b'),
  c('A', 'B', 'C', 'D'),
  c('1st-Dimensional Array',
    '2nd-Dimensional Array',
    '3rd-Dimensional Array')
)

numArray
```

```
## , , 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
```