RWorksheet_Leysa#3a

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#Problem 1# a.

```
LETTERS <- c("A", "B", "C", "D","E","F","G","H","I","J","K","L","M","N","O","P","Q","R","S","T","U","V"
letters <- c("a", "b", "c", "d","e","f","g","h","i","j","k","l","m","n","o","p","q","r","s","t","u","v"
LETTERS[c(1:11)]
```

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

b.

```
LETTERS[seq(1,26,2)]
```

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

c.

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

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

d.

```
letters[c(22:26)]
```

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

e.

```
letters[c(15:24)]
```

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

#Problem 2# a.

```
city <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")
```

b.

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

c.

```
city_temp <- data.frame(city,temp)
city_temp
```

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

d.

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

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

e.

```
str(city_temp)
```

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

f.

```
answer_2 <- city_temp[3:4,]
answer_2
```

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

g.

```
max_temp <- max(city_temp$Temperature)
max_temp
```

```
## [1] 42
```

```
min_temp <- min(city_temp$Temperature)
min_temp
```

```
## [1] 27
```

#Problem 2# a.

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

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

b.

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

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

c.

```
product[2,]
```

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

d.

```
product[c(1,2), c(3:4)]
```

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

e.

```r
product[c(3), c(2:3)]
```

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

f.

```r
product[,4]
```

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

g.

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

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

h.

```r
reshaped_matrix <- matrix(matrix, nrow=6, ncol=2)
reshaped_matrix
```

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

3.

a.

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

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

b.

```
dimension <- dim(array_data)
dimension
```

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

c.

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

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