

Rworksheet.Sabando#3a.Rmd

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```
let<-LETTERS[1:26]
let

## [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"

let_small <- letters[1:26]
let_small

## [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"

#A You need to produce a vector that contains the first 11 letters.
eleven<-LETTERS[1:11]
eleven

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

#B Produce a vector that contains the odd numbered letters.
odd<-LETTERS[seq(1,26, by=2)]
odd

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

#C Produce a vector that contains the vowels
vowels<-LETTERS[LETTERS%in% c("A","E","I","O","U")]
vowels

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

#D Produce a vector that contains the last 5 lowercase letters.
last_5<-letters[22:26]
last_5

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

#E Produce a vector that contains letters between 15 to 24 letters in lowercase.
let_between<-letters[15:24]
let_between

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

#Create a vector(not a dataframe) with the average temperatures in April
avg_temps <- c(42, 39, 34, 34, 30, 27)
avg_temps

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

```

#A weather
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
temp<-c(42,39,34,34,30,27)
temp

## [1] 42 39 34 34 30 27

#C weather
weather<-data.frame(city, temp)
weather

##           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
names(weather)<-c("City", "Temperature")
weather

##           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
str(weather)

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

#F
weather[3:4, ]

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

#G highest to lowest
weather[which.max(weather$Temperature), ]

##           City Temperature
## 1 Tuguegarao City         42

weather[which.min(weather$Temperature), ]

##           City Temperature

```

6 Davao City 27

#A

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

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

#B Multiply the matrix by two.

```
m2 <- m * 2
m2
```

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

#C content of row 2

```
m[2, ]
```

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

-366

```
## [1] -366
```

#D display the column 3 and column 4 in row 1 and row 2

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

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

#E display only the columns in 2 and 3, row 3

```
m[3, 2:3]
```

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

#F display only the columns 4

```
m[, 4]
```

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

*#G g. Name the rows as isa, dalawa, tatlo and columns as uno, dos, tres, quatro
#for the matrix that was created in b.*

```
rownames(m2) <- c("isa", "dalawa", "tatlo")
colnames(m2) <- c("uno", "dos", "tres", "quatro")
m2
```

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

#H new dimension

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

```
m
```

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

```

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

# an array contains 1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1
values <- c(1, 2, 3, 6, 7, 8, 9, 0, 3, 4, 5, 1)
values_repeated <- rep(values, 2)

#A create a three-dimensional array with 4 columns and 2 rows.
arr <- array(values_repeated, dim = c(2, 4, 3))
arr

## , , 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 Dimentions that the array have
length(dim(arr))

## [1] 3

#C name the rows as lowercase letters and columns as uppercase letters starting from the A.
rownames(arr) <- letters[1:2]
colnames(arr) <- LETTERS[1:4]
dimnames(arr)[[3]] <- c("1st-Dimensional Array", "2nd-Dimensional Array", "3rd-Dimensional Array")
arr

## , , 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
```