

## 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
```

*#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
```

```
## [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
```