

RWorksheet_Celestra#3a

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1.

a.

```
LET11 <- LETTERS[1:11]
```

b.

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

c.

```
LETVOW <-LETTERS[LETTERS %in% c("A","E","I","O","U")]
LETVOW
```

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

d.

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

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

e.

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

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

2.

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

```
## Tuguegarao City      Manila      Iloilo City      Tacloban      Samal Island
##           42           39           34           34           30
##      Davao City
##           27
```

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"
```

b.

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

c.

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

```
##           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(citytemp)<- c("City", "Temperature")
citytemp
```

```
##           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. The output says there are 6 observations and 2 variables followed by the City and Temperature

```
str(citytemp)
```

```
## 'data.frame':  6 obs. of  2 variables:
## $ City      : chr  "Tuguegarao 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.

```
highest<- citytemp[which.max(citytemp$Temperature),]
lowest<- citytemp[which.min(citytemp$Temperature),]
highest
```

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

```
lowest
```

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

2.

a.

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

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

b.

```
myMatrix<- mymatrix*2
myMatrix
```

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

c.

```
myMatrix[2,]
```

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

d.

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

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

e.

```
myMatrix[3,2:3]
```

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

f.

```
myMatrix[,4]
```

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

g.

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

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

h.

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

```
##      [,1] [,2]
## [1,]    1    7
```

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

3.

```
num<- c(1,2,3,6,7,8,9,0,3,4,5,1)
rep2<- rep(num, each=2)
myarray<- array(rep2, dim= c(2,4,3))
myarray
```

```
## , , 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
```

b.

```
dim(myarray)
```

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

c.

```
rownames(myarray)<- letters[1:2]
colnames(myarray)<- LETTERS[1:4]
dimnames(myarray)[[3]]<- c("1st-Dimensional Array", "2nd-Dimensional Array", "3rd-Dimensional Array")
myarray
```

```
## , , 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
```