

RWorksheet_Talaban#3a

```
#VECTORS

#1a
first_eleven <- LETTERS[1:11]

#1b
oddletters <- LETTERS[seq(1,26, by = 2)]
oddletters

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

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

#1d
last5 <- LETTERS[22:25]

#1e
between <- LETTERS[15:24]

#2a
city <- c("Tuguegarao City", "Manila", "Iloilo City", "Tacloban", "Samal Island", "Davao City")
temp <- c(42,39,34,34,30,27)

#2b
temp <- c(42,39,34,34,30,27)

#3c
city_temp <- data.frame(city, temp)

#3d
names(city_temp)[1]<-"City"
names(city_temp)[2]<-"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

#3e
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
```

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#The output shows data frame containing six cities with their corresponding temperature

#3f
#The content of 3 and 4 is Iloilo and Tacloban and they have the same temperature

#3g
print(city_temp[1,])

##           City Temperature
## 1 Tuguegarao City          42
print(city_temp[6,])

##           City Temperature
## 6 Davao City              27

#MATRICES
#1
matrix(c(5,6,7,4,3,2,1,2,3,7,8,9),nrow = 2)

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

matrix(data = c(3,4,5,6,7,8),3,2)

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

diag(1,nrow = 6,ncol = 5)

##      [,1] [,2] [,3] [,4] [,5]
## [1,]     1     0     0     0     0
## [2,]     0     1     0     0     0
## [3,]     0     0     1     0     0
## [4,]     0     0     0     1     0
## [5,]     0     0     0     0     1
## [6,]     0     0     0     0     0

diag(6)

##      [,1] [,2] [,3] [,4] [,5] [,6]
## [1,]     1     0     0     0     0     0
## [2,]     0     1     0     0     0     0
## [3,]     0     0     1     0     0     0
## [4,]     0     0     0     1     0     0
## [5,]     0     0     0     0     1     0
## [6,]     0     0     0     0     0     1

#2a
oneeight <- matrix(c(1:8, 11:14),3,4)
oneeight

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

```

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## [3,]    3    6   11   14
#2b
oneeight2 <- oneeight * 2
oneeight2

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

#2c
oneeight[2,]

## [1] 2 5 8 13
oneeight2[2,]

## [1] 4 10 16 26

#2d
oneeight[1:2, 3:4]

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

#2e
oneeight[3, 2:3]

## [1] 6 11

#2f
oneeight[, 4]

## [1] 12 13 14

#2g
dimnames(oneeight2) <- list(c("isa","dalawa","tatlo"), c("uno","dos","tres","quatro"))
oneeight2

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

#3a
arrayval <-c(1,2,3,4,5,6,7,8,9,0,3,4,5,1)
arraydata <-array(rep(arrayval, 2), dim=c(2,4,3))
arraydata

## , , 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
##
## , , 3
##
## [,1] [,2] [,3] [,4]
## [1,]    3    5    7    9
## [2,]    4    6    8    0
#3b
dim(arraydata)

## [1] 2 4 3
#
#3c
rownames(arraydata) <- c("a", "b")
colnames(arraydata) <- c("A", "B", "C", "D")

dimnames(arraydata)[3] <- list(c("1st-Dimension", "2nd-Dimension", "3rd-Dimension"))
arraydata

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

```